

NEW ENGLAND STATES' VISION FOR A CLEAN, AFFORDABLE, AND RELIABLE 21ST CENTURY REGIONAL ELECTRIC GRID

October 2020 - The New England States' vision, expressed through the New England States Committee on Electricity (NESCOE),¹ for a clean, affordable, and reliable 21st century regional electric grid necessitates significant changes in three core segments of our shared energy system: Wholesale Electricity Market Design, Transmission System Planning, and ISO New England (ISO-NE) Governance.² The New England States will initiate a public process, supported by NESCOE, to inform the development of any proposals related to the Vision set forth below.

1. Wholesale Electricity Market Design

New England's existing wholesale electricity markets must modernize if they are to support achievement of clean energy laws, while maintaining system reliability and fostering more affordable electricity for regional consumers. The existing market structure is not fully compatible with certain state laws and mandates regarding resource adequacy and actions taken (e.g., long-term contracts) in pursuit of energy- and climate-related legal requirements. As a result, New England's wholesale markets fail to sufficiently value the legally-required clean energy investments made by the ratepayers they serve. Absent fundamental changes, as described below, the result of the existing market structure will be that some states' ratepayers will continue to overpay for electricity, constrained by a wholesale market not aligned with a rapidly transitioning

¹ [NESCOE](#) is a not-for-profit entity that represents the collective perspective of the six New England Governors in regional electricity matters and advances the New England states' common interest in the provision of electricity to consumers at the lowest prices over the long-term, consistent with maintaining reliable service and environmental quality. It is governed by a board of Managers appointed by each of the New England Governors.

² New Hampshire does not have the same or similar clean energy mandates as do the other New England states. New Hampshire does, however, have a common interest in preserving efficient wholesale markets and in ensuring that transmission system planning achieves least-cost solutions; as well as a legislative mandate to prevent or minimize any rate impact of other states' policies on New Hampshire retail electric rates.

resource mix and consumer investments in clean energy and decarbonization. That is not a sustainable outcome.

Our regional capacity market provides one key example of how today's wholesale market structure conflicts with the efficient and effective achievement of state laws. Its existing design largely prevents state-level investments in clean energy resources – developed pursuant to state laws – from being fully accounted, thereby creating risk that local ratepayers have to pay twice for the same level of resource adequacy, while simultaneously impeding those states' legal requirements to decarbonize.

In July 2019, NESCOE requested that ISO-NE and the New England Power Pool initiate a process to analyze and discuss potential future market frameworks that contemplate and are compatible with the implementation of state energy and environmental laws.³ This included assessing various alternatives to the current wholesale market construct that would address the clean energy and resource adequacy needs of the region by directly and properly accounting for the resource adequacy values of clean energy resources. That work is underway; the New England States remain committed to engaging in the process, and this Vision Statement provides guideposts for the States' participation.

Recommendation

The New England States are committed to pursuing a new, regionally-based market framework that delivers reliable electricity service to local homes and business, but that framework must also account for and support States' clean energy laws in an efficient and affordable manner. The States believe that such a framework must, at a minimum, reflect the following principles:

1. Meet States' decarbonization mandates and maintain resource adequacy at the lowest cost by using market-based mechanisms;
2. Establish effective mechanisms that accommodate existing and future long-term contracts for clean energy resources executed pursuant to state law;
3. Integrate distribution-level resources effectively and efficiently;
4. Allow interested buyers and sellers to participate; and
5. Provide for an appropriate level of state involvement in market design and implementation.

We expect that the details of any new market design will align with the principles articulated above. In particular, the States are open to models that could be implemented under state jurisdictional authority, and that would be compatible with our Vision for a more consumer- and state-responsive

³ See NESCOE July 16, 2019 memo to ISO-NE, *ISO-NE 2020 Work Planning: Markets and State Laws*, at http://nescoe.com/wp-content/uploads/2019/07/WorkPlan2020Request_16July2019.pdf.

wholesale market. States must occupy the central role in informing the design of any market to further state clean energy laws and mandates.

The States recognize that there are on-going stakeholder discussions around potential new frameworks, such as the concept of a Forward Clean Energy Market (FCEM).⁴ The FCEM, as currently under discussion, may be one way to support resources capable of achieving the requirements of state clean energy and carbon emissions reduction laws. NESCOE supports continued exploration of an FCEM-like framework and other wholesale market structures and reforms that address the aforementioned challenges associated with the existing capacity market design and our energy and ancillary services markets. It is critical that the States and stakeholders understand how such proposals address each of the fundamental principles laid out above in a way that meets States' expectations.⁵

2. Transmission System Planning

NESCOE supports the efficient use of existing transmission facilities and the construction of new facilities, where necessary and appropriate, to ensure the transmission grid's reliability, efficiency, and ability to integrate clean energy resources, consistent with certain States' legal requirements and other mandates.

In recent years, significant transmission investments have occurred throughout New England. Accompanying transmission charges rose from approximately \$869 million in 2008 to \$2.4 billion in 2019, and transmission costs are currently about 20% of the total costs to operate the regional electric grid. This has resulted in a transmission system that is virtually congestion-free. However, ISO-NE has noted in its 2020 Regional Electricity Outlook that: "Even with substantial investment made to modernize the transmission system . . . system upgrades will be needed to accommodate large amounts of diverse clean-energy sources[.]" As a region, we cannot effectively plan for integrating clean energy resources and decarbonization of the electricity system required by certain states' laws without having a clear understanding of the investments needed in regional

⁴ At its core, an FCEM is a centrally organized competitive market for resources' clean energy attributes (e.g., low- or zero-carbon emissions associated with electricity production).

Other concepts advanced in the Future Grid process may merit further exploration as well. For example, an Integrated Clean Capacity Market integrates the FCEM concept with a new resource adequacy construct.

See, http://nepool.com/uploads/NPC_20201001_Composite5.pdf. This approach is a centralized, three-year forward market for procuring capacity and clean energy needs, with co-optimized auction clearing to simultaneously meet resource adequacy and clean energy needs.

⁵ The New England States, which have joined with partners in the Northeast and Mid-Atlantic regions for over a decade to implement carbon pricing through the Regional Greenhouse Gas Initiative, reiterate their opposition to an additional, separate carbon pricing-style mechanism through the current ISO-NE wholesale markets. See, e.g., NESCOE Comments on FERC Carbon Pricing Technical Conference Request, Carbon Pricing in FERC-Jurisdictional Organized Regional Wholesale Electric Energy Markets, Docket No. AD20-14-000 (May 21, 2020) (available at http://nescoc.com/wp-content/uploads/2020/06/Comments_AD20-14_21May2020.pdf).

transmission infrastructure. As we work to develop that understanding, we urge ISO-NE to consider the efficient utilization of the current system while planning for its expansion.

ISO-NE notes in its 2019 Regional System Plan that State policy directives are resulting in more renewable energy resources and that state-mandated energy efficiency and demand reduction efforts have already had a material impacts on regional load. As evidenced through various States' analyses of pathways to decarbonization, the resource mix in New England is rapidly shifting toward more clean energy, including onshore and offshore wind; hydroelectric resources; solar PV; and battery storage. These resource shifts are expected to have major implications for the region's transmission system.

Anticipated growth in energy demands resulting from the electrification of the transportation and heating sectors provides the opportunity for increased load management efforts at the local level and, in turn, lower consumer costs. Further, small-scale distributed generation is currently lowering the amount of load that is served by bulk transmission. System planning efforts at the regional level need to be better integrated with state-level distributed energy resource (DER) policies to understand the impact that state efforts are having on transmission system needs. However, ISO-NE currently does not conduct a routine transmission planning process that helps to inform all stakeholders of the amount and type of transmission infrastructure needed to cost-effectively integrate clean energy resources and DERs across the region. The need for such planning has become paramount.

Recommendation

To help achieve a decarbonized system, as required by laws and mandates in Connecticut, Maine, Massachusetts, Rhode Island, and Vermont, it will be necessary to fully plan how to unlock onshore wind resources located far from load centers, to integrate significant levels of new offshore wind resources⁶ and new hydro resources, and to facilitate widespread adoption of DERs. NESCOE recommends that ISO-NE conduct a comprehensive long-term regional transmission planning process that involves interested stakeholders who wish to provide input into the development and implementation of a framework. As a starting point, such a framework would include the following:

⁶ Currently, Massachusetts, Connecticut, and Rhode Island have contracted for 3,142 MW of offshore wind, all of which interconnect at pool transmission facilities (PTF) in ISO-NE. NESCOE understands that the overall lease area can support 11 to 14 GW of offshore wind (OSW) and that the existing capacity at two of the three most convenient PTF locations has largely been exhausted. Any new OSW at these PTF locations, beyond that already contracted, may require new 345 kV transmission lines on new rights-of-way. One published report indicates that developers face up to \$787 million in onshore upgrade costs at these sites and future procurements could require more than an additional \$1 billion in upgrades to interconnect. The Brattle Group, *Offshore Transmission In New England: The Benefits of A Better Planned Grid*, May 2020, at Slide 5. The Brattle report was prepared for Anbaric.

1. Initiate a regional transmission planning effort that provides a high-level transmission system plan to meet the needs of States' energy transition, with participation and input by State officials,
2. Use the scenarios that have been developed and used in various States' analyses of pathways to decarbonization as a starting point for developing multiple future resource scenarios (e.g., 3-4) as the basis for assessing future regional transmission needs, and conduct a conceptual regional transmission system plan for the select future scenarios for identified timeframes (e.g., 2030, 2040 and 2050),
3. Provide needed transmission system planning information to the region, including high-level cost estimates,
4. From the conceptual system plan, conduct detailed analyses for specific scenarios, with the objective being to understand future conditions and needs, including:
 - a. Onshore system upgrades, including specific areas that need strengthening,
 - b. Offshore systems that may be needed to support offshore wind resources,
 - c. Potential options that should be explored, including non-transmission alternatives, and
 - d. The impact of DERs (both distributed generation and flexible load sources) on transmission needs,
5. With the insights gained from the scenarios used in the long-term system planning, conduct stakeholder meetings to discuss the potential use of transmission to integrate all of the necessary energy resources in the region at the lowest cost possible, and
6. Informed by States' direction, conduct detailed planning processes to maximize the use of existing transmission, build new transmission only where absolutely necessary, and use competitive processes to minimize costs to consumers.

After completing the steps above with States and stakeholders, ISO-NE should identify process changes that may be required, the frequency at which the process would be repeated (or the analysis updated), and the adoption of such a process into ISO-NE's routine transmission planning efforts to ensure the integration of clean energy resources at the lowest possible cost.⁷

⁷ To the extent necessary, ISO-NE should work with States and stakeholders to revise ISO-NE's tariff to reflect this planning approach.

While developing and implementing a transmission system planning framework that meets those enumerated criteria, cost allocation issues should be held aside until there is a better understanding of the type and magnitude of transmission needs under each scenario.⁸

3. Governance of ISO New England

ISO-NE's mission and governing structure were established when the electric industry was restructured about twenty-five years ago. At that time, regional planning and markets had relatively marginal interaction with the requirements of state laws: markets were to be fuel-neutral, transmission needs were largely reliability-based, and states were to achieve their clean energy goals through the new Renewable Portfolio Standards. Today, we need all that, and more.

Circumstances and laws have changed dramatically. This includes the proliferation of renewable energy and other DERs, the availability of new technologies, and some States' legal mandates focused on reducing greenhouse gas emissions and other pollutants. Accordingly, as noted above, in July 2019, NESCOE called for an assessment of ISO-NE's wholesale market objectives, market designs, and mission statement given these changed circumstances and legal requirements.

Just as the time is right for a holistic relook at markets and transmission planning, so too is it time to ensure ISO-NE's mission and governance keep pace with changes in law and a transitioning energy system. The States are concerned that consumers will ultimately incur increased costs absent a reexamination of the governance structure and ISO-NE's mission in light of the aforementioned changes.

Today, States and stakeholders approach governance conversations with the benefit of experience with ISO-NE's administration of the wholesale markets, operations, and reliability-based transmission planning process, along with clarity about state laws that fundamentally change the region's resource mix. As State officials' legal obligations on resource mix have escalated, so too has intensity around ISO-NE processes, decision-making, and consumer cost consciousness.

ISO-NE's governance does not give a sufficiently meaningful voice to State and consumer interests and its mission does not reflect the relationship between ISO-NE's functions and the New England States' legal requirements, policy imperatives, and associated consumer interests. Transparency in the stakeholder process and with ISO-NE Board decisions is also a key concern for the New England States. Public access to these processes is inadequate, especially when compared to some other ISOs and grid operators across the country. This lack of transparency and accountability in ISO-NE's governance structure undermines public confidence in ISO-NE as the

⁸ There is no intent to modify the New England Governors' agreement dated March 15, 2019 that States will ensure consumers in any one State do not fund the public policy requirements mandated by another State's laws.

entity ultimately responsible, subject to stakeholder feedback and federal approval, for determining resource adequacy and system planning and operation requirements for the region.

A few examples are illuminating. A Joint Nominating Committee selects candidates for the ISO-NE Board of Directors. That Committee assigns a vote to up to seven incumbent ISO-NE Board members, up to six votes to market participants and stakeholders, and only one shared vote to the six New England States. The structure of this Committee largely ignores States' significant – and distinct – understanding of the development and implementation of State laws, public policies, and related considerations during the evaluation of Board candidates. This one-vote-for-six-state-governments may have been comfortable in the late 1990s when regional planning and markets had relatively marginal interaction with the requirements of state laws. Today, it merits a relook.

Another example is that all ISO-NE Board of Directors meetings – indeed, all Board conversations – are closed. Historically, States and stakeholders have only seen exceptionally high-level summaries of Board discussions provided by ISO-NE management. This results in an unacceptable constraint on facilitating independent insight and review by stakeholders about what data, material, and other resources the Board considers in developing its guidance to management, and how it balances divergent interests in their decision-making – decisions that directly affect consumer costs and, increasingly, effective achievement and implementation of State laws. The degree of transparency needed to foster confidence in ISO-NE decision-making warrants adjustment.

Given the intersection of State laws with resource adequacy and other system changes, ISO-NE must discharge its responsibilities guided by a mission that actively supports States in meeting their policy imperatives for a clean, affordable, and reliable energy system, including sustained investment in clean energy resources and decarbonization.

ISO-NE's mission statement has no explicit relationship to or recognition of the need for consumer cost-consciousness.⁹ Nor does it acknowledge increasingly significant State laws and mandates that will materially influence the region's resource mix going forward.

It has been over a decade since New England States, stakeholders, ISO-NE, and the Federal Energy Regulatory Commission last meaningfully considered ISO-NE's mission statement and governing structure. Now is the time to reconsider these critical issues.

Recommendations

Beginning in 2021, ISO-NE and its Board should convene a collaborative process with States and stakeholders to identify potential changes to its mission statement and governance structure that improve transparency and foster improved alignment with a rapidly-evolving 21st century clean

⁹ See Section I.1.3 of the ISO-NE tariff at https://www.iso-ne.com/static-assets/documents/regulatory/tariff/sect_1/sect_i.pdf.

energy grid. As part of this process, NESCOE seeks to explore reform of ISO-NE governance to achieve greater transparency around decision-making, a needed focus on consumer cost concerns, and support for States' energy and environmental laws.

Commencing that discussion next year affords time now for the States and stakeholders to consider best governance practices that other grid operators have adopted and to review other relevant information. Doing so will permit the gathering of constructive ideas on how to ensure that ISO-NE's management and Board become more transparent and accountable to the public in their decision-making, including meaningful consideration of consumer interests and States' energy and environmental requirements. The States welcome the participation of interested stakeholders and ISO-NE in that information-gathering effort.

The States expect that any governance changes pursued through this collaborative process should be informed by consideration of the issues raised in this Vision Statement, including, but not limited to: (1) whether the process for identifying and recommending ISO-NE Board members provides State officials with an appropriately meaningful role that is commensurate with the public interest, (2) the interplay described in this Vision Statement between the requirements of State laws and regional planning and markets, and (3) the lack of transparency in ISO-NE management and Board of Director decision-making. States also welcome any immediate actions by ISO-NE to address these or other governance issues that are within its discretion to provide greater transparency and accountability into its decision-making.

Next Steps

The six New England States have committed to engaging in a collaborative and open process, supported by NESCOE, intended to advance the principles discussed in this Vision Statement. The States look forward to engaging electricity market participants, affected stakeholders, and interested members of the public on this Vision and the path to achieve it. NESCOE also looks forward to engaging in a discussion of this Vision with participants in the Future Grid process.

At the same time, the States, supported by NESCOE, will convene a series of online technical conferences in the Fall of 2020 that are open and accessible to all members of the public. Those technical conferences will seek to introduce the principles and other aspects of this Vision Statement, seek presentations and proposals from interested stakeholders, and solicit comments and dialogue with all interested stakeholders on this Vision and a path to achieving it. We welcome broad public participation and engagement in this process, and the States intend to report to their respective Governors in the first quarter of 2021 on findings and recommendations for action steps to advance this Vision.