

November 15, 2024

Massachusetts Interagency Rates Working Group
Re: Long-Term Rates Draft Report

Dear Interagency Rates Working Group Members:

Thank you for the opportunity to submit comments in response to the Interagency Rates Working Group Long-Term Rates Draft Report. Acadia Center is pleased to provide the following comments and recommendations for the Working Group's consideration at this time.

Clean Heat Standard and 3-Year Energy Efficiency Plans

Acadia Center continues to encourage the IRWG to incorporate potential designs for a Clean Heat Standard, as well as analysis of the Draft 2025-2027 Three-Year Electric & Gas Energy Efficiency Plans, as part of the long-term rate study. Acadia Center recommends that the Working Group specifically analyze the potential impact of the Clean Heat Standard (CHS) policy currently being developed by the Department of Environmental Protection (DEP). The current version of the [CHS Draft Framework](#) and the proposed changes to the Draft Framework described in Question 0 of the [CHS FAQ](#) proposes to place a \$4.2 billion compliance obligation on electricity sellers over the 2026-2034 time period.¹ The draft version of the most recent 3-year energy efficiency (EE) plan proposes to collect program funds from ratepayers of \$4.99 billion over the 2025-2027 period in order to obtain \$13.7 billion in benefits², funding that will be borne in large part by electric ratepayers via volumetric per-kWh charges. While Acadia Center supports both strong, energy efficiency programs and a well-designed CHS as policy mechanisms to fund the building decarbonization transition, it is essential to find the proper balance of funding these programs via some combination of electricity rates, fossil fuel and broader societal cost sharing in a manner that does not disincentivize electrification or incumber energy efficiency progress. The EE and CHS programs have the potential to significantly affect electricity rates and therefore the cost of electricity relative to other heating fuels (e.g., natural gas, heating oil, propane); for this reason, their inclusion in the IRWG quantitative analysis is critical.³

¹ This estimate is based on analysis performed by Acadia Center given the limited information presented by DEP in the [CHS Draft Framework](#) and [CHS Frequently Asked Questions](#) documents. DEP has not presented analysis on the total CHS compliance cost for electricity sellers to date.

² See <https://ma-eeac.org/wp-content/uploads/Exhibit-1-2025-2027-Three-Year-Plan.pdf>

³ For more information, see Acadia Center's May 31, 2024 comments on the IRWG Listening Session #1.

Acadia Center has produced three sets of comments related to the CHS program design that contain more detailed thoughts regarding the connection between a CHS compliance obligation on electricity sellers and the potential price impacts on heat pump operating costs for consumers, among other topics:

- [December 2023 Comments on CHS Draft Framework](#)
- [February 2024 Comments on CHS Voluntary Early Registration Program](#)
- [April 2024 Comments on CHS Draft Framework Proposed Potential Changes](#)

One of the key research questions posed on slide 6 of the presentation is “Could certain components of today’s electricity rates be shifted to non-ratepayer cost recovery to better support decarbonization and affordability?” Although not addressed in the IRWG presentation, it’s important to consider how the CHS could potentially distribute benefits and costs across consumers using different heating fuels and how it relates to the work currently being undertaken by the IRWG with regards to long-term rate planning. As proposed, the CHS awards two types of electrification credits: 1) Full electrification credits for installing the system and 2) Annual emissions credits based on the ongoing operation of the heat pump system. Fuel sellers (natural gas, heating oil, propane) have three potential compliance pathways: 1) Install heat pumps 2) Sell biodiesel blends 3) Make Alternative Compliance Payments.

Based on the current proposed CHS design, Acadia Center is highly concerned that fuel sellers will meet the majority, if not all, of their compliance obligation via the ACPs (our logic behind this conclusion is discussed in more detailed in our [April 2024 CHS](#) comments). Functionally, over time, this would create a large pot of ACP funds which could be deployed in a number of ways – the CHS Draft Framework does not prescribe how these funds would be spent. However, Question o of the CHS FAQ, which proposes potential changes to the Draft Framework, introduces the concept of electricity sellers offering “discounts or other rewards to customers that utilize their heat pumps”:

“Consider assigning default ownership of emission reduction credits from operation of heat pumps to electricity suppliers instead of homeowners. The draft framework suggests that information in monthly electric bills may be used to verify reliance on heat pumps for heating. Because electricity sellers already have access to this information and have experience with crediting programs, assigning credits to electricity sellers could greatly simplify program administration. It would also be consistent with crediting for liquid biofuels in that credits would accrue to the energy supplier. It would also create an incentive for electricity sellers to encourage heat pump usage, possibly by offering discounts or other rewards to customers that utilize their heat pumps. This could partially address stakeholder concerns about the operational costs of electric heat pumps. A variation on this idea could be to include a notice requirement and an “opt-out” option for consumers who wish to retain the rights to annual emission reduction CHCs associated with operating heat pumps in their homes.”

The specific example above is discussing electricity sellers offering “discounts or other rewards” to encourage customers to actually use their installed heat pumps to provide heat during winter (opposed to strictly using them for summer cooling), because the electricity sellers have an incentive to do so – as proposed above, the electricity sellers would be the default owners of the emission reduction credits (a commodity that holds monetary value) generated when customers use their heat pumps to provide space heating. Thus, the CHS appears to have the potential to both indirectly (via pass-through compliance costs) impact the rates/price of all four heating fuels and directly (via direct discounts to electricity customers) impact electricity rates.

Although the CHS is not specific about this point, it seems plausible this logic could also extend to how ACP funds are utilized. These funds – potentially in large part generated via pass-through compliance costs to gas, heating oil, and propane customers – could potentially be used to subsidize electricity rates to encourage both installation and actual utilization of heat pumps to provide space heating. In this way, there could be a fairly direct connection between electricity rates and CHS compliance costs indirectly borne by heating oil and propane customers, highlighting the connection between non-rate payer costs and electricity rates – a discussion topic prompted in the IRWG presentation. From this perspective, it appears critically important that the CHS impacts be integrated into the long-term rates analysis.

Public Finance

Acadia Center also supports consideration of the role that public finance and state debt might play as potential alternative or supplemental financing solutions to help reduce costs and limit the upward pressure on rates. Public bond issuances could be an important source of funding for transmission system investments as well as potentially for distribution system investments in the future and could offset costs borne primarily by ratepayers. This is a topic of emerging consideration and would require extensive research on the benefits, drawbacks, and consequences of this type of financing for particular applications in the utility investment and ratemaking context.

Below, we provide responses to the questions posed at the November 7, 2024 stakeholder session:

Time Varying Rates (TVR)

1. Time-Varying Rates (TVR) should be applied to all three components of residential rates (i.e. distribution, transmission, and generation). All three have costs that vary with time and can be avoided by using time-varying rates. TVR must include a peak window that is narrow enough to motivate customer behavior change and to deliver the intended peak-shifting benefits. Shorter periods of higher costs are easier to understand and respond to in terms of changing energy usage. Periods that are too long (e.g., 4 hours or more) dilute price signals and are less effective at motivating behavior change. The ratio between on-peak and off-peak rates must be large enough for customers to see a noticeable difference in their bills and to motivate changes in behavior. According to the Regulatory Assistance Project, in order to maximize peak demand reductions, peak periods must be sufficiently narrow and the annual average price differential between on-peak and off-peak should be at least 3 to 1.⁴

Moreover, as ISO New England prepares for the needs of the future regional grid, it has analyzed system needs assuming a peak demand during winter in 2050 of upwards of 57 GW.⁵ Annual peak demand for New England today is just over 24GW. While experts have proposed a range of values for anticipated peak demand in 2050, the general consensus is that the region, including Massachusetts, will switch to a winter-peaking system well before 2050. In terms of rate design and the potential implementation of TVR, anticipated changes in

⁴ David Littell and Joni Sliger (Regulatory Assistance Project), *Time-Varying Rates in New England: Opportunities for Reform* (2020).

⁵ ISO New England, 2050 Transmission Study, February 2024. https://www.iso-ne.com/staticassets/documents/100008/2024_02_14_pac_2050_transmission_study_final.pdf

seasonal load variability mean that the IRWG, and by extension the Department of Public Utilities, should build in flexibility to any rate offerings and the ability to make refinements over time.

2. Opt-out rates tend to result in much higher program participation and retention rates.⁶ Further, higher participation in TVR leads to more significant shifts in demand, reducing system costs that benefit all ratepayers. Default TOU rate offerings with an opt-out option would enable the level of peak load reductions and other benefits that are less likely to be realized if confined to either an opt-in program or a pilot program. Pilot programs would further delay the ability of customers to realize the benefits of TVR.
3. Low and moderate-income (LMI) customers tend to have flatter load profiles and use less energy during peak hours compared to higher income households, which generally own more energy intensive appliances. Flatter load profiles mean that LMI customers may have less of an ability to respond to TVR and shift load. However, LMI households may, at the same time, have an opportunity to see immediate bill savings from time-of-use (TOU) rates without any changes in behavior or consumption.^{7,8} Numerous studies have specifically analyzed the impact of TOU rates on low-income customers and have shown that in many cases, low-income customers do, in fact, respond to TOU rates at similar rates as non-LMI households.^{9,10,11} In order to maximize customer responsiveness and deliver both bill and usage reductions, all customers – both LMI and non-LMI – must have access to appropriate technologies, such as smart thermostats, to make shifts in demand as easy as possible.

Acadia Center recommends that the IRWG includes a set of policy guardrails to supplement any future TVR offerings and to reduce the risks of unintended outcomes for customers. For example, TVR must be actionable and include sufficiently high off-peak to on-peak price ratios and sufficiently narrow peak windows. Deployment of TVR must include a robust customer outreach and education process. Default TVR should include an appropriate transition period to increase customer familiarity with the new rates. It is also important to implement policies that help to hold low-income households harmless during the transition. For example, low-income customer bills could be capped for the first year of implementation, so that TVR are guaranteed not to increase bills for a certain length of time.

4. In order for TVR to be effective, customers need to know exactly how they can take action to reduce their usage and bills. Shadow billing can be an effective tool for introducing TVR over time and increasing customer comfort with new rates. Automated devices and other technologies like smart thermostats can help to make behavior change as unobtrusive as possible.

⁶ Sanem Sergici (The Brattle Group), *Time-Of-Use Rate Design and Roll-Out: Learnings from Other Jurisdictions*, prepared for the Maine Public Utilities Commission Docket 2024-00231 (October 2024).

⁷ Colgan, et al. [Guidance for Utilities Commissions on Time of Use Rates: A Shared Perspective from Consumer and Clean Energy Advocates](#). Electricity Rate Design Review Paper No. 2 (2017).

⁸ Brendan Baatz (ACEEE), *Rate Design Matters: The Intersection of Residential Rate Design and Energy Efficiency* (2017).

⁹ David Littell and Joni Sliger (Regulatory Assistance Project), *Time-Varying Rates in New England: Opportunities for Reform* (2020).

¹⁰ Jordan Folks and Zac Hathaway (Opinion Dynamics), [Assessing Equity in TOU: How Low-Income Customers Fare on Time of Use Rates](#). ACEEE 2020 Summer Study.

¹¹ American Public Power Association, [Moving Ahead with Time of Use Rates](#) (2020).

- Advanced Metering Infrastructure data can provide useful information to help tailor TVR offerings and to find the right balance between off/on-peak price differentials, peak hours, and customer responsiveness. Acadia Center urges the IRWG to recognize the role that third-party providers can play in offering innovative solutions using AMI data and to include a recommendation for the DPU to incorporate third-party providers into its eventual TVR implementation plans.

Performance-Based Ratemaking Mechanism (PBRM)

- While Massachusetts currently has a Performance-Based Ratemaking Mechanism (PBRM) in place, there is room to expand the set of performance incentives and penalties to help deliver greater benefits to customers. As the IRWG considers rate mechanisms to support the Commonwealth's policy goals, it is important to consider the broader set of ratemaking components that inform what customers ultimately pay on their bills. For example, the IRWG should consider whether existing rates for Return on Equity (ROE) fairly balance the interests of ratepayers and shareholders, especially given the fact that while ROE rates have remained generally consistent over time, there is some evidence to suggest that the actual cost of capital has declined in recent years.¹² It may be the case that utilities would still be able to attract sufficient capital with a lower ROE, which would have a notable impact on customer bills, and that utilities are generally overcompensated compared to what financial modelers would expect the actual cost of equity to be.¹³
- Acadia Center recommends that the IRWG include a recommendation in the Long-Term Rate Study for the Department of Public Utilities to conduct a broad review of the existing PBRM framework to consider whether the PBRM is optimally designed or whether there are reforms that could enable the PBRM to more effectively deliver benefits to ratepayers. A broad PBR review would create an opportunity to better understand whether existing formula rates are serving their intended purposes of keeping rates stable and reducing the risk of frequent rate shocks.

Below, we provide responses to some of the November 13, 2024 stakeholder session questions:

Pilot Programs

- Acadia Center urges the IRWG to avoid placing too much emphasis on pilot programs as part of an overarching TVR rollout. There is a growing body of evidence from numerous jurisdictions that show the effectiveness of well-designed TVR. Notably, the Maine PUC recently submitted a report on time-of-use rates to the Joint Standing Committee on Energy, Utilities and Technology and stated that a TOU "pilot represents an unnecessary cost to ratepayers and years of valuable customer savings and peak GHG emissions reductions lost," particularly because of the low enrollment rates that are typically inherent to pilots.¹⁴

Demand Charges

- Acadia Center is concerned with the potential for demand charges, especially non-coincident peak demand charges, to send misleading price signals in a way that makes it difficult for residential customers to effectively respond. An individual customer's peak demand may or may not align with the system-wide peak,

¹² Severin Borenstein, *What Does Capital Really Cost a Utility?* Energy Institute at Haas (2022).

¹³ Karl Dunkle Werner and Stephen Jarvis, *Rate of Return Regulation Revisited*, Energy Institute at Haas (2022, revised 2024).

¹⁴ Maine Public Utilities Commission. *Report Regarding the Implementation of Time-of-Use Rates Pursuant to Resolves 2023, chapter 79*. Submitted to the Joint Standing Committee on Energy, Utilities and Technology, November 20, 2023 (p. 3).

which could lead to misalignment between the periods of increased cost for the customer and periods when system-wide costs are highest.¹⁵

Sincerely,

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¹⁵ Mark LeBel and Frederick Weston, with contributions from Ronny Sandoval (Regulatory Assistance Project), *Demand Charges: What Are They Good For? An Examination of Cost Causation* (2020).