

MEMORANDUM

TO: Todd Schatzki, The Analysis Group; Chris Geissler, ISO-NE

FROM: Advanced Energy Economy

DATE: March 15, 2022

RE: Draft Pathways Study

Advanced Energy Economy appreciates the opportunity to provide written feedback on the draft Pathways Study prepared by The Analysis Group. The study offers a thoughtful and thorough analysis that will provide the region with a valuable common understanding of the pathways studied and serve as a good basis for selection of a pathway for further development. AEE does not take a position at this time on the relative merit of the various pathways, and we also remain open to alternatives not studied here. We look forward to working with ISO-NE, the New England states, and NEPOOL as these pathways continue to be discussed.

Because this document will serve as a valuable jumping off point for further discussions on these important topics, it is important for the final report to be very clear—errring on the side of conservative—about what can and cannot be concluded from the study. The report does a good job in many areas of pointing out unknowns or important caveats, but there are some instances where additional emphasis on these uncertainties is warranted. In particular, the summary table—which many policymakers are likely to rely on for quick reference—offers limited context and suggests that some of the trade-offs between the pathways are clear-cut. We recognize that The Analysis Group has acknowledged that this summary table will be revised, and we hope that our comments here are helpful in adding important context and discussion of trade-offs in that revision while also applying to the report more generally.

First, we note that the design of the individual pathways could change ultimate outcomes and trade-offs between the pathways studied. The report appropriately acknowledges that design decisions are beyond the scope of the study. However, depending on how each pathway is designed, the outcomes under that pathway may shift, and some pros or cons of that pathway relative to alternatives may be eliminated. We understand that one of the valuable contributions of the study is precisely the fact that it allows the region to

understand the implications of the pathways as modeled, and to make adjustments via design decisions to address potential cons that are identified. It should be made very clear that the study tells us how the pathways would perform as modeled but that actual outcomes would vary depending on how the pathways are implemented.

To take one example, the study concludes that the Forward Clean Energy Market (FCEM) does not provide an incentive for reductions in carbon intensity or investment in renewable natural gas or clean hydrogen. However, states could choose to make the portion of the output from a fossil unit that is fueled by RNG or clean hydrogen eligible for clean energy credits (CECs). Thus, while FCEM as modeled does not provide an incentive for these options, an FCEM could be designed to do so.

Second, investment incentives for new resources depend on many factors that are not included in the study. With respect to incentives for new resources, the study is mainly focused on revenue opportunities from the policy pathways and existing wholesale markets. While these revenues are an important factor in resource investment decisions, other factors are equally relevant. Revenue certainty and the ability to lock in some forward payment (whether via the policy pathway or some form of bilateral contract) is also important for many resources, especially the types of high capital cost, low marginal cost renewable resources needed to meet policy objectives. Energy storage is similarly capital-intensive, and also has relatively limited operating hours and therefore fewer opportunities to earn CECs or benefit from carbon pricing.

One potential concern that AEE and advanced energy companies have voiced with respect to carbon pricing is that even if the price (or cap) is sufficiently high (or stringent) to drive desired results, it may not result in a financeable incentive that enables new resources to get built. Similarly, the effectiveness of FCEM in providing an investment signal will depend at least in part on design decisions such as how far forward CECs are purchased or whether a price lock is available and for how long. Under either pathway, additional policy or market mechanisms may be needed to induce investment in new resources.

Whether these resources will be able to secure investment and get built as a result of any of the proposed policy pathways—and what design decisions or complementary policies may be needed to ensure that investment occurs—warrants further consideration. While those questions are beyond the scope and purpose of the study, they loom large, and warrant acknowledgement as the study concludes whether the pathways provide “incentives and cost effective investment in all clean energy resources,” and “efficient incentives for storage resource use and investment” (as reported in summary table, emphasis added).



Furthermore, demand response and energy efficiency are omitted from the study altogether, and are unlikely to be incentivized under any of the pathways without significant modification despite their increased importance in providing flexibility and reducing peaks as the resource mix changes, the share of variable renewable energy resources increases, and electrification grows.

Third, AEE cautions against drawing conclusions about the impact and outcomes of negative LMPs. The study provides useful information about the likelihood and frequency of negative LMPs under all of the pathways, and warns that negative LMPs will lead to battery “churning” (and therefore inefficient battery use and over-investment) and inefficient commitment and uplift. These risks are important to keep in mind, but are speculative and assume that nothing is done to address the impact of negative LMPs.

Battery “churning” would be more appropriately discussed as an interesting study finding that may warrant further analysis, not as a likely outcome. The study’s finding that “churning” may be economically viable even when accounting for battery degradation does not mean that this will be adopted as a strategy by battery developers in the 2030s. In our view, it is likely that battery developers will find a more valuable use of these highly capable assets than to earn revenue off round-trip inefficiency. If battery “churning” turns out to be a real threat, we expect that there would be alignment in the region—including among battery developers—to take the actions necessary (e.g., adjustments to market rules and/or policy incentives) to ensure that batteries are providing true value to the system.

The analysis also assumes that no other steps would be taken to address the growing number of negative LMP hours. This is logical given the purpose and scope of the study, but we expect steps would be taken if negative LMP hours become a concern (e.g., by creating more opportunities for flexible load or taking steps to enhance price formation).

AEE recommends adding and/or placing additional emphasis on these caveats throughout the report, and especially in the summary table. We additionally recommend adding a summary of study limitations, uncertainties, and areas for further study, encompassing the issues raised above as well as other issues raised throughout the report. We expect this report will be of interest far beyond the subset of NEPOOL stakeholders who have been actively following its development. These changes will especially help policymakers who are looking to this analysis for guidance as they consider next steps.

AEE appreciates the opportunity to comment on the draft report, and we look forward to working with ISO-NE, New England states, and NEPOOL as the region transitions from analysis to consideration of potential market reforms.



Please do not hesitate to reach out to us if you have any questions about this feedback.

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