



New Hampshire Office of Strategic Initiatives

NEPGA Written Comments 10-Year State Energy Strategy Update

June 4, 2021

The New England Power Generators Association (NEPGA)¹ appreciates the opportunity to provide written comments to the Office of Strategic Initiatives (OSI) regarding its update of the 10-Year State Energy Plan (SES). As the OSI reviews the 2018 SES in preparation for the 2021 SES, NEPGA urges it to consider the contributions of the region's competitive wholesale markets to support New Hampshire's energy policy.

NEPGA is the trade association that represents competitive electric generating companies in New England. NEPGA's member companies account for over 90% of all generating capacity throughout New England – and over 4,000 MW in New Hampshire. NEPGA's member companies invest in a broad array of generation technologies in New Hampshire and New England, including nuclear, natural gas, coal, oil, hydro, wind, solar, and energy storage. NEPGA companies provide thousands of well-paying, highly skilled jobs to the state's workforce, pay millions of dollars in state and local taxes, and contribute millions of dollars in income taxes paid by employees.

The 2018 SES

The 2018 SES outlined a number of goals to improve New Hampshire's energy policy and meet the needs of its consumers. Those goals include: prioritize cost-effective energy policies; ensure a secure, reliable, and resilient energy system; adopt all-resource energy strategies and minimize government barriers to innovation; maximize cost-effective energy savings; achieve environmental protection that is cost-effective and enables economic growth; government intervention in energy markets should be limited, justifiable, and technology neutral; encourage market-selection of cost-effective energy resources; and generate in-state economic activity without reliance on permanent subsidization of energy.

New England's wholesale electricity markets have helped New Hampshire achieve those goals through a system designed to procure a reliable supply of electricity at the lowest possible cost. Through the wholesale markets, private investors, guided by transparent price signals, seek the most innovative and efficient means to produce electricity in order to seek a competitive advantage. The result is lower wholesale electricity prices for New Hampshire consumers, continued system reliability, innovations and efficiencies that have contributed to lower carbon dioxide (CO₂)

¹ The comments expressed herein represent those of NEPGA as an organization, but not necessarily those of any particular member.

emissions, and critical support for New Hampshire's and the broader region's economies – all without reliance on ratepayer-backed subsidies.

However, changes are already underway that leave uncertain the prospects for the continuation of these benefits. As federal policies evolve toward greater state deference and state policies focus on supporting individual resources, the regional electricity market must make concurrent changes to preserve market-based reliability. Failure to do so will lead down the path toward cost-of-service contracts that put consumers on the hook for a less efficient and higher cost electric grid.

Restructuring and the Benefits of Competition

In 1996, New Hampshire enacted legislation to restructure its electricity industry for the benefit of its consumers. Other New England states, except Vermont, passed their own restructuring acts, setting the foundation for a regional competitive wholesale electricity marketplace.

Prior to restructuring, the monopoly electric utilities that owned and operated power plants were largely insulated from competition and could rely on ratepayers to finance generation facilities through utility rates, effectively guaranteeing cost recovery and a rate of return. Utilities had little or no incentive to build and maintain efficient and cost-effective generation resources to reliably supply the region's electricity needs.

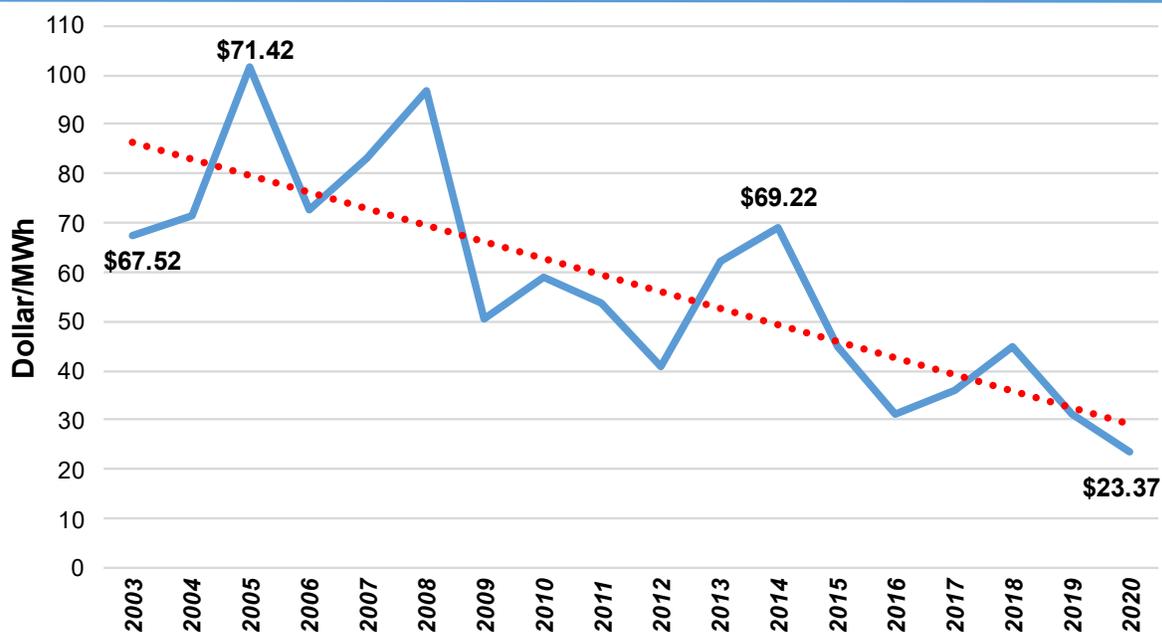
New Hampshire knows well the downside of rate base investment in utility-owned generation assets. In fact, ratepayers continue to pay for those costly decisions. In 2006, Public Service of New Hampshire (now known as Eversource Energy), then the owner of the Merrimack Station coal-fired power plant in Bow, sought and received legislative approval for what Eversource estimated would be \$250 million for a scrubber to reduce sulfur dioxide emissions from the plant. Instead, the costs for the environmental controls ballooned to \$420 million – a 70% cost overrun. Eversource was not only entitled to recover the \$420 million in cost overruns from its New Hampshire ratepayers, but it also earned a 9.81% rate of return.

Following full implementation of restructuring, utilities in New Hampshire and across most of the region divested themselves of their generation assets to focus on transmission and distribution services. Merchant generators now compete on a level playing field to produce the most cost-effective and efficient outcomes. Importantly, utility ratepayers no longer assume the risk that investments in generation assets could prove more costly than anticipated or altogether uneconomic.²

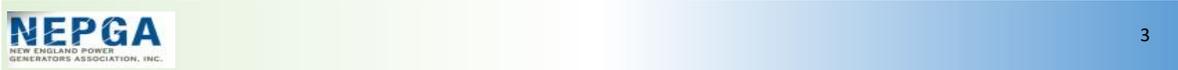
² In 2015, a report prepared for the New England States Committee on Electricity (NESCOE) reviewed the objectives of restructuring in New England. That report highlighted the transfer of risk from ratepayers to private investors as a primary rationale for the states' support for restructuring and a move to market competition. See Reishus Consulting, LLC (prepared for NESCOE), *Electric Restructuring in New England – A Look Back*, December 2015, p. 21.

New Hampshire’s electricity consumers have since reaped the economic benefits of a competitive market. Since 2004, wholesale energy prices in New England have declined by 51%. That means that a dollar spent on electricity supply in 2004 costs only 49 cents today. In fact, the average annual wholesale electricity price in 2020 was \$23.37/MWh, the lowest price since full implementation of the region’s competitive markets in 2003 (when calculated in 2020 dollars).³ While other portions of a typical New Hampshire electric customer’s utility bill have increased over the years, wholesale energy price reductions have translated to real savings for the state’s consumers.⁴

New England wholesale energy prices have declined by 66% since 2014



Source: https://www.isene.com/static-assets/documents/2021/03/new_england_power_grid_regional_profile.pdf; Adjusted to 2020 dollars



The competitive markets have also ensured reliability at least cost through the addition of 9,627 MW of new generation capacity at historically low prices.⁵ The most recent Forward Capacity Auction (FCA) yielded 950 MW of increased generation investments and nearly 600 MW of new energy storage resources cleared the auction. These investments are the result of market price signals that incentivize investment in resources – both new and existing – where and when they are needed, providing the region with resource adequacy and other critical reliability services.

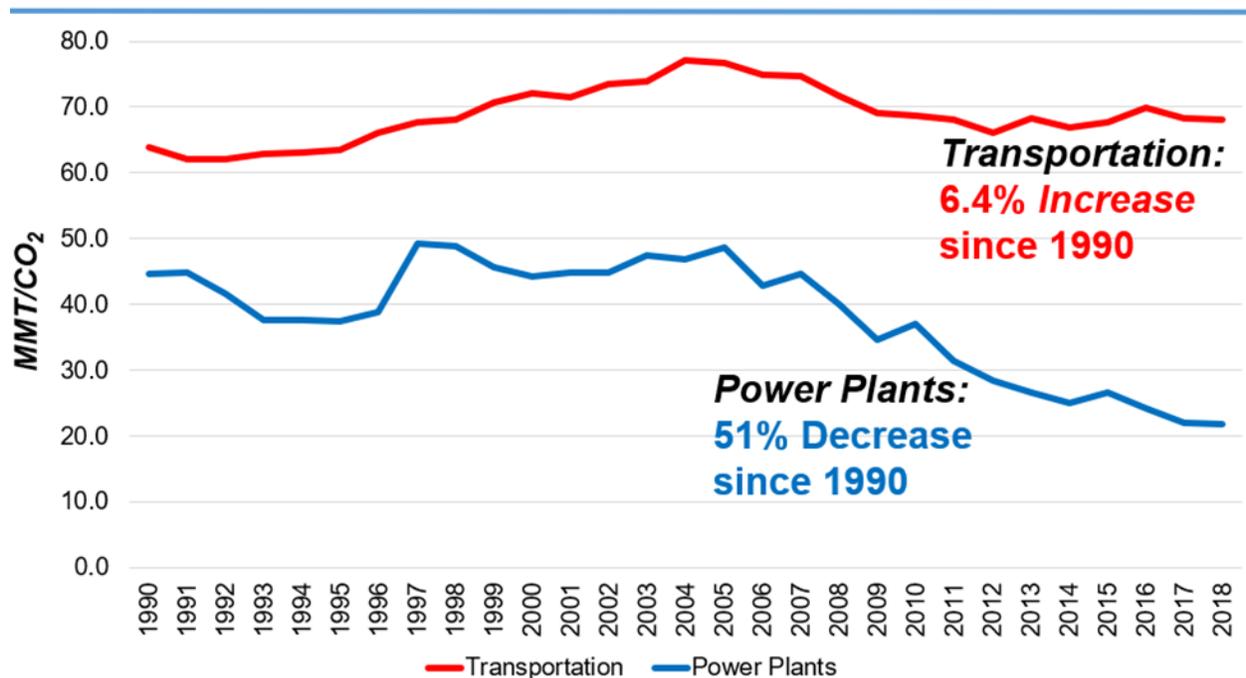
³ https://www.iso-ne.com/static-assets/documents/2021/03/new_england_power_grid_regional_profile.pdf; Adjusted to 2020 dollars

⁴ By comparison, New England transmission rates have increased by over 650% since 2004. <https://www.iso-ne.com/markets-operations/settlements/tariff-rates>

⁵ <https://www.iso-ne.com/about/key-stats/markets#fcaresults>

In addition, competitive market forces, coupled with low-cost fuel and certain public policies, have also resulted in a cleaner, more efficient fleet of power plants in the region. Since 1990, power plants in New England have cut CO₂ emissions by 50% – the most of any sector of the economy over the same period – according to recent data released by the U.S. Energy Information Agency.⁶ Much of these reductions can be attributed to the innovations and efficiencies driven by private investment in the region’s power plants following the restructuring of the region’s electricity industry. Since 1999, the efficiency for power plants in New England improved by 22% - the equivalent of closing one of every five plants while providing the same amount of electricity output. In 2000, 40% of the electricity produced in New England was generated from coal and oil resources. Today, coal and oil plants together account for less than 1% of the region’s resource mix.⁷

New England transportation & power plant CO₂ emissions from 1990 to 2018



State Policies and the Region’s Competitive Markets

In recent years, several New England states have enacted legislation directing the procurement of renewable and zero-carbon resources, largely through long-term contracting, to help achieve their respective greenhouse gas reduction mandates.

⁶ <https://www.eia.gov/environment/emissions/state/>

⁷ <https://www.iso-ne.com/about/key-stats/resource-mix>

Analysis conducted in 2018 found that state-supported resources are on track to comprise over 50% of the region's generation mix by 2027⁸ – an amount that is clearly understated given recent legislation requiring more out-of-market procurements. The effect of these state-supported resources on the region's competitive wholesale electricity markets is two-fold. First, the introduction of state policy resources will displace existing competitive resources, including those that will be needed for their unique reliability aspects and their ability to meet state environmental needs in a cost-effective manner. Second, state-supported resources will likely bid into the Energy Market as price takers (i.e., at \$0/MWh), putting downward pressure on the Energy Market prices that merchant generators rely upon to continue operations and make capital investments in existing facilities. These resources operate in the market without revenue or cost guarantees, and without consumer-backed long-term contracts, leaving them reliant on a fair and competitive market. Price suppression in the market has very real consequences for the viability of these facilities to continue to reliably supply New Hampshire and the region with electricity and to enable a decarbonized future.

State procurements of renewable and zero-carbon resources have also created tensions in the Forward Capacity Market (FCM). Some New England states have questioned the ability of the FCM to facilitate the entry of new state-supported clean energy resources, leading those states to turn to long-term contracting to meet their policy mandates. In particular, these states have called for a re-examination of the Minimum Offer Price Rule (MOPR), a market mechanism that sets a floor price for offers in the FCA based on a calculated competitive offer benchmark for a given resource's technology type. The MOPR is designed to prevent the artificial suppression of FCM clearing prices by accounting for resources that receive a revenue stream or other subsidy outside the competitive markets. The MOPR ensures that only the lowest-priced resources will be selected on a transparent and competitive basis to meet the region's reliability needs three years in the future. As a consequence, state policy resources that receive revenues through ratepayer-funded long-term contracts are mitigated in the FCA and may not be selected in the auction to receive a Capacity Supply Obligation. Nonetheless, states continue to procure clean energy resources outside the wholesale electricity markets.

Without market-based changes, the impact of price-taker resources in the energy and capacity markets could lead to what ISO-NE has termed as a "disorderly" retirement of plants that will be needed for resource adequacy and reliability for years to come. The result is lower revenues for existing generators – particularly newer, more efficient, and flexible units – that run less, as well as price-taking baseload units. A plant that is displaced by a state-supported resource will run less often, which makes it more reliant on the FCM and the Ancillary Services Market to recoup lost Energy Market revenue. Even when those units do run, they can be expected to earn fewer revenues from lower Energy Market prices or potentially no revenues at all in the case of marginal units. That could then drive another round of reliability cost-of-service contracts. Additionally, there is the risk of a "Green Gap," as existing low- and zero-carbon resources experience the same price suppression faced by traditional generation, yet are excluded from revenue

⁸ <https://nepga.org/2018/11/report-on-new-england-electricity-market-out-to-2027/>

streams favoring new generation, are forced to retire. That outcome raises the very situation that gave rise to the development of the FCM in the first place and is a costly and inefficient outcome that NEPGA believes both generators and New Hampshire would prefer to avoid.

In February 2019, ISO-NE implemented Competitive Auctions with Sponsored Policy Resources (CASPR), a mechanism in the FCA that balances state policies and the competitive markets by coordinating the entry of state policy resources and the retirement of existing capacity resources. However, CASPR only addresses a transitional phase of meeting state laws. It does not provide a long-term solution that deals with the central issue: how to value state policies in the market to facilitate entry of resources to help the states meet their respective mandates.

Currently, NEPGA and other stakeholders in the New England Power Pool (NEPOOL) are participating in the Future Grid Initiative, an examination of pathways to better align the competitive markets with state policy mandates and goals.⁹ The effort reflects stakeholders' acknowledgement that the region's electric grid is fundamentally changing with increasing amounts of distributed generation, intermittent renewables, and load reduction and shifting, all of which challenge current market design. Stakeholders will conduct analysis to predict the kinds and quantities of resources that will be necessary to meet the New England states' decarbonization targets, most of which must be met by 2050. Based on that predicted future resource mix, stakeholders will identify any gaps to reliably operate the region's bulk power system, along with changes in market design that are needed to procure those missing reliability needs. NEPGA has also joined New Hampshire and other New England states in the New England Energy Vision process in stakeholder discussions on a future wholesale market design to help states accomplish their respective requirements but ensure that the integrity and benefits of the region's wholesale electricity markets are preserved for the long-term.

The alternative is continued reliance on costly out-of-market constructs, like long-term contracting for handpicked resources. That trend is now finding its way into New Hampshire with the introduction this session of SB151, a bill that would mandate the procurement of up to 800 MW of primarily offshore wind resources under contracts as long as 30 years.¹⁰ SB 151 would upend the principles of restructuring by committing New Hampshire's utility ratepayers to finance the costs of new generation facilities, including the risk that investments that appear attractive today could prove costly, inefficient, or obsolete in future years. As noted above, New Hampshire has already experienced the pitfalls of rate base financing of generation. SB 151 would reverse a central objective of restructuring and once again require New Hampshire's consumers to bear the risk for investments, this time in support of public policy goals.

In addition, selected resources receiving long-term contracts under SB 151 would undermine the commercial viability of more cost-effective generation that provides system reliability as well as low- and zero-carbon resources – including some located in

⁹ <https://nepool.com/future-grid-initiative/>

¹⁰ SB 151, *An Act Relative to Renewable Energy Procurement* (introduced February 4, 2021).

New Hampshire. For generators that depend on the competitive markets to earn sufficient revenues to maintain operations, that means the lost market opportunities will have to be made up somewhere else, potentially through other consumer-guaranteed contracts. Over time, the situation only becomes more challenging as additional state-supported resources enter the region's power system, further distorting market pricing and the cost benefits for New Hampshire's and other New England states' consumers.

A Path Forward

To meet the current challenge, tomorrow's electricity system must be able to both better internalize state policy requirements for clean energy, while evolving to deliver the products and investible framework to preserve reliability.

NEPGA has focused over the last several years on carbon pricing to better integrate state policies into the market. That is the most efficient way to meet the decarbonization mandates in other New England states. NEPGA, however, recognizes that New Hampshire does not have such a legal requirement, and other market-based mechanisms may be more appropriate to best meet state needs while leveraging the wholesale electricity market.

A future wholesale market design must also ensure continued reliability as the system evolves to include increasing amounts of variable, weather-dependent renewable resources. A report from Energy + Environmental Economics (E3) and Energy Futures Initiative (EFI), led by former U.S. Secretary of Energy Ernest Moniz, finds that current New England states' laws to decarbonize across the economy will require "the addition of large amounts of wind, solar, and battery storage resources, complemented by firm capacity to provide generation during extended periods of low wind and solar availability. Firm capacity includes natural gas power plants, nuclear, hydrogen generation, or other yet-to-be commercialized options such as long-duration storage."¹¹

NEPGA has long called for a review of the wholesale market to ensure that the products are best aligned with the needs of the system based on changing consumer usage and a new resource mix. That review is ongoing.¹² Nevertheless, NEPGA is supportive of the focus on effective load carrying capability (ELCC) and to best recognizing the reliability benefit of resource types – both new renewables, as well as other existing resources.

This work becomes even more critical as electricity is increasingly used to power our lives and support our economy. With increased electrification of transportation, and growing reliance on electricity for home heating, reliability takes on even greater

¹¹https://static1.squarespace.com/static/58ec123cb3db2bd94e057628/t/5fd2997d26324029a116f9b4/1607637387632/E3+EFI_Report+New+England+Reliability+Under+Deep+Decarbonization_Full+Report_November_2020.pdf

¹²<https://www.iso-ne.com/static-assets/documents/2021/02/npc-20210218-chadalavada-presentation-r.pdf>

importance. As the experiences in California and Texas over the last year have shown us, reliability must always remain job one.

Conclusion

NEPGA strongly believes in the benefits of a regional marketplace with economies of scale, efficiency of cross-border trade, and an independently-administered market. As OSI charts a course for the SES, the wholesale electricity markets can and should remain the foundation for achieving New Hampshire's energy goals for the next ten years and beyond.

NEPGA appreciates New Hampshire's leadership and continued engagement in supporting a strong economic foundation to provide competitive pricing for consumers, reliability, a cleaner environment, and market-based investments.