



Comments by Clean Energy Group to the Massachusetts EEAC regarding
ConnectedSolutions Program Expansion and Revision for
2022-2024 Three-Year Energy Efficiency Plan

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Clean Energy Group (CEG), a national nonprofit working to expand clean energy markets, has supported and advocated for the development of energy storage policy and programs in Massachusetts and New England, including the ConnectedSolutions battery program. CEG conducted an independent cost/benefit analysis in support of this program, and we have been very pleased to see it adopted, not only in Massachusetts, but also in Rhode Island and Connecticut.

Since the Massachusetts Three-Year Energy Efficiency Plan is currently in development for the 2022-2024 program cycle, CEG would like to take this opportunity to provide the Massachusetts Energy Efficiency Advisory Council (EEAC), the program administrators, and the Commonwealth's energy agencies with some information and recommendations regarding the expansion and revision of this program.

The ConnectedSolutions customer battery program is a nation-leading initiative. According to the limited public reporting on the program, it is popular with customers and seems to have provided an effective way for utilities to expand the deployment of distributed energy storage for peak demand reduction. CEG has received inquiries and interest in this program from numerous state energy agencies and utility regulators.

Clearly, the ConnectedSolutions battery storage program has many good points. However, there are some shortcomings CEG has noted in the past, which should be addressed in the upcoming 2022-2024 Three-Year Energy Efficiency Plan. The programmatic areas that could be improved include the following:

1. Lack of LMI/equity provisions
2. Limited program size/budget
3. Insufficient incentive rates
4. Lack of public reporting/program transparency

These topic areas are addressed more fully below, with recommendations for each.

1. Lack of LMI/Equity Provisions

From the beginning of the development of the ConnectedSolutions storage program, CEG urged the EEAC, MA DPU, and program administrators to include equity provisions, so that the program would be accessible to low- and moderate-income (LMI) customers. Equity provisions are needed because, despite the program's excellent pay-for-performance incentive structure, the up-front capital investment required remains a barrier to many LMI customers. This gap is only partially addressed by the Commonwealth's HEAT loan program.

To remedy this, Massachusetts program administrators and the EEAC should look at how equity concerns are being addressed in similar programs being developed and offered in neighboring states. For example, the current straw proposal for a similar battery incentive program from the Connecticut Public Utilities Regulatory Authority (CT PURA) includes not just performance payments, but also an up-front rebate, with a 2X multiplier for low-income applicants (that is, low-income participants receive a rebate that is twice as high as other participants). The CT PURA program also includes an on-bill payment option. (The CT PURA straw proposal can be viewed here:

<http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/f8eea3048fc b4ace8525865400707a2c/%24FILE/RE03%20Straw%20Proposal.pdf>.

The Connecticut program proposal is based in part on a proposal by Eversource and is clearly modeled after the Massachusetts ConnectedSolutions program. But the Connecticut program improves on the Massachusetts program in several very important ways, including this: *The Connecticut proposal includes serious and substantial supports to ensure the participation of low-income and underserved communities, while the Massachusetts program largely ignores them.*

If equity provisions are not added to the energy storage program within ConnectedSolutions for the 2022-2024 program years, Massachusetts' LMI communities will be at risk of being left behind in the Commonwealth's clean energy transition. Ironically, these are the communities that are most in need of the benefits energy storage can provide, such as improved resilience and energy cost savings. Continuing to neglect LMI provisions in the ConnectedSolutions program would run counter to the Commonwealth's commitments to clean energy equity, as expressed in the Affordable Access to Clean and Efficient Energy Initiative and reaffirmed in the new Next Generation Climate Roadmap.

Recommendation: The 2022-2024 ConnectedSolutions battery program should include equity provisions, including on-bill payment, up-front rebates, and equity incentive adders for income-eligible participants.

2. Limited Size/Budget

The 2019-2021 ConnectedSolutions battery program budget is not provided transparently in public program documents; however, CEG's consultant, the Applied Economics Clinic (AEC), estimated the program budget at about \$18 million in incentive payments in 2020. Given the overall size of the Commonwealth's energy efficiency program budget, the need for added energy storage capacity (as evidenced by Massachusetts' own analysis and by the Commonwealth's clean energy targets), and the evident customer demand for energy storage, this level of budget commitment is woefully insufficient. The program budget should be significantly expanded for the 2022-2024 program cycle.

Evidence of the need for more storage capacity in Massachusetts abounds. For example, the Commonwealth's own "State of Charge" report calls for "up to 1,766 MW of new advanced energy storage [which] would maximize Massachusetts ratepayer benefits" and further states that if properly located and dispatched, this amount of new storage "would result in up to \$2.3 billion in benefits."

Also relevant are the Commonwealth's numerous commitments to clean energy goals, including:

- 1 GWh energy storage by 2025
- Net-zero greenhouse gas emissions by 2050
- Clean Peak 46.5% by 2050
- Clean Energy Standard 80% by 2050
- RPS Class 1 26% by 2025

Meeting these targets and complying with legislative requirements will require the deployment of much new energy storage capacity. A significant amount of this new capacity should be located behind customer meters where it can provide direct benefits to customers and communities, in the form of energy cost savings and resilience, as well as to ratepayers and the electric grid. ConnectedSolutions provides the best (and only) existing mechanism to fund customer-sited battery storage and aggregate it into virtual power plants (VPPs) that can be dispatched by utilities to address regional peak demand.

Furthermore, ample resources exist to expand the program budget. The Massachusetts Three-Year Energy Efficiency Plan budget is among the largest electric efficiency program budgets in the nation, with more than \$620 million annually devoted to electric efficiency spending. The current ConnectedSolutions battery program represents a tiny fraction of this budget.

Batteries excel at shifting peak demand, and they are increasingly competitive with other peak-shifting technologies. In fact, CEG and its consultant, AEC, have conducted new research showing that energy storage is now the cheapest resource for new winter peak load reductions in Massachusetts. In view of this fact, utilities are under-incenting Massachusetts customers to participate in the ConnectedSolutions winter battery program (more about this below).

Moreover, neighboring states are now surpassing Massachusetts in terms of the scale of their commitment to customer battery storage. For example, the Connecticut PURA straw proposal is a nine-year program that would enroll 10,000 residential customers in the first three years alone, and result in 580 MW of new battery storage capacity over the life of the program. The scale of this proposed Connecticut program dwarfs that of the original Massachusetts initiative.

In addition to the clear need in Massachusetts for expansion of distributed battery storage deployment, expansion of ConnectedSolutions is indicated by the success of the program to date. For example, a Navigant study commissioned by National Grid and Until showed that 97 percent of residential participants intended to continue in the program and would recommend it to others; and 94 percent never opted out of a dispatch call. And the fact that both Eversource and National Grid have proposed or implemented similar programs in other states they serve (Connecticut, Rhode Island and New Hampshire) indicates that the program is also viewed favorably by its administrators.

In summary, the ConnectedSolutions battery program is needed, popular, and effective, and its budget should be increased significantly.

Recommendation: Massachusetts should significantly expand the ConnectedSolutions battery program budget, at least tripling it for the 2022-2024 program cycle.

3. Insufficient incentive rates

Currently, winter program rates for ConnectedSolutions are approximately one-quarter of summer program rates. Yet, in a forthcoming report commissioned by CEG from the Applied Economics Clinic, AEC establishes that winter reliability services are both needed and valuable, and its analysis shows that battery storage is now the cheapest available new source for winter peak demand reduction in Massachusetts. This implies that ConnectedSolutions participants are under-incented, based on a comparison between the program incentive rates and the costs of other available peak load-reducing measures.

The ConnectedSolutions program has seen success so far in enrolling participants; however, much of this early momentum is likely due in part to the desire of some Massachusetts residents and businesses to “go green” and contribute toward meeting the Commonwealth’s emissions reduction and renewable generation goals. Unfortunately, there will be a limited pool of potential program participants going forward who will share these strong altruistic motivations. In order to expand the program significantly, higher performance payment rates should be offered across the board, and particularly in two areas: 1) Equity/LMI adders, and 2) Winter rates.

1. **Equity rates:** The need for equity adders and/or rebates is clear; if the program is to be made accessible to low- and moderate-income customers, additional support must be offered to help overcome the cost and financing barriers faced by these customers. As

an example, the Connecticut straw proposal referenced above offers both a rebate and a performance payment, with the up-front rebate doubled for LMI participants.

2. **Winter rates:** Current winter rates are much lower than summer rates. However, this does not reflect the true value of winter reliability services in Massachusetts. A forthcoming report from CEG and AEC shows that winter reliability is a needed and valuable service (and is likely to become more necessary as electrification pushes the region toward a flip from summer peaking to winter peaking). Winter program rates should be increased to more accurately reflect the value of this service.

Recommendation: Performance payment rates should be raised, with particular attention to LMI rates and winter program rates.

4. Lack of public reporting/program transparency

CEG contracted with AEC to write a soon-to-be-published assessment of the Connected-Solutions program as it has been administered in Massachusetts during its initial three-year cycle. While conducting research for this assessment, AEC noted that there is very little detailed public reporting on the program. For example, reporting from the Program Administrators omits any information about low-income participation, savings, benefits, or costs that may have occurred in the program, making it impossible to assess the program's uptake in LMI communities. And program performance data does not include megawatt-hour (MWh) reporting, making it impossible to evaluate how much ConnectedSolutions programs have contributed towards the Commonwealth's ESI 2025 energy storage procurement target.

Furthermore, the program reporting that does exist fails to disaggregate battery storage data from other advanced demand reduction measures, such as thermostats, electric vehicles and commercial/industrial load controls. By lumping all types of peak load reduction together in program reporting, the program administrators have made it impossible to accurately assess the success of the battery storage program and the allocation of resources toward expanding behind-the-meter battery deployment.

Lack of accurate and understandable public program data is frustrating and inappropriate given the public nature of energy efficiency program funding, and the public process used to develop these programs. If the EEAC and program administrators wish to benefit from informed stakeholder input in the program development process, it is important to report this kind of basic information, so that stakeholders can understand how the program is being administered and the results to date.

Recommendation: The EEAC should require program administrators to report advanced demand reduction program statistics and results much more transparently and with greater granularity. Battery statistics, including budgets, enrolled capacity, number of enrolled

customers, LMI participation, number of events called, response rates etc. should be reported separately so that stakeholders can understand how the energy storage program is being administered.

Conclusion

CEG appreciates the opportunity to make these comments and recommendations. We would be happy to present more details to the EEAC or to answer questions if this would be helpful.

Please find attached two reports CEG published in February 2021, that focus on the societal and economic benefits of ConnectedSolutions. Both reports can be found at [ConnectedSolutions: A New State Funding Mechanism to Make Battery Storage Accessible to All - Clean Energy Group \(cleanegroup.org\)](https://www.cleanenergygroup.org/connected-solutions). CEG will submit our forthcoming reports, referenced herein, when they are published; and we are happy to respond to any questions about these recommendations.

Respectfully submitted,



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