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INTRODUCTION

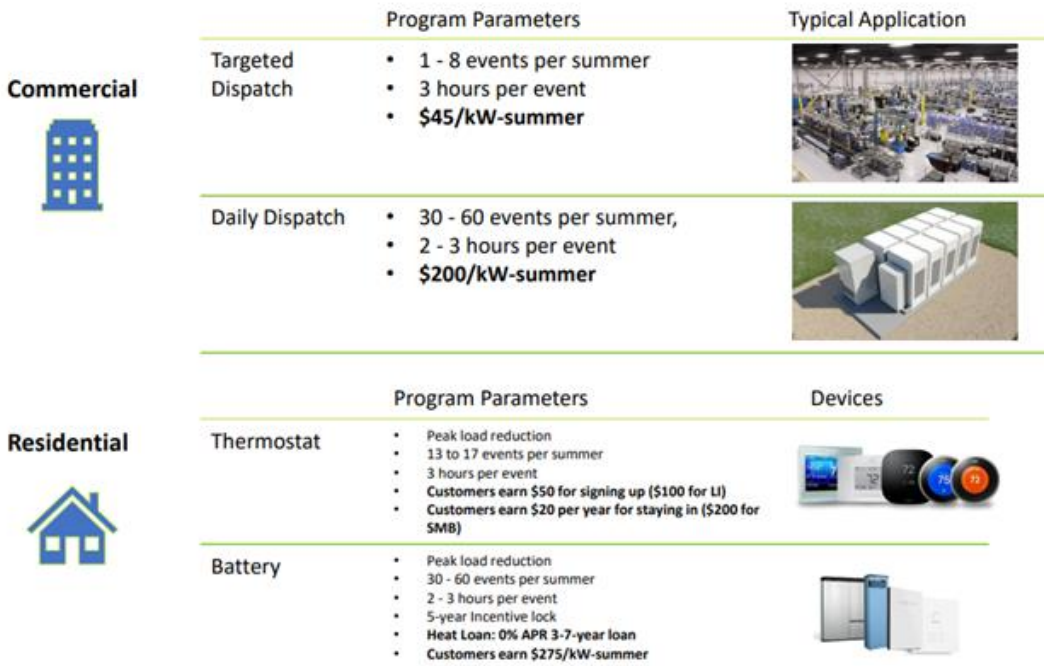
This briefing document was developed by the Energy Efficiency Advisory Council's (EEAC) Technical Consultants (Consultants) to prepare Councilors for the October 15th planning workshop, specifically on Active Demand Management topics relevant for the 2028-2030 Mass Save Energy Efficiency Plan. Content was informed by councilor input, public comment, recent program performance and other relevant Massachusetts policies and programs.

STATE OF ACTIVE DEMAND MANAGEMENT

Background

In the electricity markets, electric demand drives the need for electric capacity resources for generation, transmission, and distribution, which translates into costs to ratepayers and greenhouse gas impacts. MassSave has reduced energy demand for decades through traditional efficiency programs. Efficiency savings, referred to as passive demand reductions, provide permanent reductions to overall usage through installation of higher-efficiency equipment or controls. Active demand management (ADM), often also referred to as demand response, is a form of targeted, time-specific reductions of customer loads when system reliability is jeopardized or market prices are highest. Unlike passive demand resources that receive upfront incentives for load reducing equipment, active demand resources often receive ongoing incentives for load reducing behavior. The concept at its simplest: actively lower demand during these specific times because it will lower electric pricing for everyone.

Following several demonstration projects during the 2016-2018 plan, MassSave launched a statewide active demand management program in the 2019-2021 Plan under the brand ***ConnectedSolutions***. *ConnectedSolutions* is a suite of active demand programs across both residential (including income eligible) and commercial sectors. The figure below summarizes the primary ConnectedSolutions programs offered by MassSave PAs as of Summer 2026.[1]



[1] From: https://ma-eeac.org/wp-content/uploads/Connected-Solutions-Update-For-Posting-v25523139.pdf

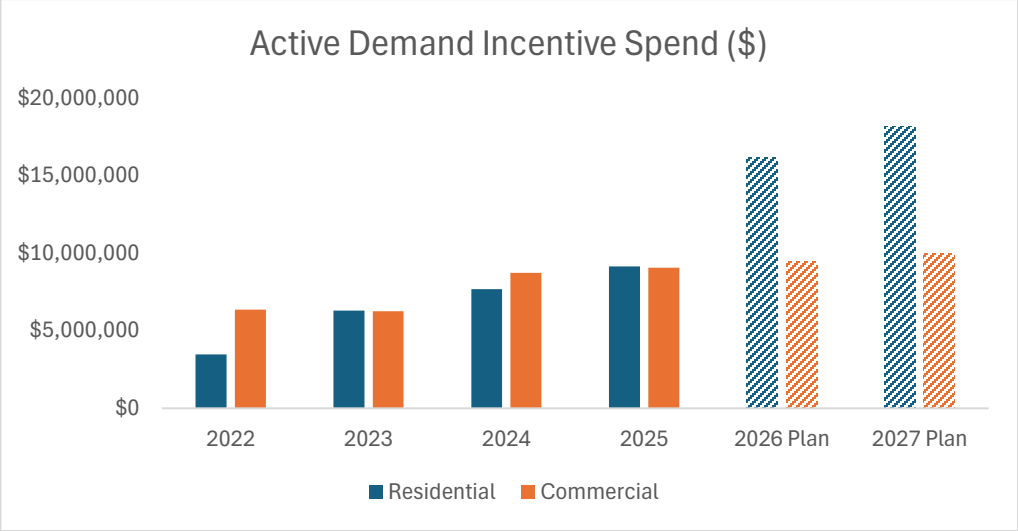
Current programs are designed to reduce peak demand on the ISO-New England system and reduce the associated generation, transmission and distribution capacity needed to meet peak demand. Residential offerings focus on Direct Load Control (DLC) opportunities through programs that control customer devices such as smart thermostats or battery storage. While no dedicated income eligible customer programs exist, PAs track income eligible participation in the residential thermostat programs provide higher incentives. C&I programs deliver a combination of technology specific (storage) and technology neutral participation paths. Customer-sited backup/emergency fossil fuel generators were initially eligible to participate during the 2019-2021 plan but were phased out in 2022-2024.

Recent state policy and planning efforts have highlighted demand flexibility and load management as increasingly important tools for maintaining electric system reliability and managing customer costs. The Department of Energy Resource's (DOER) March 2026 released study "Evaluating Load Management Strategies for a Net Zero Grid in Massachusetts," assessed technical potential for load management, estimated the costs and benefits of different measure resources and developed strategies to save ratepayers money.[2] This study found that active demand measures such as electric vehicles (EVs), behind-the-meter storage, and heating flexibility could reduce Massachusetts peak demands by 0.8 GW by 2030 and 4.5 GW by 2050.

In March of 2026, Governor Healy issued Executive Order 654: To Secure Massachusetts' Energy Future by Establishing an Energy Supply Plan that Drives Affordability and Reliability. In recognition of the increasing regional electric demand, this executive order seeks to secure new sources of supply, stabilize bills, and grow Massachusetts' clean energy economy. The EO specifically calls for 3.5 gigawatts (GW) of new electric demand reduction through energy efficiency, virtual power plants (VPP), microgrids, managed EV charging, demand response, and other programs.

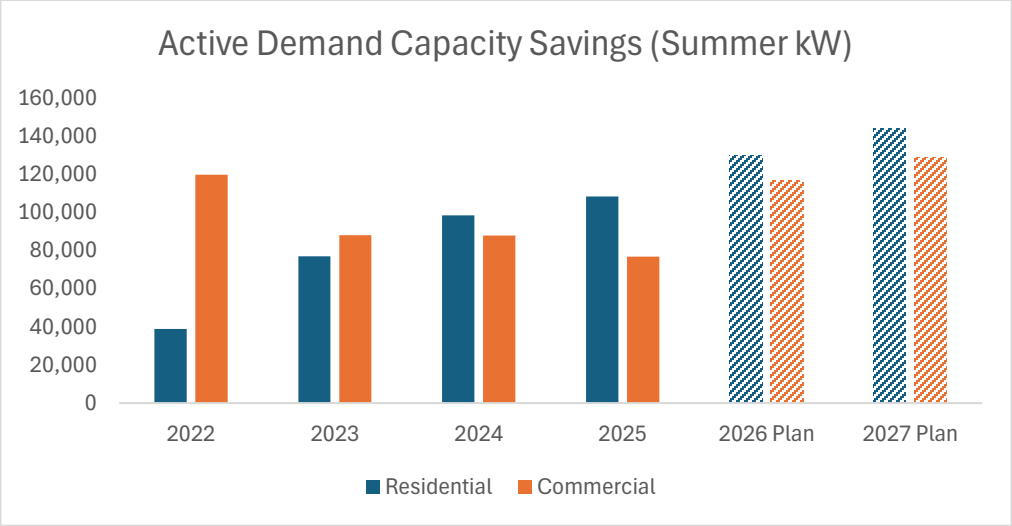
Key Trends Over Time

ConnectedSolutions program budgets have grown over time through customer recruitment, with approximately equal incentive spending across Residential and C&I programs in 2025. Residential enrolled capacity of active demand resources has expanded, while C&I enrolled capacity has contracted in recent years with the phase-out of fossil fuel generators from eligibility.[3]



[2] https://www.mass.gov/doc/e3-technical-potential-of-load-management-study-report/download

[3] From: 2022-2024 Evaluated BC Models, Q4 2025 report and 2025-2027 Plan



The increasingly dynamic and distributed nature of the grid has created new challenges to system reliability and opportunities for active demand to provide flexible value across a range of conditions. Active demand can shift loads to improve utilization of the grid, alleviate congestion, avoiding expensive infrastructure upgrades, and help manage the impacts of new loads associated with electrification. Through Electric System Modernization Plan Grid Services Compensation funds, Massachusetts Electric distribution companies (EDCs) have recently offered targeted marketing and enhanced incentives (ConnectedSolutions+) to active demand participants in locations where flexible loads can deliver these values streams.[4]

All three Massachusetts EDCs are also in the process of deploying Advanced Metering Infrastructure (AMI) with portions of the state already converted and expected statewide completion by 2029. AMI, or smart meters, provide utilities with more granular insight into individual customer usage. This same data can provide customers with better visibility and control over their energy usage, including during peak times. National Grid's summer 2026 Behavioral Demand Response program used AMI data to help customers understand their usage and ways to save. New programs and tools that leverage AMI investments, including the potential for behavioral programs, will be especially important as the Commonwealth looks to roll out time-of-use (TOU) rates designed to provide customers with better price signals when costs are highest and when flexibility is most valued.

Current Performance

What's Working Well?

- → Investments in Active Demand Management (ADM) have increased over time.
- → Residential participation and capacity has steadily grown over time.
- → Tracking/reporting income eligible and small business customer participation in Direct Load Control (DLC) thermostat programs provide some insight into these populations' access to ConnectedSolutions.
- → PAs have established working relationships with Curtailment Service Providers (CSPs) that enable continuous improvement of program performance over time.
- → 5-year incentive locks for storage systems provide market certainty for developers.

[4] https://ma-eeac.org/wp-content/uploads/Connected-Solutions-Update-For-Posting-v25523139.pdf

What Could Be Improved?

- → Residential enrolled capacity will need continued growth to meet 2027 goals, and set the starting point for the 2028-2030 plan.
- → C&I enrolled capacity has not rebounded since the phase-out of fossil generators.
- → Income-eligible customer participation is limited to the few customers with smart home devices. A more tailored program offer could address these barriers to participation.
- → Small Business Direct Load Control (DLC) is limited. As of Q4 2025 reporting data, only Eversource has reported Small Business DLC thermostat participants (1,356).
- → Program goals should evolve to meet the grid's increasingly localized and dynamic needs driven by growth of distributed energy resources, deployment of advanced metering infrastructure and implementation of time-of-use rates.
- → Current programs do not account for the geographically and situationally variable value of load reductions or their ability to defer investment in traditional grid infrastructure.

Where Do We Need Information to Assess?

- → Results of National Grid behavioral demand response program using AMI data to inform future whole-home or behavioral demand response.
- → Progress on utilization of newly accessible AMI data, both from a customer education/awareness and utility system management standpoint.
- → Value of wholesale capacity, including winter demand, when new Forward Capacity Market structure is implemented in 2028 and results from 2027 Avoided Energy Supply Cost (AESC) study.
- → Evaluations to identify when and where active demand can provide the most benefit to the electric system, and improved methodology to account for and compensate resources accordingly.
- → Evaluations to identify opportunities and strategies to increase income eligible participation and improve equitable access to evolving ConnectedSolutions programs.

SUMMARY OF INPUT TO-DATE

Pre-workshop Councilor Ideas

Below is a summary of input to-date received through pre-workshop councilor ideas and/or public comments. Themes and ideas included:

Theme	Key Ideas	Source(s)
Expand Active Demand resources	Councilors and multiple public comments expressed support for expanding the size/scope of ConnectedSolutions, both in technology and eligibility.	Council, Public Comment
Pursue DR that avoids grid investments	Councilors expressed support for MassSave to pursue active demand resources that maximize the avoidance or deferral of grid investments.	Council, Public Comment
Revenue certainty for C&I battery	Vendors involved in developing or dispatching commercial battery systems stressed the importance of incentive locks for batteries to ensure project investments can rely on stable revenue streams.	Public Comment

participants	They suggest that the 5-year lock is no longer sufficient and recommend a 10-year rate lock with a stepped-down rate in years six through ten (as exists in CT).	
System size caps for C&I batteries	The current ConnectedSolutions rules cap incentives for C&I batteries at the level earned by a system sized at 150% of a host customer's peak load. Although smaller customers technically can install larger battery systems, the incentive cap prevents those investments from being economically viable.	Public Comment
Offer weekday-only tier for Daily Dispatch	Some participants providing load reductions through curtailment measures only have the capability to respond to weekday dispatches since operations shut down on weekends, so a weekday-only tier would help keep these customers in the program.	Public Comment
Increase Low Income access to demand response	Low-income customers have reduced access to demand response technologies such as central cooling and battery storage. Comments & Councilors have expressed support for increasing access to these technologies.	Council, Public Comment

KEY FOCUS AREAS FOR THE 2028-2030 TERM

Based on current program performance and input received to-date, the Consultants identified five primary focus areas for Workshop #4's Active Demand Management discussions:

- → Focus Area 1: Improving Existing Programs
- → Focus Area 2: Positioning Winter Demand Response for Market Changes
- → Focus Area 3: Preparing for Full AMI Deployment
- → Focus Area 4: Understanding the Future Value of Demand Response

Focus Area 1: Improving Existing Programs

ConnectedSolutions program policies should be periodically evaluated to address evolving market conditions, changes in state and federal policy, and technology adoption.

Opt-in vs Opt-out for Thermostat Direct Load Control

Wi-fi thermostat programs can be run as opt-in, where customers choose to enroll, or opt-out, where customers can choose *not* to enroll when receiving controllable thermostats through MassSave.[5] Current programs are opt-in, which typically sees significantly lower participation compared to opt-out programs. The PAs have previously submitted the program as opt-out (through customer acceptance of Original Equipment Manufacturer terms) to the DPU, however the DPU ordered the program to be run as opt-in to protect vulnerable customers. In the light of DOER's opt-out time-of-use proposal, reassessing this program policy is timely and prudent. In the absence of an opt-out program, PAs should continue to deepen OEM partnerships and explore ways of influencing OEM marketing efforts to increase enrollment.

[5] Customers who purchase smart thermostats outside of the MassSave program could be pulled into ConnectedSolutions through an opt-in enrollment model

Battery Storage Performance Cap & Rate Lock

Current battery daily dispatch participants have their incentive rate ($/kW) locked for the first 5-years to provide greater confidence in projected revenues from performance. The duration of the rate lock is a potential participation lever, where longer rate locks might lead to additional storage development and participation, while shorter rate locks could lead to the inverse. Battery storage systems also have a performance cap of 150% of site peak load, meaning that any reductions over that value would not be incentivized through ConnectedSolutions. Public commenters have cited both factors as reducing potential participation and rendering many storage systems non-economically viable. Commenters have also noted that 150% of average site load does not reflect the appropriate system size for customers who install storage for added resilience, to cover longer interruptions. Both policies should be re-assessed for the 2028-2030 plan.

Low Income access to demand response technologies

Currently low-income participation in ConnectedSolutions is limited by customers' access to controllable technologies such as central cooling and battery storage. Results of Cape Light Compact's Cape and Vineyard Electrification Offering (CVEO), a pilot program that brought renewable energy, battery storage, and electrification projects to low-income households, showed average battery costs of approximately $33,000.[6] This would be challenging to scale in a budget constrained environment and evaluations showed that the added resilience value to customers was not a significant driver of cost-effectiveness. An alternative to this would be to potentially modify policies around battery storage to be more favorable to affordable housing developments, such as higher performance payments, performance caps, or longer rate locks.

Straw Proposals:

1. Convert direct load control thermostat offering to opt-out for 2028-2030.
2. Assess the current battery storage policies around performance cap and rate lock and make an informed recommendation to the council on these policies for 2028-2030.
3. Implement higher incentives to affordable housing developments for daily dispatch to increase income eligible participation and benefits.
4. Consider increasing the battery storage performance cap and rate lock duration for affordable housing developments to foster equitable and increased participation.

Focus Area 2: Positioning Winter Demand Response for Market Changes

MassSave program administrators ran winter demand response demonstrations in 2019/2020.[7] While informative from an implementation standpoint, winter DR was determined to provide insufficient benefits to justify roll-out of a statewide offering at the time. One of the benefits provided by demand response is avoided wholesale generation capacity. Some of the ConnectedSolutions program's value (~19% in the 2022-2024 plan period) is tied to ISO New England's Forward Capacity Market. Historically, the ISO has used annual auctions to secure capacity commitments from energy resources three years in advance to meet peak loads and reliability risks in summer months. ISO forecasts indicate the system could become a winter peaking grid by 2035 due to heating electrification, and certain segments of the grid may reach this point sooner. To address today's increasingly dynamic supply and demand conditions, ISO New England's Forward Capacity Market structure will transition to a "prompt" and "seasonal" structure

[6] https://www.cleanegroup.org/wp-content/uploads/Solar-Storage-Electrification-Massachusetts-CVEO.pdf

[7] https://ma-eeac.org/wp-content/uploads/MA19DR02-E-Storage_Res-Storage-Winter-Eval_wInfographic_2020-09-23.pdf

beginning 2028.

- → **Prompt**: Capacity auction will take place shortly before the capacity commitment period, rather than three years in advance, reflecting more up-to-date information about projected supply and demand that will better inform decision making.
- → **Seasonal**: Capacity commitment periods will change from an annual (June 1 through May 31) to a seasonal structure to better address distinct winter (November 1 through April 30) and summer (May 1 through October 31) reliability challenges, as well as seasonal variations in resource performance.

These market reforms will likely alter the value of all dispatchable resources, including demand response, in both summer and winter.

Straw Proposals:

5. Revisit prior analysis and consider additional demonstrations if winter DR is economically viable under market conditions.

Focus Area 3: Preparing for Full AMI Deployment

Current residential programs rely on technology-specific load reductions (namely thermostats and batteries) with high market penetration, concentrated loads, and consistent ability to control. This technology-driven approach has successfully expanded ConnectedSolutions' ADM capacity over time. As markets for these technologies mature, enrolled capacity will eventually reach market saturation and limit the programs' ability to grow. DOER's 2025 Peak Load Management Potential study found significant additional technical potential for load management from devices like water heaters and other household appliances, which are not currently eligible for ConnectedSolutions.[8]

The deployment of smart meters, also referred to as advanced metering infrastructure (AMI), may allow utilities to expand residential load flexibility through technology-neutral incentives that reward reducing peak load without dictating on how customers achieve reductions. Whole home behavioral demand response programs that do not require the purchase of smart home devices could lower barriers for customers such as renters, small businesses and low-income who have historically lower participation rates. National Grid ran a voluntary Behavioral Demand Response program in the summer of 2026 that notified customers of upcoming peak demand events and encouraged them to decrease their energy usage. Customers were not provided any incentive but were given tips on how they could reduce usage during peak demand events; for example, deferring use of certain appliances or adjusting their thermostat settings. After the peak demand event, personalized energy reports were shared with the customers, and savings were measured utilizing AMI metering data.

DOER's April 2026 Time-of-Use (TOU) Rate Proposal provides a framework to implement time-varying rates (TVRs) for Massachusetts' households and businesses.[9] DOER's proposed TOU rates would create default, opt-out time-of-use (TOU) rates that vary supply, transmission, and distribution service, with a four-hour peak period of 4 – 8 PM to provide all customers with more accurate price signals. AMI and TOU rates will fundamentally alter customers' interactions with the grid and necessitate corresponding adjustments to ConnectedSolutions programs. Customers with limited access to demand responsive technologies may need alternative tools and programs to manage loads.

[8] https://www.mass.gov/info-details/peak-potential-load-management-for-an-affordable-net-zero-grid

[9] https://www.mass.gov/doc/doers-time-of-use-rate-proposal/download

Straw Proposals:

6. Explore ways to adapt National Grid's technology neutral Behavioral Demand Response program to increase program participation options for historically limited customers and increase grid benefits

7. Evaluate TOU rate impacts on the value of existing ADM offerings and consider program design changes that maximize electric system benefits

Focus Area 4: Understanding the Future Value of DR

A consistent priority councilors and public comments raise is support for demand side management strategies that help defer traditional grid investments. Managing customer demand to reduce peaks can improve utilization of existing grid infrastructure while helping defer investments in new infrastructure designed to meet the few most extreme demand hours of the year.

Massachusetts electric distribution companies Electric Sector Modernization Plans (ESMPs) are strategic roadmaps to upgrade and modernize the electric grid for clean energy, decarbonization, and extreme weather resilience.[10] At the July 2026 EEAC meeting, Eversource and National Grid presented on their use of Grid Services Compensation Funds to provide enhanced incentives for customers in constrained areas of the grid under the branding ConnectedSolutions+.[11] Eversource targeted 40 MW of flexible capacity across three substations in the Boston area while infrastructure upgrades are being completed and 10 MW of *additional* midday load in the New Bedford area to alleviate congestion from excess behind-the-meter solar generation in the area ("solar soaking"). National Grid has its own corresponding set of constrained areas across its distribution system with targeted marketing and enhanced incentive offerings to meet a range of different grid constraints. These enhanced incentives are offered in recognition of the high value each kilowatt of demand reductions provide particularly constrained areas of the distribution grid. Program offers run through 2030 and eventually evaluated to determine actual impacts on targeted constraint areas.

Below are examples of the Eversource's enhanced incentives offered to eligible participants in Boston:

ConnectedSolutions+ Enhanced Offers, Boston Area

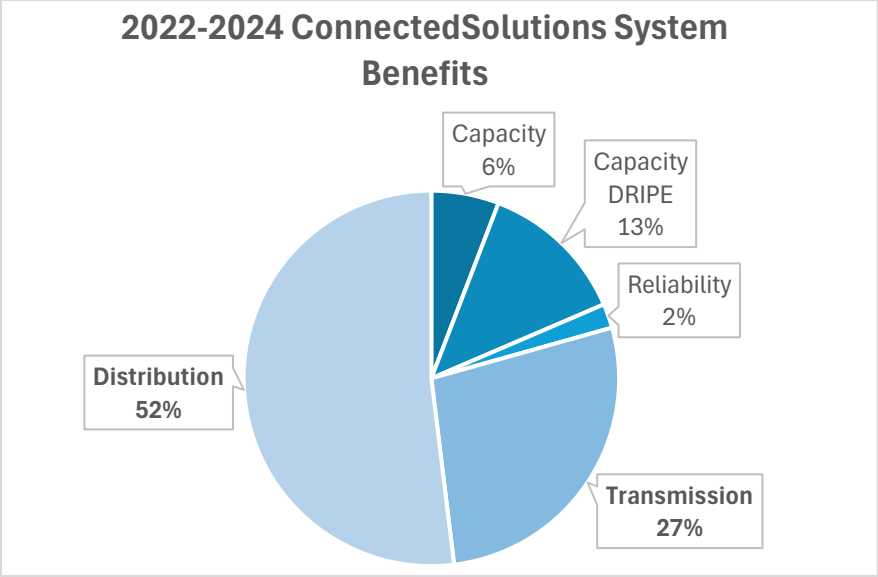
Offering*	ConnectedSolutions Incentive	ConnectedSolutions+ Incentive
C&I Targeted	$45/kW	**$80/kW**
C&I Daily Battery	$200/kW	**$250/kW**
Thermostats (Small Business)	$50 enrollment $200/season	**$150** enrollment $200/season
Thermostats (Residential)	$50 enrollment $20/season	**$150** enrollment $20/season
Residential Batteries	$275/kW	**$400/kW**

*Available for 2026

Benefit-cost analysis of MassSave's 2022-2024 statewide ConnectedSolutions program (standard incentives) included distribution benefits that comprised (52%) of all electric system benefits.

[10] https://www.mass.gov/electric-sector-modernization-plans-esmps

[11] https://ma-eeac.org/wp-content/uploads/Connected-Solutions-Update-For-Posting-v25523139.pdf



Distribution benefits were calculated by each utility using an approved methodology from the 2024 Avoided Energy Supply Cost (AESC) Study. These benefits are not tied to specific constraints and assume every kilowatt (kW) of load reduction in any location on the grid will have the same value as a simplifying assumption. The actual value of load reductions to the grid depends on where it is and what grid investment it avoids. As stated in the 2024 AESC:

> *"In some places and times, even small load reductions that keep load below the capacity of existing equipment may defer or avoid very large incremental transmission and distribution (T&D) investments. In other places and times, relatively large load reductions may have little effect on T&D investments."*

Current statewide ConnectedSolutions programs do not account for the geographically and situationally variable value of load reductions. The role of active demand within and outside of MassSave will continue evolving, particularly over the coming 3 year plan term. The introduction of ConnectedSolutions+ enhanced offering has the potential to better target demand resources to where they are needed most but also creates the potential for inconsistent or overlapping benefit claims across programs. The PAs should continue providing regular status updates to the council on ConnectedSolutions+ including enrollment, event performance and evaluations of the costs and benefits, which in some cases may overlap with the traditional statewide offer.

Straw Proposals:

8. Continue to monitor ConnectedSolutions+ to better understand current and future use cases of active demand resources both in and outside MassSave program offers

DISCUSSION QUESTIONS

- → Does the Council support the Consultants' straw proposals? Why or why not?
- → Does the Council have sufficient information to provide input on Active Demand Offerings?
- → How else can the PAs reduce barriers to participation for historically limited customers like low-income or renters?

SUMMARY OF STRAW PROPOSALS

Focus Area	Number	Proposal
Improving Existing Programs	1.	Request authority to convert current thermostat direct load control offering to an opt-out enrollment for the 2028-2030 plan
Improving Existing Programs	2.	Review the current battery storage policies, in particular, the performance cap and rate lock, to advance programmatic recommendations to the council for implementation in 2028-2030 term
Improving Existing Programs	3.	Implement higher incentives to affordable housing developments for daily dispatch to increase income eligible participation and benefits.
Improving Existing Programs	4	Consider increasing the battery storage performance cap and rate lock duration for affordable housing developments to foster equitable and increased participation.
Positioning Winter Demand Response for Market Changes	5.	Revisit prior analysis and consider additional evaluations or demonstrations to determine if winter DR is feasible and cost-effective during the upcoming Plan term.
Preparing for Full AMI Deployment	6.	As AMI deployment expands, use lessons learned from National Grid's technology neutral Behavioral Demand Response program to provide offerings that increase program benefits and improve participation for historically limited customers like renters and low income.
Preparing for Full AMI Deployment	7.	Evaluate TOU rate proposal impacts on the value of existing ADM offerings and consider program design changes that maximize electric system benefits.
Understanding the Future Value of DR	8.	Monitor ConnectedSolutions+ programs to inform estimates of transmission and distribution benefits from all forms of demand response.