Written Public Comment: 2028-2030 Three-Year Plan, Workshop #4 (October 15, 2026)

To: ma-eeac@mass.gov · From: GeoStellar Engineering LLC, Stoughton, MA · Request: entry into the record, posting with the Workshop #4 materials, and a written response

Dear Chair and Councilors, every heat pump the 2028-2030 plan funds adds load to a winter-peaking grid. How much it adds depends on how the system performs on the coldest hour, and the plan does not currently measure that. Winter 2025/26 was the most expensive in ISO-NE history: about $6 billion December-February, a 20,182 MW peak on January 25, and generators shifting to oil as pipeline gas ran short. This follows our September 17 comment for Workshop #3, to which we have not seen a response. Before recommendations are consolidated on October 15, we ask for one sentence and answers to three questions.

One sentence for the consolidated recommendations

"Heat pump incentives in 2028-2030 should be scaled to each system's measured contribution to winter peak demand: electric demand per ton at the breaker on the design day, including backup. CO2 avoided should be counted at the generation that covers the peak, alongside customer operating cost. Incentives should not be paid at a single rate per ton of rated capacity. The PAs should report results by peak-demand band and reconcile them with the EDC load forecasts reviewed by the GMAC."

This names no technology and favors none. Any system or combination that electrifies heat with less peak demand earns more, whatever it is: equipment choice, thermal storage, load control, or weatherization done first.

Why peak demand is the measure that matters

The same 5-ton oil-heated home can be electrified in ways that differ by a factor of three on the peak hour. Two configurations, at $0.38/kWh before the heat-pump rate discount, on today's grid:

	Lower-peak configuration	Higher-peak configuration
Design-hour demand	about 6 kW	about 15 kW, plus up to 4.5 kW for water heating
Annual electricity use	about 12,000 kWh	about 18,500 kWh
CO2 reduction	about 8 tonnes (roughly 70%)	about half as much
Household bill vs. oil	saves about $1,300 a year	costs about $1,000 a year more

Across 100,000 homes the gap is roughly 900 MW of design-hour demand before diversity, on a system that peaked at 20,182 MW. That demand is built into the distribution investment ratepayers fund through the ESMPs, and it is met at the margin by oil-fired generation. Today both homes receive the same incentive per ton. Figures are from our load analysis, available to the consultant team on request. We would welcome metered PA data that confirms or corrects them.

Rate and rebate are one decision

The heat-pump rates now offered by National Grid and Eversource take about 5 cents off a rate of roughly $0.38-0.39/kWh. That is not enough to change the arithmetic. Our analysis shows that at a winter rate near $0.25/kWh, the rebate needed for a 10-year payback against oil would fall from about $20,000 to under $6,000. Systems that add little to the peak are the ones a lower winter rate can serve without raising grid cost.

Questions: we request written answers on the record

1. Have the consultant team or the PAs measured, from real winter operation and not rated or reported performance: (a) electric demand per ton at the breaker on the design day, including any backup; (b) CO2 avoided, counted at the emissions of the generation that actually covers the winter peak, including oil-fired units, net of any peak-shaving measures; and (c) the change in annual customer operating cost? If yes, please publish the figures. If no, on what basis is a single $/ton rate being recommended?

2. What winter coincident-peak demand per heat pump does the plan assume, and is it the same figure the EDC forecasts reviewed by the GMAC use?
3. Will the sentence above, or an equivalent peak-demand principle, be carried into the consolidated recommendations, with a call to coordinate with the GMAC on winter rate design? If not, what is the objection?

Respectfully, Dmitry Kuravskiy · GeoStellar Engineering LLC · dkuravskiy@gmail.com · geostellar.io/public-comment