Comments from Public Interest Organizations
On New England States' Wholesale Market Design Technical Forums

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Thank you for the opportunity to provide comments on electricity wholesale market design issues in New England and the need for market reforms, following New England states' recent Energy Vision Wholesale Market Design Technical Forums held on January 13 and January 25, 2021.[1] Acadia Center, Conservation Law Foundation (CLF), Natural Resources Defense Council (NRDC), and Sierra Club, (Public Interest Organizations) strongly support the states' exploration of these issues and respectfully submit the following comments.

New England's electricity system is at an inflection point. The region's grid, as in other parts of the country, is rapidly evolving toward greater reliance on newer, cleaner, and more advanced energy technologies, including renewable generation powered by the wind and sun, energy storage, and flexible energy demand. These technologies, which are increasingly cheaper than or cost competitive with conventional power generation, are urgently needed, not just to achieve New England states' critical climate and clean energy goals but also to meet residents' demands for an electricity system that is healthier, fairer, and more just.

Unfortunately, while the region's grid *is* evolving, the pace and trajectory of this change is running headlong into outdated and insufficient electricity market designs, transmission planning, and grid governance that too often conflict with New England states' energy priorities and threaten to stymie regional progress. Faced with these challenges, the states risk falling short of their public policy goals to address climate change, affordability, and public health, and New England consumers risk paying too much for an energy transition they strongly support.[2]

While many entities have roles in addressing these challenges, New England's governors and other state policymakers are critical to determining the region's future energy and environmental trajectory, and in working to remove barriers to a clean energy future. Under the Federal Power Act, states maintain jurisdiction over electricity generation, including clean energy. The clean energy transition also implicates states' traditional roles in protecting public health, safety, and consumers. Public Interest Organizations strongly support New England states' efforts through the Energy Vision process to explore and assert their unique roles and

[1] New England Energy Vision, "Wholesale Market Design," https://newenglandenergyvision.com/wholesale-market-design/ (last visited February 22, 2021).

[2] *See, e.g.,* Barr Foundation, *Results of Clean Energy Polling Survey Fielded by Global Strategy Group* (September 30, 2020), https://barrfdn.issuelab.org/resource/results-of-energy-polling-survey-fielded-by-global-strategy-group.html ("65% of Massachusetts voters surveyed are ready for bold and decisive action to address the climate crisis, including a complete transition to clean and renewable energy statewide. . . . Massachusetts voters overwhelmingly support using more solar and wind to generate electricity and a majority supports reducing our reliance on gas. 88% support using more solar, while 85% support using more wind. 52% support reducing reliance on gas.").

responsibilities and to evaluate the relationships between the states and other entities, including the region's federally-regulated grid operator, ISO New England (ISO-NE).

As recognized in the states' October 2020 Vision Statement, ISO-NE's current market structure increasingly conflicts with state policy priorities. The Vision Statement recognizes that the ISO-NE market structure "is not fully compatible with" the climate and clean energy laws adopted by the majority of states and "fail[s] to sufficiently value the legally-required clean energy investments" made in accordance with the laws adopted by New England's democratically-elected policymakers.[3] As a result, the current wholesale market structure, and in particular the Forward Capacity Market (FCM) operated by ISO-NE, is procuring too much of the wrong resources—climate-polluting fossil generation rather than emissions-free clean energy resources—and is forcing consumers to pay too much for their electricity.

This system is unsustainable from both a consumer cost standpoint and an environmental one. **Even in states with less ambitious climate policies, the current ISO-NE market framework results in artificially high prices, over-procurement, and electricity bills that are too high.** As states continue to pursue decarbonization, these problems will only grow worse, absent long-overdue wholesale market reforms.

A significant part of the states' January 25 (Day 2) Wholesale Market Design Technical Forum, and discussions of similar issues in other regional forums,[4] has focused on the potential creation of new market frameworks to bring states' clean energy goals more explicitly into wholesale electricity markets. For that reason, we provide perspectives below on proposed approaches such as carbon pricing, a Forward Clean Energy Market (FCEM), and an Integrated Clean Capacity Market (ICCM). However, Public Interest Organizations also believe there are nearer-term, foundational market reforms that states, working with ISO-NE, the Federal Energy Regulatory Commission (FERC or Commission), and the region's stakeholders, should pursue to correct existing market failures and remove barriers to clean energy deployment.

These other reforms are needed even if New England states are also interested in pursuing new market frameworks, to ensure that New England's electricity markets are designed to actively facilitate and not stand in the way of decarbonization while ensuring reliable and affordable electricity. **As potential new market frameworks discussed thus far generally build upon the existing market structure, correcting the existing market's underlying flaws is critical to ensuring the success of new approaches. Pursuing nearer-term, necessary reforms could also help states better identify and determine which longer-term solutions would be most helpful or necessary to go beyond the current markets.**

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[3] NESCOE, *New England States' Vision for a Clean, Affordable, and Reliable 21st Century Regional Electric Grid* (October 2020), http://nescoe.com/wp-content/uploads/2020/10/NESCOE_Vision_Statement_Oct2020.pdf, at 1 (hereinafter, "Vision Statement").

[4] *E.g.*, the New England Power Pool's (NEPOOL) discussions of potential pathways to the future grid. *See* NEPOOL, "Potential Pathways," https://nepool.com/future-grid-initiative/potential-pathways/ (last visited February 22, 2021).

In our comments below, Public Interest Organizations discuss the existing conflicts and incompatibilities between ISO-NE's wholesale markets, state energy policies, and consumer interests. We further provide our observations and recommendations on near-, medium-, and potential longer-term market reforms to help better align markets and state policies to provide both consumer and environmental benefits. We recommend that New England states:

- Urge FERC to make near-term corrections to the current Minimum Offer Price Rule (MOPR) in ISO-NE's FCM, which acts as a major market barrier to clean energy resources being built in accordance with state laws, by supporting the New England Power Pool's (NEPOOL) proposal to ensure certain MOPR parameters—namely, the Offer Review Trigger Prices (ORTPs) for new clean energy resources—are based on best available, technically defensible cost data for clean energy technologies.

- Work with ISO-NE and/or FERC and the region's stakeholders to pursue other near- to medium-term fixes to the ISO-NE administered FCM, including a durable solution to the MOPR to remove this indefensible market barrier to state policy resources, and to ensure that clean energy resources required under states' laws are fully and accurately reflected in ISO-NE's markets and calculations of energy sufficiency and resource adequacy. Potential MOPR solutions discussed below include converting ISO-NE's current mandatory FCM into a voluntary residual FCM or eliminating the misapplication of MOPR to state policy resources. These reforms are important not only to lessen conflict with state policies, but also to protect consumers from paying inflated prices as an outcome of the misguided efforts to stymie state policy.

- Continue to explore other wholesale market improvements and potential new market frameworks that could facilitate further the integration of clean energy resources and give states greater options for pursuing a decarbonized grid reliably and affordably, on timeframes consistent with state laws and climate science imperatives. While decarbonizing New England's power grid is an urgent need, potential new market frameworks must be explored thoughtfully to avoid creating unintended consequences, which further emphasizes the need for other near- and medium-term market reforms to remove existing barriers to states' current policy strategies for increasing clean energy.

As recognized in the states' Vision Statement, these market reforms should be pursued simultaneously with reforms to the other two core segments of New England's energy system, transmission system planning and ISO-NE governance, in order to ensure that New England's grid is able to meet the region's electricity needs cleanly, affordably, and reliably.

1. The wholesale markets as currently designed will not support the decarbonization efforts of New England states.

A. Forward Capacity Market (FCM)

While the Forward Capacity Market purports to send resource-neutral signals for entry and exit of capacity resources, in reality, it incents the development of capacity resources that are out of sync with the decarbonization requirements of most New England states. As shown in the models developed by Cornell University professor Jacob Mays, capacity market mechanisms disproportionately support investment in relatively low capital cost, high marginal-cost resources.[5] Mays and his co-authors summarize the implications of their work as follows:[6]

> We find that from the perspective of investors, the financial impact of resource adequacy mechanisms is to replace highly volatile energy market revenues with relatively stable payments for capacity. This hedging property reduces the risk of investing in new generation, enabling developers to secure financing at lower cost. However, the quality of the hedge for each generation technology depends on how well the design of the mechanism aligns with its particular risk profile. Our findings suggest that the structure of current capacity mechanisms inadvertently favours generation resources with low capital costs and high operating costs, such as gas- and oil-fired peaking plants, over technologies with the opposite cost structure, like solar, wind and nuclear. Accordingly, current mechanisms may work against efforts to decarbonize.

Abigail Krich has also illustrated the asymmetric financeability benefits offered by the FCM—noting that gas plants were able to secure more than 60% of their capacity costs at their Offer Review Trigger Price, whereas wind and solar were able to secure only 10% and 16% respectively.[7] Even with the elimination of the 7-year price lock going forward, anticipated capacity market prices still provide greater financeability to resources with relatively low capital costs. In contrast, high capital cost, but low marginal cost renewable energy resources must look to other types of contractual arrangements to make their projects financeable.

State policy has tried to fill this gap. As Ms. Krich noted during the Day 2 panel, state policies offering long-term contracts provide *financeability*, not subsidies. These contractual options available to renewable energy resources work to counteract the distortive effect of capacity markets, but have been undermined by the MOPR, which specifically seeks to negate state policy-driven revenues and to force competition on terms favorable to gas plants. Put another way, different types of resources benefit from different types of risk-mitigation

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[5] Mays, J., Morton, D.P. & O'Neill, R.P. Asymmetric risk and fuel neutrality in electricity capacity markets. *Nat Energy* 4, 948–956 (2019). https://doi.org/10.1038/s41560-019-0476-1.

[6] Mays, J., Morton, D.P. & O'Neill, R.P. Decarbonizing electricity requires re-evaluating capacity mechanisms. *Nat Energy* 4, 912–913 (2019). https://doi.org/10.1038/s41560-019-0502-3.

[7] Abigail Krich, *ISO-NE Markets Not Structured to Consistently Procure Least Cost Resources* (February 11, 2019), at https://www.mass.gov/doc/krich-presentation-panel-2/download, at slides 9 & 10.

mechanisms to enable financing. Capacity revenues provide risk mitigation primarily for high-marginal-cost resources; expecting such markets to be the sole source of price signals for entry and exit decisions, or worse, asserting that they must be the sole source of such price signals, is a recipe for conflict with state decarbonization requirements. Moreover, it leads to a more expensive system that exposes consumers to greater fuel price risk.[8]

Furthermore, there are real concerns that the FCM as currently designed will not ensure reliability with a highly decarbonized grid in a cost-effective manner. The FCM procures a uniform year-round product based on meeting peak load, even as the resource adequacy needs are becoming more differentiated—i.e., becoming increasingly salient at diverse times of the year.[9] Periods of relatively low output from otherwise plentiful wind and solar resources may be best served by energy storage or demand side resources that otherwise do not need to be available year-round (or would be more effectively operated under normal conditions to balance intra-day variations). As New England states are well aware, the resource adequacy value of gas-fired generation depends on the availability of fuel; securing fuel has different costs at different times of year and carries different levels of risk.[10] ISO-NE has taken the position that the FCM as currently designed is inadequate to provide for winter energy adequacy and has proposed a number of expensive "bolt on" programs. A deeper re-thinking of the FCM's current design could serve to improve the resilience of the system based on performance of these legacy resources, while also setting the stage for a more nuanced approach under a highly decarbonized system.

A more cost-effective resource adequacy design would look at how different resource types complement each other, rather than boxing them all into a single product definition to compete against each other. As Steve Corneli explained in his Day 2 presentation, ultimately the need is to identify efficient portfolios of complementary clean energy resources, accounting for how the effective load carrying capability of resources varies by location and time. It will take time and careful consideration to transition from the centralized market/single product resource adequacy paradigm to one that is more holistic in its approach, but ultimately this will better serve consumers both in terms of reliability and affordability.

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[8] Connecticut Department of Energy and Environmental Protection, Draft Integrated Resources Plan, at p. 78 (Dec. 2020) (Connecticut Draft IRP) (""The region's gas dependence has also exposed consumers to significant price volatility. During the winter of 2013-2014, the "polar vortex" caused delivered gas prices to soar because of increased gas demand and supply constraints into New England. As a result, the cost of generation increased significantly to the point where the price of generation from burning gas and oil inverted, allowing oil units to set the locational marginal price (LMP) in more hours. The total wholesale generation cost of serving electric load in New England for just the winter of 2013/14 was over $5 billion, compared to $5.2 billion for all of 2012. This was reflected in customers' retail rates the following year, which rose by 26 percent for Eversource customers, and 54 percent for United Illuminating (UI) customers.").

[9] See Rob Gramlich, "Common Markets and Diverse States: An Eight-Fold Path to Liberation from Never-Ending Cycle" (January 25, 2021), https://newenglandenergyvision.files.wordpress.com/2021/01/gramlich-nescoe-ra-and-markets-01.25.2021.pptx, slide 7.

[10] *See, e.g.*, Connecticut Draft IRP, at 76-77.

B. Energy and Ancillary Services Markets

Reforms to the resource adequacy construct (as well as possible new clean energy attribute markets, as discussed further below) will only partly support the transformation of the grid. These reforms must also be complemented with improvements to the energy and ancillary services markets, which are essential to ensure reliability on an operational timescale.

Decarbonization of the region's economy will require beneficial electrification of transportation and buildings supported by increased deployment of clean, affordable resources including grid-scale renewables, distributed energy resources such as solar energy and storage, enhanced load flexibility, and consumer-centered control measures. New England states are prioritizing policies aimed at accelerating these types of resources and strategies, largely because they are often the lowest cost option; provide significant consumer and economic benefits; are less likely to exacerbate the unjust, inequitable impacts of the electricity system on historically disadvantaged front-line communities; and are less vulnerable to market risks and siting delays inherent with expansions of large energy infrastructure. Such resources can also deliver a number of valuable services within wholesale market constructs including energy security and adequacy, resiliency, diversity, and substitutes for transmission-related infrastructure investments, but are mostly undervalued or excluded from market participation.

Reforms should be adopted to properly value these services and to send signals through the energy and ancillary services (EAS) markets to attract further deployment of renewable generation, advanced technologies, and customer-sided resources. Sending proper price signals through enhanced EAS markets will accelerate the achievement of an optimized regional grid by creating a level playing field and fully compensating all resources for the services they provide. This is particularly important given the limitations of the FCM construct, as described above, which creates or exacerbates financing barriers caused by the asymmetries between resource types with different capital and operating costs.

2. <u>In the near- to medium-term</u>, New England states should work with ISO-NE and/or FERC and the region's stakeholders to enact much-needed reforms to the region's Forward Capacity Market, including incremental fixes, while continuing to meet state statutory mandates and scientific imperatives for accelerated clean energy deployment and pollution reduction. These steps should be taken now even as the states explore potential longer-term solutions and durable fixes.

The flaws in ISO-NE's markets, in particular the FCM, and the incompatibility between these markets and the clean energy transition that is both necessary and underway, have been evident for years.[11] Unfortunately, due to severely inadequate past action, many corrections to these markets will likely take additional years to develop and implement, even as the urgency of bringing clean energy resources online and addressing climate pollution has only grown

[11] *See, e.g.,* New England states' May 17, 2016, *Policies and Markets Problem Statement*, https://nepool.com/uploads/IMAP_20160517_Problem_Statement.pdf.

stronger.[12] Moreover, the forward nature of the FCM means the distortive effects of this market will persist until at least mid-decade, even if reforms to the FCM could be adopted soon.[13]

Given these wholesale market timeframes and the urgency of the climate crisis, it is essential that New England states continue to use the tools at their disposal to incentivize and grow clean energy, even as states consider alternatives to and work to reform the current ISO-NE market structure. This includes continued efforts by states to implement and strengthen their existing climate and clean energy laws, and to use successful mechanisms like recent years' state-led competitive offshore wind procurements that have helped procure low-cost clean energy for consumers *despite* the ISO-NE markets' failures to attract these resources. States must not pause their clean energy efforts and wait for a "perfect" solution to materialize, but must instead push forward on clean energy, climate mitigation, and priorities including environmental justice even as they explore wholesale market improvements.

Some market improvements may also be achievable on earlier timeframes, while others, including the potential creation of new wholesale market frameworks to procure clean energy, may take longer to develop. Public Interest Organizations strongly urge the New England states to pursue important reforms that can be instituted more quickly, while continuing to engage in discussions on longer-term revisioning of wholesale markets to create durable solutions.

Because many proposals to create new market frameworks are layered on top of the existing wholesale markets, pursuing near- and medium-term market reforms are also important to ensuring the potential longer-term solutions states are considering will work effectively. Nearer-term solutions may also help states better identify and determine which longer-term solutions would be most helpful or necessary to go beyond the current markets.

Here, we identify three major priorities for the near- to medium-term FCM reform: (a) supporting an imminent NEPOOL proposal at FERC to reform the Offer Review Trigger Prices (ORTPs) for clean energy used in the FCM; (b) addressing the fundamental flaw and barrier of ISO-NE's MOPR, which acts to exclude clean energy resources being built in accordance with state laws from the FCM, and (c) other reforms to the FCM.

[12] *See* IPCC (2018), "Summary for Policymakers" in *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*, https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf.

[13] Under the FCM, resources have already received capacity supply obligations through May 31, 2025, via the most recent FCM auction held in February 2021. ISO-NE, *Forward Capacity Market (FCA 15) Result Report* (Feb. 11, 2021), https://www.iso-ne.com/static-assets/documents/2018/05/fca-results-report.pdf.

A. Support NEPOOL's proposal to fix clean energy Offer Review Trigger Prices (ORTPs) used in the FCM

New England states have an opportunity to support an important market change in the FCM in the near-term that would help reduce one of the key market barriers to clean energy in the current market. Every three years, ISO-NE goes through a process of updating several FCM parameters that, if approved by FERC, are used to establish the design of the FCM in future years. These parameters include default, technology-specific (e.g., offshore wind, solar) minimum offer prices, known as ORTPs, that new resources are allowed to bid into the FCM.

Under the MOPR, resources are presumptively allowed to bid into the FCM at a price that is greater than or equal to its technology-specific ORTP. In contrast, if a resource seeks to bid in at a price that is lower than its assigned ORTP, that resource is subject to further scrutiny by ISO-NE's internal market monitor, which, under the MOPR, may decide to "mitigate" the bid, requiring the resource to bid in at a higher price, such as its assigned ORTP. Because bidding in at a higher price may make the resource less cost-competitive and less likely to clear in the FCM auction, this process of bid mitigation acts as a barrier to new clean energy resources if their technology-specific ORTPs are set too high.

As the costs of clean energy resources have steadily declined, the ORTP values used by ISO-NE for technologies such as offshore wind have not kept up. In 2020, ISO-NE initiated its latest update of ORTP values and other FCM values designed to incorporate newer data. Unfortunately, ISO-NE relied on a flawed analysis, resulting in proposed ORTP values for clean energy technologies that remain unreasonably high and do not reflect the current lower and more competitive costs of these technologies. If approved by FERC, these ISO-NE proposed ORTP values would lock in place an unnecessary barrier to clean energy technologies like offshore wind in the FCM for the next three years.

In December 2020, over 70 percent of NEPOOL stakeholders voted to reject ISO-NE's proposal and to support instead an alternative proposal to set lower clean energy ORTPs, as supported by a comprehensive cost analysis.[14] This analysis shows, for example, that ISO-NE's estimated cost of offshore wind is 61 percent higher than commercial expectations, including when compared to the estimated costs of recent New England offshore wind contracts and publicly available cost data from successful offshore wind project bids in New York.[15]

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[14] At the December 3, 2020 NEPOOL Participants Committee meeting, 71.84% of stakeholders voted in support of lower ORTPs for clean energy resources, while an even larger majority of 81.67% voted to reject ISO-NE's proposal. NEPOOL Participants Committee, *Minutes* (December 3, 2020), https://nepool.com/wp-content/uploads/2021/01/Minutes_NPC_2020_1203.pdf, at 4360-61.

[15] RENEW Northeast, "Offshore Wind ORTP Calculation," NEPOOL Markets Committee (November 9-10, 2020), https://www.iso-ne.com/static-assets/documents/2020/11/a4_b_x_renew_presentation_offshore_wind_ortp_amendment.pdf; *see also* RENEW Northeast, *RENEW FCA 16 ORTP Calculation Assumptions Report Offered as Rebuttal to Concentric Energy Advisors' Presentation at the October Markets Committee Meetings* (October 30. 2020), https://www.iso-ne.com/static-assets/documents/2020/11/a4_b_x_renew_memo_re_offshore_wnd_ortp.pdf.

Despite broad NEPOOL stakeholder rejection of its proposed ORTPs, ISO-NE has declined to adopt the stakeholder-supported NEPOOL alternative. However, under FERC-approved "jump ball" rules governing the ISO-NE markets, the NEPOOL proposal is expected to be filed with FERC as an alternative proposal alongside the ISO's own proposal in March 2021, with FERC acting as the arbiter between the competing submissions.[16]

Public Interest Organizations urge the New England states to urge the Commission to adopt NEPOOL's proposal for ORTPs, which is based on the best available data for the New England market, and reject the flawed ISO-NE proposal that would instead lock in discriminatory market parameters for clean energy, frustrate clean energy goals, and likely increase FCM costs which would unnecessarily raise electricity prices for consumers.

New England states have thus far remained neutral on these competing proposals, but the NEPOOL ORTP proposal, which is supported by a broad cross-section of electricity stakeholders in the region, is a near-term, high-impact reform that states should support to address a key flaw in the ISO-NE FCM and achieve consumer and environmental benefits.

B. Fix the MOPR

The MOPR is a fundamentally flawed rule that is directly at odds with New England states' efforts to decarbonize the grid. FERC Chairman Richard Glick recently identified MOPR reform as a top priority, calling the current MOPR approach in New England and other eastern regions "just not sustainable" and committing to work with these regions to "figure out a better approach that accommodates and not blocks state policies."[17] ISO-NE has noted this Commission priority and recognized the need for a "solution that addresses MOPR."[18]

Since fixing the MOPR will require both FERC and ISO-NE action, New England states should continue to engage with both entities—and offer their preferred path forward—to ensure that any solution eliminates this flawed rule's barriers to clean energy and does not simply replace these barriers with another unjust and unreasonable, discriminatory structure. The region's disappointing experience with ISO-NE's previous "solution" to the MOPR--Competitive Auctions with Sponsored Policy Resources, or CASPR—provides a stark warning. CASPR has failed to accommodate state policy resources and has reinforced or even expanded the FCM's exclusion of these resources over the last three years. Unlike the false solution that is CASPR,

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[16] The exact timing of the filings with FERC is unclear, although ISO-NE has informed NEPOOL stakeholders that it expects to file the two proposals with FERC by "mid-March" with a request that FERC reach a decision by June 1, 2021. In the interim, since the December NEPOOL vote against the ISO-NE proposal and in favor of the alternative, ISO-NE has made some changes, including some improvements, to its proposed ORTP values though these have fallen short of NEPOOL's alternative. NEPOOL will votes on the updated ISO-NE proposal as well as the additional changes that NEPOOL has supported again at a meeting to be held on March 4, 2021.

[17] Arianna Skibell, "Glick unveils environmental justice, climate plans," *E&E News*, February 12, 2021, https://www.eenews.net/stories/1063725039.

[18] ISO-NE, *ISO New England's Approach to Future Grid Studies* (February 18, 2021), https://www.iso-ne.com/static-assets/documents/2021/02/npc-20210218-chadalavada-presentation-r.pdf at 10.

New England needs a real, durable, and effective solution that will protect and facilitate state policies and authority and protect the region's consumers.

Public Interest Organizations offer and highlight two potential solutions to the MOPR for New England states' consideration:

- As presented by Casey Roberts at the January 25, 2021 technical forum, one solution to the MOPR would be to convert ISO-NE's current mandatory FCM, under which load serving entities are obligated to procure all of their capacity through this market, into a voluntary residual FCM.[19] Such a market would continue to enable LSEs to procure capacity through the FCM, but would also enable LSEs to procure capacity resources through other mechanisms and to use those resources to satisfy resource adequacy requirements. For example, LSEs that have entered into bilateral contracts with clean energy resources, such as offshore wind under existing state laws and procurement processes, would be able to count these resources toward their ISO-NE determined resource adequacy requirements while procuring any remaining resource adequacy needs through the FCM.[20]

  Under a voluntary residual market, ISO-NE would still define resource adequacy, and non-FCM resources used to meet LSE reliability requirements would be subject to the same standards as capacity resources procured through the FCM. A possible enhancement under this approach would be to allow LSEs to use a portfolio approach to combine their non-FCM capacity resources for purposes of resource adequacy and performance penalties and incentives, enabling LSEs and state regulators to design complementary portfolios of clean resources to meet the overall requirements established by ISO-NE.

  A voluntary residual market would recognize and enable states' clean energy procurements under existing law, keeping proven mechanisms like competitive state procurements on the table. **Such a market could also work seamlessly with potential future regional procurement mechanisms for clean energy (such as a Forward Clean Energy Market, as discussed further below), if New England states choose to pursue them.** Accordingly, a voluntary residual market would be both a nearer-term solution and a bridge to potential future market frameworks.

- An alternative approach to MOPR reform would be to restore the MOPR's original, intended, and narrower purpose of addressing anti-competitive market power while eliminating its unfounded expansion to mitigation of state policy resources. As recently recognized by FERC Commissioner Clements—but not reflected in ISO-

[19] Casey Roberts, "Voluntary Residual Capacity Markets to Facilitate Implementation of State Clean Energy Policies" (January 25, 2021), https://newenglandenergyvision.files.wordpress.com/2021/01/roberts-new-england-residual-mkt-presentation-1.25.2021-circ.pptx.

[20] Resources procured outside the FCM by public power entities could also count toward those LSEs' resource adequacy requirements.

NE's MOPR—"States' exercise of their authority under the Federal Power Act to shape the resource mix for their citizens is not an exercise of market power, and applying mitigation to such state actions is harmful to customers."[21] Under the proposed approach, capacity resources receiving revenues through state policy mechanisms, such as long-term procurement contracts, would be able to include these revenues in their calculations of and justification for their FCM bids, and would not be required, as the MOPR currently does, to bid in the FCM at artificially high prices that ignore these revenues.[22] This approach differs from a voluntary residual market in that LSEs would still be required to procure all of their capacity through a mandatory ISO-NE administered FCM; however, with the MOPR reforms, state policy resources would be more likely to clear and be counted in the FCM than they are today.

Reforming or eliminating the MOPR as described above would significantly address the current conflicts between ISO-NE's markets and state policies. By ensuring that clean energy resources are reflected in the market, such reforms would preserve states' existing authorities and effective policy mechanisms for expanding clean energy, while potentially buying time for New England states to develop and explore thoughtfully new approaches to incentivize and procure clean energy and decarbonize the economy and grid, should they choose to do so.

MOPR reform also would reduce oversupply and consumer costs by ensuring that: (a) ISO-NE accounts for the resource adequacy contributions of clean energy resources being built under state laws; and (b) that the FCM does not procure unnecessary, duplicative resources, as happens today when these clean energy resources are ignored.

For states that do not have active clean energy procurements and prefer their LSEs to continue procuring all their capacity through the FCM, these MOPR reforms would also provide benefits by eliminating MOPR-related over-procurement, which results in excess capacity payments across the region. To the extent some states choose to facilitate low-cost financing of clean energy resources, the increased supply and relatively low capacity market offers made by those state policy resources can be expected to *lower* the costs of capacity for other states.

Given FERC Commissioners' interest in MOPR reform and ISO-NE's recent acknowledgement that a "solution" is needed, there is an opportunity and need for states to weigh in and help determine a fix that could be implemented sooner than later.

C. Consider other FCM reforms

While the MOPR is a significant barrier to clean energy resources, as noted by speakers including Abigail Krich and Doug Hurley at the Day 2 technical forum, it is not the only

[21] ISO New England, Inc., 174 FERC ¶ 61,120 (February 18, 2021) (Clements, Comm'r, concurring at P 4).

[22] This approach could similarly be extended to clean energy resource payments from public power entities, enabling such resources to bid in the market at prices that reflect their actual revenues.

shortcoming of the FCM. The current FCM was designed for a grid reliant on conventional fossil fuel resources, and many elements of this market continue to favor emitting resources over clean ones. As a result, the FCM has in recent years continued to incentivize too much of the wrong thing, such as new gas plant builds,[23] even as New England states have adopted increasingly ambitious climate goals and ISO-NE itself has raised concerns about gas plants' inability to secure the gas needed to run during winter scarcity events, which could compromise reliability.[24] At the same time, FCM rules, including but not limited to the MOPR, have blocked new renewable energy resources from participating fairly in and clearing in the capacity market, ignoring the reliability contributions of these resources. If the FCM remains, as potential new market frameworks such as a Forward Clean Energy Market (FCEM) or Integrated Clean Capacity Market (ICCM) (discussed further below) appear to contemplate, then this market must be reformed to better align with and contribute to the grid reliability and energy sufficiency needs of the evolving, cleaner grid, rather than the dirty grid of the past.

As New England states explore potential new market approaches and longer-term market reforms, Public Interest Organizations urge the states also to work with ISO-NE and/or FERC and the region's stakeholders to adopt much-needed reforms to the FCM, many of which may be adoptable and implementable sooner than the creation of new markets. Without such FCM reforms, new market frameworks that nevertheless continue to rely on or interface with the FCM will be less effective, as the FCM will continue to push against the grid's evolution and decarbonization needs, as it does today. While this list is not exhaustive, potential and necessary FCM reforms include:

- **Reduce oversupply in the FCM.** While fixing the MOPR would remove a significant source of oversupply, other improvements to address oversupply are also necessary., especially in the area of load forecasting. For example, load forecasts must fully account for resources incentivized by state laws, such as energy efficiency and distributed and behind-the-meter resources The load forecast and the installed capacity requirement (ICR) for the FCM must reflect the resource adequacy contributions of clean energy resources that do not participate directly in the FCM, including many net-metered solar projects in Massachusetts and Rhode Island, Inaccurate load forecasting and ICRs that over-project the level of capacity that must be procured in the FCM itself results in a market that procures too much of the wrong things, slowing climate progress and saddling consumers with excessive electricity

[23] *See, e.g.,* Patrick Skahill, "CT taking 'a serious look' at exiting regional power market," *Connecticut Mirror*, January 16, 2020, https://ctmirror.org/2020/01/16/conn-taking-a-serious-look-at-exiting-regional-power-market/.

[24] ISO-NE, Operational Fuel-Security Analysis (January 17, 2018), https://www.iso-ne.com/static-assets/documents/2018/01/20180117_operational_fuel-security_analysis.pdf, at 6 ("On multiple occasions in recent winters, the ISO has had to manage the system with uncertainty about whether power plants could arrange for the fuel—primarily natural gas—needed to run."). Although Public Interest Organizations have previously pointed out several flaws in ISO-NE's *Operational Fuel Security Analysis* and concerns with how ISO-NE has used this analysis, we have not disputed its conclusions about the wintertime reliability concerns related to gas. *See, e.g.,* Synapse Energy Economics, *Understanding ISO New England's Operational Fuel Security Analysis* (May 3, 2018), https://www.synapse-energy.com/sites/default/files/Understanding-ISO-NE-OFSA-18-028.pdf.

costs and bills. Because load forecasting years in advance is inherently uncertain, delayed procurement of some portion of the capacity projected to be needed for resource adequacy might help reduce oversupply and better align the resources procured in the FCM with those needed in capacity delivery years.

- **Reconsider how far in advance FCM auctions are conducted.** Currently FCM auctions are held three years in advance of the capacity delivery year, a timeframe which reflects assumptions about the time needed to bring new conventional fossil-fueled resources online once they clear in the FCM. While some larger renewable energy projects, such as offshore wind, may also require a multiyear lead time, other types of resources, such as solar, energy efficiency, storage, and onshore wind may take only months to a year to construct, resulting in a significant mismatch between the FCM and these resources. The extended lead time from FCM auction to delivery year leads to a situation where many clean energy resources either face increased risks from being forced to clear in an FCM well in advance of their construction timeframes or must decide to clear in an auction closer to their development but with a delivery year three years into the future, resulting in foregone capacity market revenues in the interim. Given New England states' climate and clean energy priorities, the FCM's three-year window should be reevaluated to determine if it still makes sense for the evolving resource mix needed to decarbonize the grid, or if another time period, either for all or part of the installed capacity requirement procured through the FCM, should be used instead.

- **Accurately account for resources' resource adequacy contributions, including by modifying the FCM to procure separate winter and summer products.** The annual capacity market and current ISO-NE rules and practices disadvantage clean energy by overvaluing and overcompensating fossil resources. Renewable energy resources' qualified capacity and payments are discounted in the FCM to account for their variable output across specified summer and winter periods. In contrast, conventional resources, such as gas-fired power plants are qualified based on their maximum output capacity and receive full capacity credit and payments year-round. This is true even though conventional generators also experience outages due to lack of fuel availability, maintenance, and transmission congestion. Recent experience shows that many gas generators may be unable to run during winter scarcity conditions—which has been ISO-NE's primary reliability concern in recent years—due to the limited gas supplies available on spot markets during these periods, yet the FCM makes no adjustment to these generators' capacity payments. FCM rules must be reformed to accurately reflect the resource adequacy contributions of all resources, including fossil generation. One step in this direction would be to convert the FCM's current annual capacity product into seasonal capacity products for winter and summer, which would better reflect the New England grid's unique needs and resource characteristics and capabilities, and to ensure that resources qualifying for capacity in either period are compensated for the actual anticipated ability to provide capacity at times of need.

- **Given the need to transition the region's energy mix, address FCM barriers to new resource entry.** Other FCM rules also advantage incumbent resources to the detriment of newer, cleaner resources that are needed to decarbonize the grid. For example, the overlapping impact test prevents new capacity resources, such as renewable energy, from competing with existing conventional fossil fuel generation in transmission-constrained areas. FCM rules should not prevent new cleaner resources from replacing polluting incumbent resources that will need to be retired and replaced with clean energy if states are to achieve their climate goals. Unfortunately, the overlapping impact test effectively gives these conventional generators, which did not themselves pay for the development of the region's transmission system, indefinite rights to the use of this system, and blocks other resources from using this transmission, even if those resources could provide capacity and energy at lower cost to consumers and lower emissions.

States should work with stakeholders, ISO-NE, and FERC to address these and other barriers to clean energy participation in the FCM and ensure the resource adequacy contributions of clean energy resources are fully recognized. Such changes are needed now and should be a high priority to put in place in the coming one to two years, even as states explore and consider other potential longer-term markets and frameworks to better align the region's wholesale markets with state policy goals. Failing to address these FCM barriers in the nearer term will not only result in continued overpayments by consumers, but will also make it harder for the states to achieve their climate and clean energy goals under future market frameworks if those frameworks continue to rely on the FCM.

3. New England states should further work with ISO-NE, FERC, and the region's stakeholders on <u>medium- to long-term reforms</u> to ensure wholesale markets are compatible with and actively facilitating decarbonization and other goals.

A. Energy and Ancillary Services Markets

While the capacity market reforms above would be important and necessary steps in the right direction, they will not alone be sufficient. It will be important for New England states, ISO-NE, FERC, and stakeholders to simultaneously consider reforms to EAS markets to ensure the full valuation of the services offered by renewable generation, distributed resources, and flexible load. Because these reforms may include development and definition of new ancillary services and market structures, EAS reforms may take longer to develop than those mentioned above; however, a discussion of market reforms that focused exclusively on capacity markets to achieve reliability and energy sufficiency would be incomplete and inadequate. A discussion of EAS market reforms should begin soon and must not be an afterthought. These reforms must also consider and address the interactions between capacity, energy, and ancillary services markets.

The Wind Solar Alliance's 2018 report, "Customer Focused and Clean: Power Markets for the Future," provides several recommendations on EAS reforms that states could consider.

As a foundational principle, the report describes the need for a market that is oriented around fairness and will treat:

> . . . all customers and resources evenly and allow all the opportunity to succeed. Such a market will be designed around service requirements and performance capabilities and be fuel-neutral and technology-agnostic, without inappropriately advantaging or penalizing particular customers or resources. It will compensate based on objectively metered services delivered, rather than subjectively determined resource capabilities or attributes.[25]

The table below lists the study's recommended reforms to energy and ancillary services markets (compensated reliability services) to ensure (a) consumer costs are as low as possible, (b) the grid is used efficiently, and (c) carbon emissions are reduced as rapidly and cost-effectively as possible. While some of these recommendations are part of the New England wholesale market framework already, others should be considered as the region moves toward a fully transformed market. We look forward to a deeper exploration of these recommendations and others with the states, stakeholders, market participants and ISO-NE.

ENERGY MARKET REFORMS	RELIABILITY SERVICES REFORMS
▪ Ensure energy market prices reflect the value of reliability ▪ Bring self-scheduled resources into markets ▪ Multi-Day Unit Forecasts ▪ Price the inflexibility costs of conventional generators ▪ Ensure accurate, detailed generator bid parameters ▪ Reduce operational over-commitment of conventional units ▪ Create operating reserve zones ▪ incent improvements in renewable energy forecasting ▪ Probabilistic Unit Commitment ▪ Improve gas-electric coordination ▪ Respect bilateral contracts ▪ Allow flexible resources to bid flexibly without being inappropriately constrained by market power mitigation rules ▪ Allow real-time prices and demand response aggregation for electricity customers and allow demand resources to set prices - Streamline ISO seams - Use advanced grid technologies and operating practices to improve utilization of existing transmission	▪ Reactive power compensation ▪ Remove barriers to renewable energy providing operating reserves like frequency regulation ▪ Primary frequency response markets ▪ Allow renewables to provide and set price for all reliability services ▪ Create additional flexibility products ▪ Make contingency reserves available to accommodate abrupt drops in renewable output

[25] Goggin, M., Gramlich, R., Shparber, S., Silverstein, A. Customer Focused and Clean: Power Markets for the Future (2018). Goggin, M; Gramlich, R., Shparber, S., Silverstein, A. November 2018. https://windsolaralliance.org/wp-content/uploads/2018/11/WSA_Market_Reform_report_online.pdf

While not listed above, one proposed change to the energy market—net carbon pricing—has figured prominently in long on-going discussions led by ISO-NE management and staff. Currently, ISO-NE staff members are initiating an analysis of net carbon pricing that they expect to complete by the first quarter of 2022. This effort is intended to evaluate the market efficiency of carbon pricing as a pathway to meeting state policy goals.

New England states have extensive experience with a multistate carbon market, the Regional Greenhouse Gas Initiative (RGGI). That said, state regulators from Connecticut and Massachusetts have been explicit in their objections to a regional carbon price expressed through the FERC-jurisdictional market tariff. Public Interest Organizations share the regulators' skepticism around a proposal to add a carbon price to the wholesale electricity market. We have a number of governance, jurisdictional, and economic impact questions about such an approach, including:

- How would the carbon price be set and by whom?
- Would a wholesale market carbon price bring state policies under FERC jurisdiction?
- Would a wholesale market carbon price provide the necessary financeability for new clean energy resources to be built without separate state support?
- What would the effects be on consumers, and what is the risk that a carbon price could raise energy prices without leading to significant additional carbon reductions?
- What would be the disposition of carbon revenues, who will it benefit, and who should decide this?

Instead of pursuing net carbon pricing, Public Interest Organizations urge states to prioritize and consider the other market reform recommendations we provide in these comments, which we believe are more urgent and feasible.

B. Potential New Centralized Markets for Renewable Energy Attributes

As discussed during the technical forums, New England states are also evaluating potential new wholesale market designs to procure clean energy. At the Day 2 forum, Dr. Kathleen Spees of the Brattle Group presented a proposal involving a centralized market for clean energy attribute credits which would be co-optimized with the existing FCM—the Integrated Clean Capacity Market, or ICCM. Such a market design has potential benefits, but only if states retain control over all elements of the clean energy procurement side of this market. Because of the likely difficulty of satisfactorily resolving what are likely to be challenging governance and jurisdiction issues, we view pursuit of the ICCM as a better long-term strategy and discussion than one in which all of the states' energies should be placed in the near term. Furthermore, the ICCM builds upon the existing capacity market, which as noted above may not be well-designed to support resource adequacy in a rapidly decarbonizing system. **We believe**

that it is essential to first get the resource adequacy construct correct, before layering on a complex co-optimization with an entirely new clean energy market design.

The appeal of a more centralized market for clean energy attributes, particularly one co-optimized with capacity procurement, is the increased administrative efficiency of procurement, as well as the lower costs that may be achieved per clean energy attribute credit as a result of additional competition across resource types and broader geography. However, some of this assumed efficiency would be achieved at the expense of states' ability to consider factors other than cost when determining which clean energy resource to procure.[26] For example, states may prefer to contract for projects that meet minimum labor or environmental justice standards, hire from underserved communities, are not sited on ecologically valuable properties, and many other qualitative factors. Considering these other factors would not only help to ensure that decarbonization provides broad social benefits, but also enable states to contract for clean energy attributes with projects that are less likely to face challenges due to suboptimal siting. The ICCM proposal would also invite participation by private renewable energy buyers, such as large companies with renewable energy purchasing objectives. However, some of the most significant buyers such as Google, have developed sophisticated purchasing strategies to match the time and location of renewable energy generation to the company's load.[27] As a step toward a more undifferentiated renewable energy product, ICCM may not meet the needs of these buyers. Because many states and private buyers may still choose to conduct their own procurements so as to consider non-price factors, there is a risk of relatively few or more minimal efficiency benefits materializing from the ICCM, even after considerable effort is put into developing the co-optimized market.

Designing an ICCM would be complex. Dr. Spees and other Brattle Group authors proposed a similar co-optimized procurement in a paper for two New York state entities, in which they acknowledged that "[t]his approach would require significant time and policy attention to develop a sound procurement design aligning with best practices, given that there are limited examples to draw upon."[28] The one example cited in that paper was a now-abandoned market design implemented for a short period in Mexico.[29] Notably, the proposal for New York would have been implemented by a single state and therefore did not present the same jurisdictional questions raised by such a design implemented on behalf of multiple states by a FERC-regulated ISO.

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[26] To its proponents' credit, the ICCM proposal they have offered explicitly preserves states' ability to continue procuring clean energy attributes outside the ICCM (without being subject to MOPR).

[27] https://www.gstatic.com/gumdrop/sustainability/247-carbon-free-energy.pdf.

[28] Kathleen Spees, Samuel A. Newell, & John Imon Pedtke, *Qualitative Analysis of Resource Adequacy Structures of New York* (May 19, 2020), at 3; *see also id.* at 26 (describing disadvantages of the co-optimized market: "New design concept that is untested and complicated to implement. With the new design introducing implementation costs and the risk of design flaws.").

[29] *Id.* at 21.

To be sure, achieving the decarbonization goals of most New England states is likely to require novel regulatory approaches and market designs—difficulty and complexity are unavoidable in this endeavor. However, we believe in this instance that the high degree of complexity combined with the lack of certainty in how much participation the ICCM would elicit calls for caution in moving ahead solely with development of the ICCM, while deferring other much-needed near- and medium-term opportunities for market reform. The current FERC appears highly attuned to the negative consumer and state public policy impacts of capacity markets. It would be a shame to expend the next few years bogged down in design of the ICCM and miss out on opportunities to adopt straightforward solutions to the long-standing barriers posed by the FCM, which would *also* help ensure a potential future mechanism like ICCM, if adopted, operates more effectively.

An additional challenging issue for states to carefully consider regarding the ICCM is the extent to which states would risk forfeiting some of their jurisdiction over the price, product definition of the clean energy attribute, and possibly other parameters for Clean Energy Attribute Credit (CEAC) procurement. The ICCM proposal aims to maintain state authority over the prices, quantities, and definition of the CEAC product, and envisions the co-optimized auction being administered by an independent administrator (not necessarily ISO-NE). However, these measures intended to keep FERC at a distance may depend on the Commission respecting a collaborative approach with states, which is not a given over the long run.

The New Jersey Board of Utilities staff recently issued a white paper co-authored with the Brattle Group, which discusses different ways that the ICCM could be pursued in that state while retaining an appropriate degree of state authority:[30]

> The new ICCM would be implemented under a new governance model that maintains appropriate state authority to establish clean energy policy for their own constituents. The ICCM could be administered by PJM under a reformed governance structure or by a separately established auction administrator. Rulemaking processes under the ICCM must offer greater voice to states, customers, clean energy companies, and disruptive new entrants. To achieve this outcome, interested PJM states could proceed with a collaborative engagement to design and implement the ICCM within a timeframe of approximately three years. Federal-state jurisdictional issues could be resolved in one of several ways. The ICCM governance structure could be entirely separate from the current PJM markets or could work within the PJM system, so long as it maintains an appropriate state role over critical ICCM design components and supports ongoing design evolution under a balanced governance model. For example, PJM could adopt the ICCM reforms into its Tariff in a way that ensures an appropriate state role.

[30]New Jersey Board of Public Utilities, Notice of Work Session, pp. 5-6., Investigation of Resource Adequacy Alternatives Docket No. EO20030203, https://www.nj.gov/bpu/pdf/publicnotice/Public%20Notice%20for%20RA%20Work%20Session%20on%20Clean%20Energy%20Markets.pdf.

Alternatively, the paper suggests that one or more states could establish their own ICCM with an independent auction administrator. Essential to this possibility is the availability of the Fixed Resource Requirement under the PJM Reliability Assurance Agreement, which allows utilities to opt out of procuring capacity through PJM's capacity auctions. New England states and utilities do not currently have any form of an opt-out available, which is another reason why a voluntary residual capacity market discussed above would be a valuable near-term reform.

Not only would that voluntary residual market alleviate the immediate problems with MOPR, but it would also enable New England states to plan and execute a co-optimized market under their own supervision, rather than first needing to reform ISO-NE's overall governance structure. While such governance reform is very much needed to address a wide range of problems with ISO-NE, it may be challenging to achieve as a pre-condition to implementing an ICCM. The New Jersey Board of Public Utilities staff recently held a work session to explore the ICCM and governance structures, is taking comments, and plans to publish a report in the near future about the range of options available to the state to address resource adequacy structures needed to support decarbonization. We encourage the staff engaged in the Energy Vision process to follow the New Jersey proceeding, as similar implementation and governance issues will be addressed there.

The stand-alone Forward Clean Energy Market (FCEM) proposal, developed by the Brattle Group, has also been promoted as a possible resolution to conflicts between state clean energy policies and federal wholesale markets. The FCEM purports to resolve the MOPR by bringing state clean energy policies "into" the wholesale market and implementing them through a FERC-approved tariff. As the theory goes, because the revenues earned through the FCEM would be "in market" the rationale for MOPR would no longer apply. Notably, the FCEM only helps states avoid the MOPR insofar as they are willing to give up control over clean energy procurement to FERC. In our view, states should not accept such a false accommodation.

While the FCEM has significant limitations when proffered as a solution to the MOPR, a centralized procurement of this type could be pursued by states who see value in streamlining procurements or encouraging some region-wide, cross-resource competition for the sale of clean energy attributes. Such an approach would not need to wait for changes to the ISO-NE tariff, and would avoid the complexity and governance challenges associated with co-optimization with capacity procurement.

* * *

Thank you for considering these comments. We look forward to the next steps in the Energy Vision process. In addition to wholesale market reforms, we strongly support New England states' focus on transmission planning and ISO-NE governance reform as key, interrelated components of ensuring that New England's grid is able to meet the region's electricity needs cleanly, affordably, and reliably. We also look forward to the states' upcoming, to-be-scheduled session on equity and environmental justice, and urge the states to ensure the

priorities, perspectives, and needs of impacted communities in the region are fully integrated into the Energy Vision.

Sincerely,

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