



Comments of the Environmental Defense Fund

January 22, 2021

Environmental Defense Fund (“EDF”) appreciates the opportunity to submit comments regarding The Felder Report dated January 6, 2021¹ (“Report”). EDF recognizes that the Report represents a tremendous amount of effort and understands that the Report is still a work in progress. In that light, EDF offers the following comments to help ensure that subsequent iterations of the Report consider all necessary factors.

I. The Region Needs to Reach Consensus on the Principles by Which Each Market Construct Will be Evaluated

The Report states that the purpose of this collaborative effort is to develop a common understanding among a diverse group of stakeholders and State officials by, among other things, clarifying issues, and discussing pathway elements and their implications.² Although this is the stated goal, EDF notes that ISO-NE, NESCOE, and the Report seem to be approaching the issue from different perspectives or applying different principles. For example, the NESCOE vision statement lists the effective and efficient integration of distribution level resources as a key principle that must be reflected in any new regionally-based market framework.³ However, the Report is silent on this principle. Similarly, the Report appropriately elevates the importance of balancing services in any future market design, yet the NESCOE principles are silent on this issue.

Further, the Report does not address the interplay between the options ISO-NE has already chosen to evaluate versus any other option(s) that the stakeholders may want to evaluate.⁴ To achieve the objective of reaching a common understanding, it is imperative that the Report is inclusive and addresses all of the key issues raised by stakeholders. To do otherwise will leave lingering questions regarding if, and when, such issues will be addressed. In

¹ We assume that 2021 was intended instead of 2020.

² Felder Report at page 1.

³ <http://nescoe.com/resource-center/vision-stmt-oct2020/>

⁴ ISO Board has directed management to evaluate both net carbon pricing and a forward clean energy market. See https://powermarkets.org/wp-content/uploads/wp-file-manager-pro/FPMF-Content/Speaker%20Papers/Session%207/iso_ne_pathways_presentation_january_2021_update_fm_final.pdf?t=1610394355

essence, further clarity will assist the stakeholders and the States to have the necessary foundation to further assess new market constructs.

II. Flexibility Service Requirements Will Increase in Importance as the Share of Renewable Generation Grows

The Report correctly notes the importance of balancing services going forward and observes that “the required types, amounts, and timing of balancing services needed to accommodate increasing levels of [Variable Resource Energy Resources (“VRER”)] has not been defined or articulated.”⁵ The Report also states that “[t]he reliability criteria and metrics should be specified in order to establish the balancing services needed to plan and reliably operate the bulk power system given increasing penetration of VRERs, perhaps as part of the NEPOOL’s ongoing Future Grid Reliability Study effort.”⁶

As currently proposed, the NEPOOL Future Grid Study Draft Proposed Study Framework will be conducting an ancillary services simulation, with the following objectives: “Show if resources will provide the necessary amounts of ramping, load following, regulation, and reserves. Provide insight to expected revenues from the existing ancillary services markets under the scenarios studied.”⁷ This assessment appears to be confined to existing ancillary services, not an identification of whether new specialized services will be needed. Clarification is needed regarding how the findings of NEPOOL’s Future Grid Reliability Study effort will inform and impact the discussion of the four proposed market design constructs and the required types, amounts, and timing of balancing services.

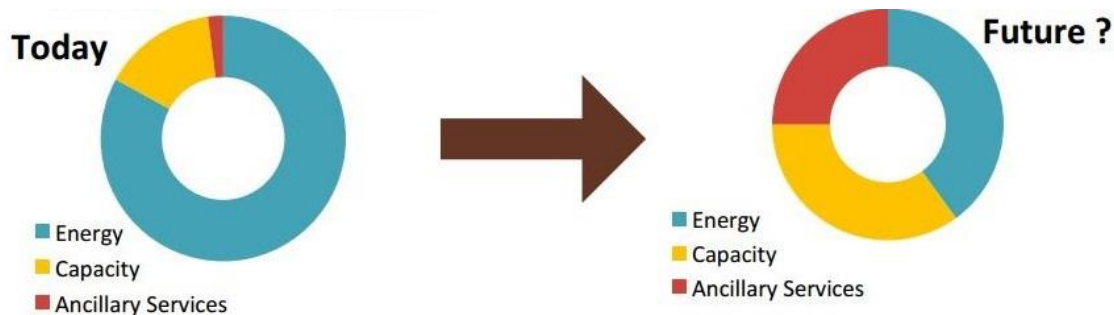
A key finding from the Massachusetts Attorney General’s wholesale market symposium report is that ancillary services will increase in importance as the share of intermittent generation grows, resulting in new specialized services that value flexibility, rather than traditional capacity needs.⁸ Revenues received from new, specialized ancillary services will also be critical in resolving the missing money problem as energy market revenues decline. The following graphic compares the portion of revenues resources receive from the energy, capacity, and ancillary services markets today and in the future, as capacity factors diminish and energy prices are reduced as a result of non-fossil supply:

⁵ Felder Report at page 6.

⁶ Felder Report at page 7.

⁷ <https://nepool.com/meetings/future-grid-reliability-study/>

⁸ Massachusetts Attorney General’s Office and Regulatory Assistance Project, Wholesale Electric Market Design for a Low/No-Carbon Future – Report on the October 2019 Symposium & Proposed Next Steps at page 7 (March 2020), <https://www.mass.gov/doc/wholesale-electric-market-design-for-a-lowno-carbon-future/download>.



Source: RENEW Northeast, Integrating Markets and Public Policy (IMAPP): Solution Ideas Day at slide 5 (August 11, 2016), available at http://www.nepool.com/uploads/IMAPP_Presentation_RENEW.pdf.

Any future modeling of the need for, and revenues associated with, ancillary services must include a fair assessment of all technology types able to provide the services. This was a key deficiency of the Energy Security Improvements modeling assessment, which excluded important resources, including battery resources.⁹ A critical assessment of all technologies is needed given that the set of resources the system relies upon to provide these proposed ancillary services will likely change, as ISO-NE acknowledges: “as new storage-based technologies become more prevalent, and their economics and energy sustainability improves, the resources that prove most cost-effective to satisfy these same operational purposes may shift to make use of those technologies.”¹⁰

Lessons learned from the Energy Security Improvements initiative demonstrate that any new proposed service must be appropriately tailored to a demonstrated reliability need in order to protect consumers against excessive costs.¹¹ This issue needs to be carefully considered against the backdrop of which resources currently provide the required balancing services and which resources will be needed to provide these types of services in the future, as increasing numbers of renewables come onto the grid. One critical issue includes consideration of the evolving role of gas generation going forward—transition from baseload provider to provider of balancing services. As explained in the Massachusetts’ Decarbonization Roadmap states (at page 66):

Thermal generators that have traditionally operated by following electricity demand will need to shift to a “peaking” or “gap-filling” reliability role in the coming decades as they operate fewer and fewer hours and cease to be providers

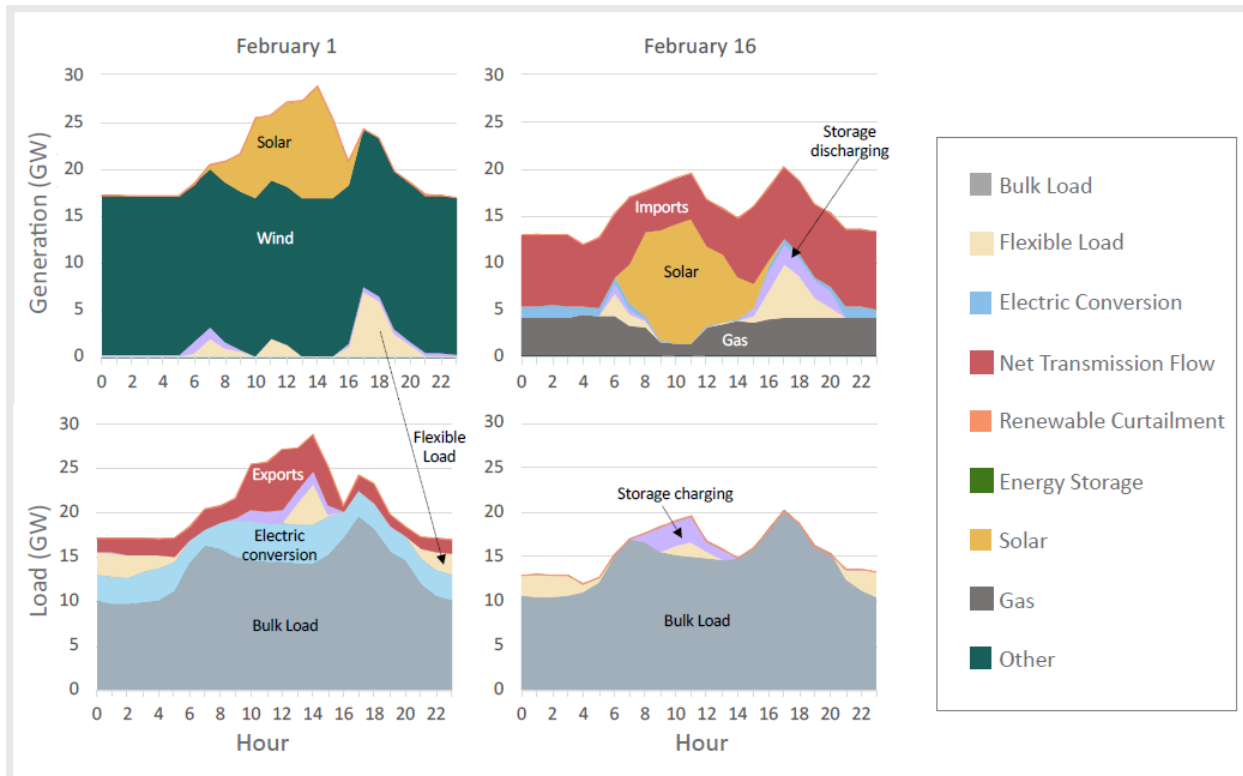
⁹ ESI Filing, Attachment C – Impact Assessment, page 72, note 54 (“Table 26 to Table 28 do not include certain technology types, when our modeling of the resource dispatch is not sufficiently detailed to accurately characterize expected impacts. For example, output (and charging load) for battery and pumped storage reflect historical profiles, not economic offers, and thus may not accurately capture resource responses to ESI”).

¹⁰ ESI Filing, Attachment B (Energy Security Improvements White Paper) at page 30.

¹¹ *ISO New England Inc.*, 173 FERC ¶ 61,106 at P 22 (2020) (FERC rejecting the ESI proposal because, among other reasons, it would “impose substantial costs on consumers”).

of bulk electricity. In the *Energy Pathways Report*, thermal generators operating 50% of the time today are projected to operate around 5% of the time in a decarbonized system.¹²

The following graphic shows the variability of renewables and the need for balancing resources, with a significantly different role for gas generation in meeting demand across two days in 2050:



As gas-fired electric generators’ fuel supply needs become more intermittent and uncertain on both daily and sub-day levels, the need for just-in-time fuel delivery and varying, non-ratable takes from pipelines will increase, as concluded in a report commissioned by the INGAA Foundation.¹³ This implies a commensurate change in the way that pipelines delineate and price the flexibility they provide to the grid,¹⁴ with an emphasis on appropriately valuing non-ratable,

¹² <https://www.mass.gov/doc/ma-decarbonization-roadmap-lower-resolution/download>

¹³ Black & Veatch Management Consulting, LLC for the INGAA Foundation, Inc., *The Role of Natural Gas in the Transition to a Lower-Carbon Economy* at page 6 (May 2019), <https://www.ingaa.org/File.aspx?id=36501>.

¹⁴ As one example, as part of the proposed Access Northeast project, Algonquin proposed Liquefied Natural Gas (“LNG”) storage facility that would deliver on peak days up to 925,000 dekatherms per day. Algonquin Gas Transmission, LLC, Request for Approval of Pre-Filing Review – Access Northeast Project, Docket No. PF16-1 at 1 (November 3, 2015). This aspect of the proposal would

just in time delivery service. Without addressing this key needed market refinement, the “unpriced” flexibility from the natural gas supply chain (embedded within the price for long-term pipeline capacity), muddles the market for participation by more dynamic, data-driven resources like batteries and demand response and will serve to hinder the region’s progress towards its climate objectives.

EDF appreciates the opportunity to comment on the Report and looks forward to working with stakeholders on these issues going forward.

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have been particularly valuable to electric generators. As noted by Algonquin, “the service envisions several creative features including non-ratable takes from the LNG facility, as well as basically the ability to take deliveries without nominating a source of supply.” Algonquin Gas Transmission, Technical Conference Transcript, Docket No. RP16-618 at page 38, lines 2-5 (May 9, 2016). However, none of these LNG-related services were priced on a stand-alone basis.

