



Review of Peak Energy Demand Reduction Policies and Programs in Massachusetts

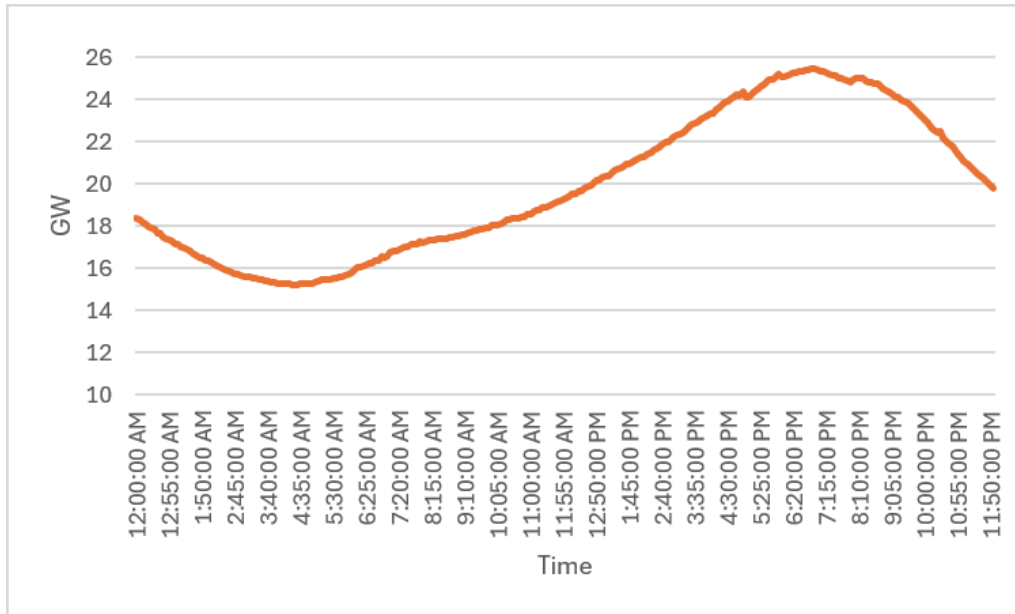
What is Peak Energy Demand?

Peak demand refers to the highest level of energy use during a specific period of time, whether measured over a day or a year. [Utilities must maintain sufficient infrastructure and supply to meet peak demand on their system](#), both locally and across their entire grid.

As with most states in the US, peak demand in [Massachusetts and New England more broadly](#) typically follows a [summer-peaking pattern](#), with usage climbing through the afternoon as temperatures rise and air conditioning load increases, reaching its highest point in the early evening before tapering off overnight. Natural gas peak demand follows an [entirely different pattern](#) driven by residential heating needs in the colder months. Usage climbs steadily through the fall and into winter, reaching its highest point during the coldest months before declining again in the spring.

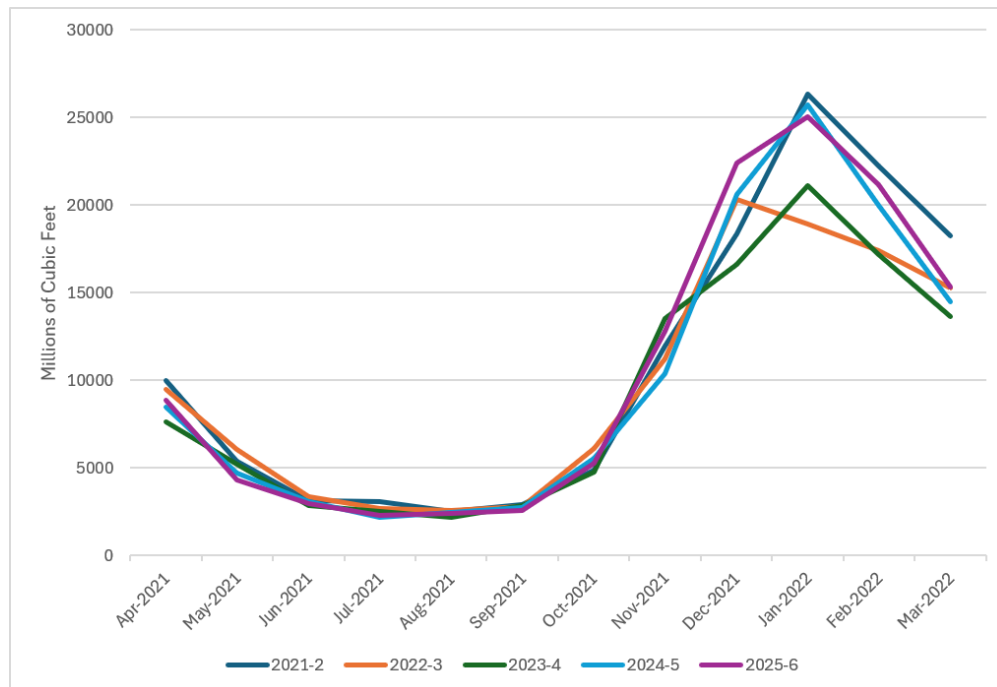
Together, the summer electric and winter gas peak patterns illustrate why load management strategies need to be tailored to the specific season, fuel type, and use case they are meant to address. As the energy transition in Massachusetts develops over the coming years and decades, the profiles of these peaks will change, especially as the sources and use profiles of energy continue to shift. In particular, heating electrification is expected to push the electric system toward a [dual-peaking pattern](#) with peaks in both the winter and summer seasons, while gas peak demand is expected to decline over time.

See the DOER "[Peak Potential: Load Management for an Affordable Net-Zero Grid](#)" for more information on how the energy transition and load management will reshape peak demand in Massachusetts.



Electric Peak: ISO-NE System Load Graph from 7/2/26

25,453 MW peak at 6:50PM



Gas Peak: EIA Data, MA Natural Gas Residential Consumption

5-Year Seasonal Analysis



Why Evaluate Gas and Electric Systems Together?

Take the case of heating electrification in pursuit of state or local decarbonization goals. While mass adoption of electric heating could reduce local peak gas demand for a particular neighborhood, electrification across the Commonwealth could simultaneously increase system-wide peak-day gas demand by driving up electric demand and the need for gas-fired power generation. Joint gas-electric planning can strategically utilize existing gas infrastructure and peaking resources alongside electrification and electric system upgrades, rather than pursuing isolated and conflicting retirement tracks. [Integrated energy planning \(IEP\)](#) can enable this process at a local (distribution system) level, harmonizing schedules for gas infrastructure retirement and electric system upgrades to facilitate targeted electrification without driving up costs on both systems.

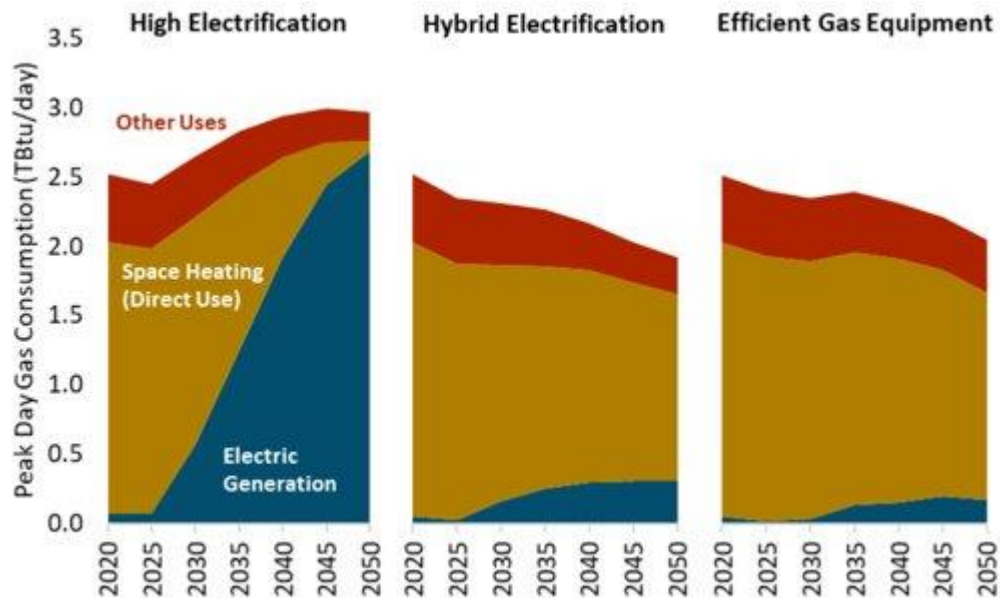
Independent recommendations from the [Massachusetts Commission on Clean Heat](#) reinforce this consensus at the state level: infrastructure, reliability, and ratepayer cost decisions across both sectors are simply too interconnected to evaluate separately.

Acknowledging the interdependence of the two energy systems and the advantages of coordination, [DPU Order 20-80-B](#) and the Electric Sector Modernization Plan (ESMP) mandate a series of measures to promote joint system planning to [enable decarbonization pathways](#). The orders require MA utilities to develop IEP, establish a Joint Utility Planning Working Group to promote coordination, and create a dedicated [Clean Energy and Resilience Engineering \(CERE\) Division](#) within the DPU, with the overarching goal of preventing stranded assets and cost misallocations from targeted electrification and networked geothermal projects.



Peak Day Gas Consumption Across Heating Strategies

All Scenarios Consistent with Net Zero Future



High Electrification Hybrid Electrification Efficient Gas Equipment

Source: Figures from 20-80 Proceeding, E3 Independent Consultant Report for Gas LDCs

What is Electric Load Management?

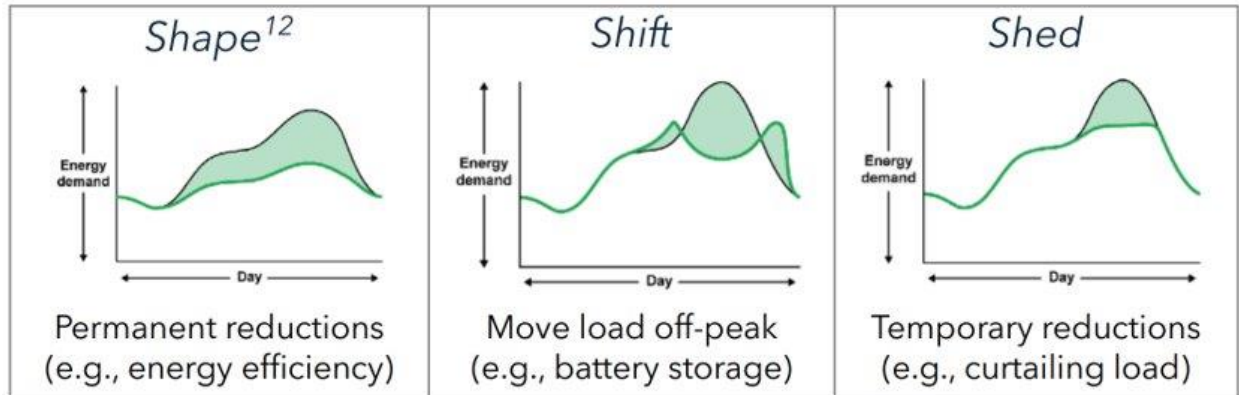
Electric load management encompasses the policies and technologies that reduce the need for energy during peak hours or in constrained areas of the grid. Load management tools generally utilize one of three mechanisms: shape, shift, or shed.

- Shape strategies permanently reduce demand through measures like energy efficiency upgrades, flattening the overall load curve over time.
- Shift strategies move demand to off peak periods, such as delaying EV charging until overnight hours when the grid has more available capacity.
- Shed strategies temporarily curtail energy use during peak hours themselves, for example turning down a smart thermostat by a few degrees during a hot summer afternoon.

Each mechanism addresses a different piece of the peak demand problem, so a comprehensive load management strategy should draw on all three depending on



the season, the customer segment, and the specific constraint being managed. See the DOER "[Peak Potential: Load Management for an Affordable Net-Zero Grid](#)" for more details on load management technologies and policies. DOER and E3 also collaborated on a related technical study, "[Evaluating Load Management Strategies for a Net Zero Grid in Massachusetts](#)", which supported the shape/shift/shed framework for a comprehensive load management strategy.



How did the *Peak Potential* report evaluate load management in MA?

DOER's Peak Potential report positions load management as central to Massachusetts' affordability strategy, backed by E3/AEC findings that demand reduction can avoid 4.5 GW of peak load and \$0.95B annually in system costs by 2030, growing to 13.8 GW and \$4.8B per year by 2050 on top of Mass Save's ~1 GW in existing peak reductions.

The report structures this potential across six key mechanisms:

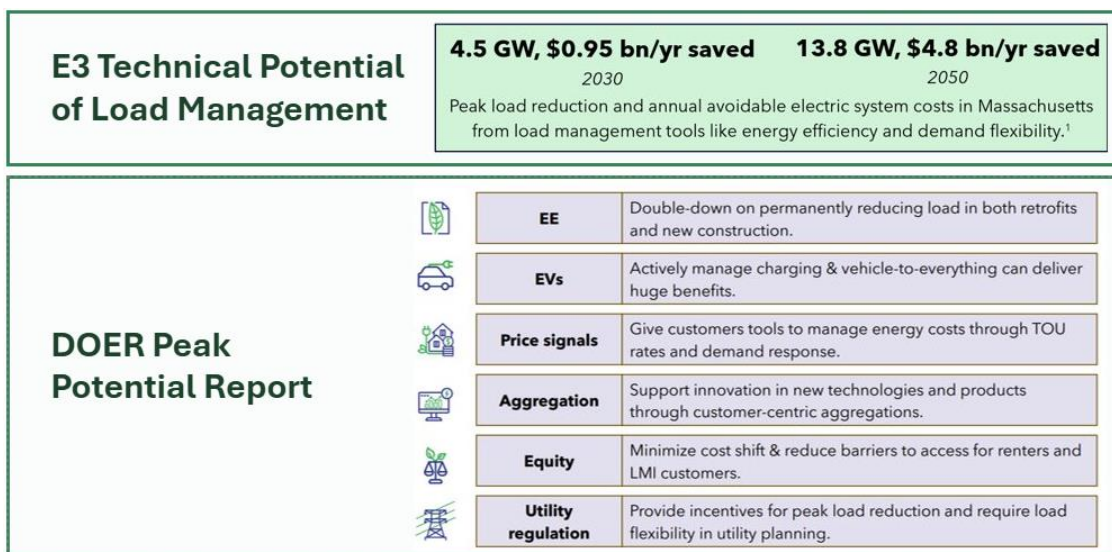
1. Building on the success of Mass Save, Energy Efficiency can serve as the passive foundation for demand reduction, through stretch codes and retrofits that drive down building energy consumption (3.5 GW in reduced peak demand by 2030; 9.5 GW by 2050);
2. Electric Vehicles can offer the largest dynamic opportunity via managed charging and vehicle-to-everything (V2X), technologies that allow an EV to discharge its battery to provide power either to the grid (vehicle-to-grid), to a household (vehicle-to-home), or to individual appliances (vehicle-to-load) (300 MW by 2030; 6.5 GW by 2050);
3. Expanding Virtual Power Plant (VPP) programs like ConnectedSolution to incorporate more appliances, and introducing technology-neutral price signals like time-of-use rates, can empower customers and pay them to support the grid with their whole home (nearly 1 GW of demand reduction possible, though participation hinges on smart meter rollouts targeted for 2028-29).
4. Promoting market based, customer-centric aggregation approaches to VPPs within ISO-NE's retail and wholesale ecosystems can grow innovative business models and



maximize the benefits of load management while reducing the risk of creating secondary local peaks on the distribution grid.

5. Policies to prevent cost shift, reduce energy burden, and address barriers to participation can ensure equitable access to and distribution of benefits from demand reduction investments, allowing renters and Environmental Justice Communities to engage and participate;
6. Incentive structures, integrated planning, and a regulatory sandbox to explore load management, can align utility business models with peak reduction goals over capital infrastructure expansion, promoting affordability for all.

Massachusetts is off to a strong start with 200+ MW aggregated in ConnectedSolutions, but [ISO-NE's 2050 Transmission Study](#) presents a rigid threshold to avoid: should system demand exceed a 51 GW peak, ISO-NE anticipates the need for massive transmission upgrade investments and associated ratepayer costs. Ongoing policy momentum must therefore be maintained, including [DOER's Time of Use Rate proposal](#), MassCEC's [grid services roadmap](#), the DPU's [grid services compensation fund](#), and proposed legislation for mandatory load management plans and DER financing.



How did the Everett Marine Terminal Focus Area Working Group (EMT FAWG) incorporate peak gas demand reduction?

The Office of Energy Transformation's EMT FAWG evaluated the continued reliance of four MA gas utilities on EMT as a peaking resource, and explored avenues to eliminate that reliance and its associated cost to ratepayers.



Following the closure of Mystic Station, the MA gas utilities and their ratepayers became solely responsible for EMT's operating costs, with contracts to maintain the facility through 2030. The gas utilities rely upon EMT for pressure support and peaking resources on the coldest winter days, when demand for gas on their systems exceeds the delivery capacity of interstate pipelines. The [FAWG's final report](#), echoing the utilities' own submissions to the DPU, anticipates that this reliance will persist beyond the 2030 expiry of existing contracts: even with declining overall gas consumption by the utilities, peak gas demand remains persistently high, and will require peaking resources like EMT to safely meet supply on the coldest "design day".

The EMT FAWG report therefore recommended pathways for strategic peak gas demand reduction targeted certain key customers and areas served by EMT. In particular, the report found that substantial peak gas demand reduction by a few large commercial, industrial, and institutional (C&I) customers in Greater Boston could reduce the system-wide sufficiently to mitigate EMT reliance. The report recommends incorporating considerations of EMT reliance into IEP frameworks, advancing non-fossil thermal resources like the BosTEN network for major C&I customers, and targeting electrification projects into environmental justice communities served by EMT (including Everett itself).

The Energy Transition Advisory Board affirmed the FAWG report by consensus in June 2026; as a result, the EMT FAWG was disbanded, and its recommendations were incorporated into the mission for the new PEDR FAWG.

How are other stakeholder groups and state initiatives exploring demand reduction in MA?

Massachusetts has several standing stakeholder groups that contribute to the state's demand reduction strategy.

- The [Energy Efficiency Advisory Council](#), created by the Green Communities Act and led by the Department of Energy Resources, meets regularly to guide the development of the state- and nation-leading energy efficiency and demand management plans across the Commonwealth's investor-owned gas and electric utilities.
 - These programs include [MassSave](#), a collaboration between all of the state's investor-owned utilities, is a ratepayer funded energy efficiency program that provides customers with rebates, incentives, and favorable financing to help them save energy, lower their bills, and reduce emissions.
- The [Grid Modernization Advisory Council](#), established under the state's climate law and also led by DOER, encourages least cost investments in the electric distribution system while increasing transparency in the grid planning process.
- The [Integrated Energy Planning Working Group](#), hosted by the Electric Distribution Companies and led by an outside consultant, runs a cross sector regulatory initiative



aimed at creating a framework for the gas and electric utilities to jointly plan infrastructure investments aligned with the state's clean energy goals.

Other ongoing initiatives in the Commonwealth continue to support implementation of demand response programs. These include:

- Electric Distribution Companies submit [Electric Sector Modernization Plans](#) to the DPU on a regular cycle, laying out roadmaps to modernize and upgrade the grid with the goal of enabling an affordable and just transition.
- The [Clean Energy and Climate Plan](#) lays out the Commonwealth's comprehensive roadmap for greenhouse gas emissions reduction on the path to net zero. The plan continues to be developed and implemented by teams within the Executive Office of Environmental and Energy Affairs.
- The [Interagency Rates Working Group](#), led by DOER, developed long term ratemaking recommendations that included time of use rates, resulting in a DOER petition to the Department of Public Utilities on time of use rate structures that is now an active docket, one that demand response depends on heavily.