

**State of New Jersey
Board of Public Utilities
Investigation of Resource Adequacy Alternatives
Docket No. EO20030203
Comments of the Electric Power Supply Association
Executive Summary**

May 20, 2020

Aida Camacho-Welch
Secretary of the Board
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Trenton, New Jersey 08625-0350
Sent via email

Dear Secretary Camacho-Welch,

New Jersey’s 2019 Energy Master Plan put the state on a trajectory towards 100% clean energy by 2050. New Jersey’s emissions reduction goals are among the most ambitious in the country. The Electric Power Supply Association (“EPSA”) seeks to offer New Jersey market-based solutions to achieve them.

While long overdue, the December 2019 Federal Energy Regulatory Commission order expanding the MOPR sparked strong opposition from states, including New Jersey, concerned about meeting environmental goals under the new paradigm. As a result, states have begun to consider whether alternative mechanisms could more effectively meet those goals. We recognize the tension that exists on both sides of this issue, and we also recognize that the PJM markets will evolve. The New Jersey Board of Public Utilities (“Board”) has an opportunity to position itself as a leader among the PJM states in driving those discussions.

Our comments encourage the Board to embrace that opportunity and play a leading role in developing regional solutions to meet New Jersey’s goals. Our comments provide a framework from which the Board can facilitate dialogue throughout the PJM region and position itself as a driver of concrete solutions to meet aggressive emissions reduction goals through efficient wholesale energy markets. We recognize the Board cannot singlehandedly change the regional market design; myriad factors will influence any potential outcome. However, the competitive power suppliers stand ready to work with the Board to encourage those discussions—and more importantly solutions—in PJM.

The Fixed Resource Requirement (“FRR”) is not the right tool to achieve New Jersey’s environmental goals and resource adequacy needs. The FRR is a costly and risky mechanism to meet the state’s objectives and introduces new challenges during a time of great uncertainty and economic strain. Competitive electricity markets have achieved record low prices, spurred innovation, and accelerated emissions reductions, all while allowing consumers to avoid the risks

associated with generation supply investments. Exiting the market will increase costs, create new reliability challenges, reduce competition, and inhibit, not advance, the achievement of New Jersey's goals. As such, we strongly urge the Board to not pursue an FRR for New Jersey.

Fortunately, there are alternatives available to address New Jersey's goals. As a first step, we encourage the Board to formally ask PJM to consider adapting the Competitive Auctions for Sponsored Policy Resources ("CASPR") market design or a variation of it for the PJM region. Such a market design could accommodate New Jersey's offshore wind goals while maintaining the unquestionable benefits of the competitive markets. A variant of CASPR could also solve the "double payment" problem.

To facilitate the achievement of New Jersey's carbon reduction goals on a longer-term basis, we encourage the Board to consider regional, market-based approaches to achieve emissions reductions goals through the competitive markets. We offer a number of potential solutions—including carbon pricing in PJM and a Clean Energy Standard—for the Board to consider in consultation with PJM, other states in the PJM region, and all interested stakeholders.

We recognize the tension that currently exists between state policies and federal power markets. While there are diverse and passionate viewpoints on these challenging issues, now is the time to work collaboratively to find workable solutions that lead to sustainable environmental progress. Competitive power markets should be recognized as the best mechanism to achieve state clean energy goals—not an inhibitor to them. We hope our comments can help facilitate much needed discussions and help New Jersey find the best outcomes for its economy, its residents, and the environment.

**State of New Jersey
Board of Public Utilities
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Docket No. EO20030203
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Dear President Fiordaliso and Commissioners:

On March 27, 2020, the New Jersey Board of Public Utilities (“Board”) issued a Request for Written Comments (“Request”) in response to the Board’s Investigation of Resource Adequacy Alternatives.¹ The Electric Power Supply Association (“EPSA”)² appreciates the opportunity to provide the enclosed comments and looks forward to continued engagement with the Board on this matter. Our comments urge the Board not to pursue a Fixed Resource Requirement (“FRR”) Alternative and instead look to neighboring states, PJM, and other market participants to find regional, market-based solutions to achieve New Jersey’s carbon emission reduction goals. There are diverse and passionate viewpoints on these challenging issues, however, now is the time to work collaboratively to find workable solutions that lead to sustainable environmental outcomes. Competitive power markets should be seen as the best mechanism to achieve state carbon emission reduction goals, not an inhibitor to them. We hope our comments can help facilitate much needed discussions.

I. Benefits of Regional Markets

Spanning portions of thirteen states and the District of Columbia, PJM is able to procure a diverse, reliable portfolio of resources and technologies to support the electricity needs of each state within the footprint at the lowest cost. Access to a regional portfolio is particularly beneficial when assessing reliability needs based on peak demands or emergencies, which impact different parts of the region differently. However, for one state to attempt to access a similarly diverse mix of resources and signal operational needs sufficient to meet reliability requirements will be more costly for consumers. That is, pursuit of aggressive carbon reduction goals that rely almost exclusively on non-dispatchable, intermittent resources will result in greater reliance on the larger PJM footprint to provide balancing resources.

While any state, should they choose to do so, can implement an FRR or leave the regional market, membership in a regional power market does not revoke a states’ right over generation or resource adequacy decisions as described under the Federal Power Act. States can, and do, pursue public polices and initiatives targeting a wide range of issues, including job creation, economic development, and environmental goals. In this instance, New Jersey’s focus is environmental goals – emissions reductions and clean energy deployment. Experience suggests

¹ Request for Written Comments, Investigation of Resource Adequacy Alternatives, Docket No. EO20030203 (“Request”), available at: <https://www.nj.gov/bpu/pdf/publicnotice/2H%20-%20Capacity%20Proceeding%20Written%20Comments%20public%20notice%203.27.20.pdf>

² EPSA is the national organization representing competitive power suppliers, which includes owners, investors, and operators of all types of power generation facilities and technologies. This includes over 52,000 MWs in PJM alone and over 152,000 MWs nationally including over 6,000 MWs of renewable generation. EPSA has advocated for competitive wholesale markets since its inception because customers win when companies compete. These comments represent the position of EPSA as an organization, but not necessarily the views of any particular member with respect to any issue.

that market-based mechanisms are the most efficient way to achieve environmental and carbon emission reduction goals.

Along with encouraging power providers to deliver least cost solutions, competition has unlocked significant environmental benefits. Competitive power suppliers followed the market signals to quickly retire significant amounts of inefficient generation and switched to cleaner, more efficient and reliable natural gas technology like combined cycle turbines. As a result, emissions in the PJM footprint alone have dropped 34% since competition was introduced in 2005³ and market competition in PJM has resulted in cost savings of \$3.2-4 billion.⁴

While individual states are implementing aggressive clean energy standards or requirements, achieving the goal of emissions reductions is not contained within the boundaries of a single state. The current patchwork of expensive state subsidies burdens taxpayers, raises costs, and does not necessarily achieve meaningful widespread emissions reductions. Pursuing policies such as exiting the capacity market only risks losing the benefits the competitive market has provided over several decades. As PJM can harness its regional reach to keep costs low for consumers, so can and should states harness PJM's regional market to achieve real gains in curbing emissions and reaching climate goals. Revising PJM's markets to better address carbon reduction goal using a cost of carbon or some other mechanism can harness the power of markets without putting the risk of poor investment decisions on consumers.

A. FRR is Not the Right Tool to Achieve State Environmental Goals

In section 2 of the Request, the Board asks whether New Jersey can utilize FRR to accelerate achievement of carbon emission reduction goals. EPSA recognizes that states have environmental policy goals and societal initiatives they wish to pursue, and we firmly believe these goals can best be achieved via a regional, market-based mechanism even with the expansion of PJM's MOPR. The innovation and resource diversity needed for a cleaner, reliable system can only come through continued participation in regional competitive markets. However, experience has shown that states that opt to "go it alone" in an effort to meet environmental goals will likely fail to achieve their goals and raise costs to consumers.⁵

At this juncture, FRR which is currently available in the PJM region has been a part of PJM's governing documents for as long as PJM has had the capacity market itself in place;⁶ however, the FRR has rarely been utilized due to the relative benefits of participating in RPM.

³ PJM Inside Lines: "Emissions Continue to Drop Throughout PJM Footprint," (March 4, 2020). Available at: <https://insidelines.pjm.com/emissions-continue-to-drop-throughout-pjm-footprint/>.

⁴ 2018 PJM Annual Report (April 2019). Available at: <https://www.pjm.com/-/media/about-pjm/newsroom/annual-reports/2018-annual-report.ashx?la=en>.

⁵ In August 2019 the Illinois Power Agency reported that Illinois is only at 7% renewables and is currently projected to peak at around 10% through 2036—well short of its 25% RPS goal. Illinois Power Agency, *Long Term Renewable Resources Procurement Plan*, (August 15, 2020) at p. 68. Available at: <https://www2.illinois.gov/sites/ipa/Documents/Draft%20Revised%20Plan%20-%20Summer%202019/Draft%20Revised%20LTRRPP%20%288-15-19%29.pdf>

⁶ Statement of F. Stuart Bresler III on behalf of PJM Interconnection, L.L.C., Illinois House of Representatives, Public Utilities Committee (February 21, 2020) at p. 4. Available at: <https://www.pjm.com/-/media/library/reports-notices/testimony/20200221-pjm-bresler-statement-to-the-il-house-public-utilities-committee.ashx?la=en> ("Bresler Statement").

FERC’s December 19, 2019 Order⁷ expanding application of PJM’s MOPR to resources receiving state subsidies did not make changes to FRR as it exists in the PJM rules today, and the election of the FRR is a significant and complicated decision,⁸ with numerous requirements and obligations, as summarized by PJM. An eligible FRR entity:

[M]ust be able to demonstrate that they have sufficient resources available to meet the reliability requirement for the FRR service area, which is generally the projected future demand for electricity plus a reserve margin. *Such an election is for a minimum of five consecutive delivery years.* Parties demonstrate their ability to meet the reserve requirement on an annual basis by committing sufficient resources to meet the reliability requirement to their FRR plan. If an FRR plan’s capacity commitment is insufficient for a delivery year, the load-serving entity will be assessed an FRR Commitment Insufficiency Charge for the shortage. Capacity resources committed to an FRR plan continue to be subject to the same Capacity Performance requirements that apply to resources committed through PJM’s capacity market if they are called upon in an emergency.⁹ [Emphasis added.]

B. Increased Consumer Costs and Other Impacts of FRR

FRR is a risky path that is likely to increase state and consumer costs with questionable long-term benefits. In addition, the costs and complications of states abandoning market competition are substantial. FRR may require complex legislation and administrative rulemaking and would add logistical challenges to procuring electricity capacity significantly beyond the current Basic Generation Service (“BGS”) auctions overseen by the Board. FRR, if not carefully constructed, could have the unintended consequence of harming retail competition. FRR will lock states and customers into at least a five-year commitment, undermining flexibility in an evolving energy and economic landscape and adaptability as technology evolves and improves.

While each state has unique circumstances to consider in evaluating FRR, several reports have been developed by PJM’s Independent Market Monitor (“IMM”) examining potential impacts of FRR adoption. The IMM concluded that net load charges for Maryland under the FRR (“Maryland FRR”) would increase by \$206.6 million or 23.4 percent compared to the results of the PJM Base Residual Auction (“BRA”) for the 2021/2022 Delivery Year.¹⁰ Creation of a ComEd/Exelon FRR in Illinois would result in net load charges increasing by \$414 million or 24 percent compared to the results of the PJM BRA for the 2021/2022 Delivery Year (and this is in addition to the more than \$925 million Exelon would receive in annual subsidies for its

⁷ *Calpine Corp. v. PJM Interconnection, L.L.C.*, 169 FERC ¶ 61, 239 (2019) (“December 2019 Order”).

⁸ Bresler Statement.

⁹ PJM Fact Sheet: *Securing Resources Through the Fixed Resource Requirement*, (2020). Available at: <https://www.pjm.com/-/media/about-pjm/newsroom/fact-sheets/securing-resources-through-fixed-resource-requirement-fact-sheet.ashx?la=en>.

¹⁰ Monitoring Analytics, *Potential Impacts of the Creation of Maryland FRRs*, (April 16, 2020), available at: https://www.monitoringanalytics.com/reports/Reports/2020/IMM_Potential_Impacts_of_the_Creation_of_Maryland_FRRs_20200416.pdf (“IMM Maryland FRR Analysis”)

nuclear plants if current models are replicated).¹¹ In New Jersey, the IMM concluded that charges to net load would increase in all six FRR scenarios analyzed.¹² In one case, the IMM found that costs would increase by \$346 million per year. Any costs increase would likely be in addition to nuclear subsidies worth \$300 million a year.

The IMM has also identified that market power can be an issue with creation of an FRR; generators in FRR zones have no obligation to participate in FRR plans and there is no market power review by the IMM. For example, due to FRR rules that limit resource options, there will likely be instances where only a limited number of generators are available to serve load.¹³ Such an outcome will remove competitive discipline from capacity pricing, a bad outcome for consumers. FRR will also likely inhibit innovation. The incumbent utility (or state agency) chooses the resources and technology it deems appropriate—to the exclusion of other, possibly cheaper, resources. A specified quantity of resources must be located within the FRR utility's footprint consistent with local deliverability rules, limiting the resource options and the pool of customers who pay for those resources. In the limited instances where FRR has been utilized, customers in FRR areas in Virginia have paid up to 4 times more than the rest of the customers in the PJM region for capacity with no additional benefit than that procured by RPM.¹⁴

On May 1, 2020, Dominion Energy filed its 2020 Integrated Resource Plan (“IRP”) to comply with Virginia’s Clean Economy Act which requires 100% clean energy by 2050.¹⁵ We recognize that New Jersey and Virginia have different regulatory structures, but FRR is functionally similar to an IRP; Dominion’s latest IRP shows the pitfalls that could come with FRR adoption to meet aggressive state carbon emission reduction goals. The VA IRP includes multiple plans to dramatically expand renewable energy, with the most aggressive option adding over 20 GW of solar, nearly 5 GW of offshore wind, and 2 GW of storage by 2035. However, the price tag is significant: the second to least aggressive option includes a \$45.92 increase *per month* on consumer electric bills by 2035. Additionally, even in the most aggressive option, current emissions in Virginia are only reduced by half by 2035. Adoption of FRR could likely yield similar outcomes for New Jersey.

On the other hand, the PJM IMM has analyzed the expected impacts of the December 2019 MOPR Order on the 2022/2023 BRA and concluded that it is not expected to have an

¹¹ Monitoring Analytics, *Potential Impacts of the Creation of a ComEd FRR*, (December 18, 2019), available at: https://www.monitoringanalytics.com/reports/Reports/2019/IMM_Potential_Impacts_of_the_Creation_of_a_CoME_d_FRR_20191218.pdf (“IMM ComEd FRR Analysis”); also see, IMM PJM MIC Presentation available at <https://www.pjm.com/~media/committees-groups/committees/mic/2020/20200205/20200205-item-06b1-potential-impacts-of-comed-fr-imm-presentation.ashx>.

¹² Monitoring Analytics, *Potential Impacts of the Creation of New Jersey FRRs*, (May 13, 2020), available at: https://www.monitoringanalytics.com/reports/Reports/2020/IMM_Potential_Impacts_of_the_Creation_of_New_Jersey_FRRS_20200513.pdf

¹³ IMM Maryland FRR Analysis at p. 4.

¹⁴ FRR – LSE Capacity Rates, <https://www.pjm.com/markets-and-operations/billing-settlements-and-credit/fr-lse-capacity-rates.aspx>.

¹⁵ *Commonwealth of Virginia, ex rel. State Corporation Commission, In re: Virginia Electric and Power Company’s Integrated Resource Plan filing pursuant to Va. Code § 56-597 et seq.*, (May 1, 2020). Available at: <https://www.dominionenergy.com/library/domcom/media/about-us/making-energy/2020-va-integrated-resource-plan.pdf?modified=20200501191108> (“2020 Dominion IRP”).

impact on auction clearing prices and revenues.¹⁶ The report goes on to state the conclusion is “based on a detailed analysis of all the capacity market inputs, a full simulation of the auction, and is a result, in part, of the impact of the categorical exemptions, the fact that the treatment of gas fired resources does not change significantly, and the competitiveness of unit specific offers for existing subsidized nuclear resources.” The IMM report also refutes the cost estimates of the December 2019 MOPR Order’s impact from FERC Commissioner Richard Glick’s dissent (estimating increased capacity payments by \$2.4 billion per year or more) and a Grid Strategies report estimating consumer cost due to an expanded MOPR could be as high as \$5.7 billion. The IMM’s report finds that “[n]either are based on supportable, detailed analysis of the capacity market.”¹⁷

Accordingly, it is critical to obtain actual cost data under the new replacement rate as approved by FERC and the only way to do so is to have an auction. PJM plans to conduct the auctions at six-month intervals and to resume the regular auction cycle as soon as possible as proposed in PJM’s March 18 MOPR Compliance Filing. EPSA urges the Board to act in a judicious and measured manner, and to evaluate actual data that becomes available over the course of multiple auctions. There is no uniquely pressing concern for New Jersey—emissions and wholesale power prices continue to decline, the first tranche of offshore wind is not scheduled to be online until 2024¹⁸, and New Jersey’s economic nuclear units will likely clear the capacity market even with the MOPR—that warrants a drastic move which endangers the gains being made through RPM for consumers or carbon emission reduction goals. Numerous stakeholders involved in PJM’s extensive stakeholder process to implement FERC’s December 2019 Order, including the wind and solar industries, applauded the PJM March 18 MOPR Compliance Filing. The American Wind Energy Association stated that the plan “provides the flexibility necessary for renewable resources to demonstrate that they are among the lowest cost and most reliable sources of capacity available today.”¹⁹

C. FRR Shifts Investment Risk Back to Consumers

A significant consideration for the Board in evaluating the FRR is the shift in investment risk to consumers that would occur with an exit from RPM. A key benefit of competitive wholesale electric market restructuring was a shift in investment risk away from consumers and on to private investors. Today, consumers are insulated from a poor investment; shareholders bear the financial impacts when an investment goes south. Under an FRR, however, consumers would once again be exposed to investment risk, removing the incentive for developers to minimize costs when building new assets. As noted above, an FRR path would be functionally similar to a traditional IRP model. In the case of Dominion’s 2020 IRP, Virginia consumers could be on the hook for \$45 monthly increases in their electric bills without being able to evaluate alternatives. Unfortunately, Virginians will be stuck with the costs when potentially cheaper alternatives which were never even considered become available.

¹⁶ Monitoring Analytics, *Potential Impacts of the MOPR Order*, (March 20, 2020). Available at: https://www.monitoringanalytics.com/reports/Reports/2020/IMM_Potential_Impacts_of_the_MOPR_Order_20200320.pdf

¹⁷ *Id.* at p. 3.

¹⁸ See *infra* note 24.

¹⁹ <https://www.awea.org/resources/news/2020/american-wind-energy-association-statement-on-pjm>

The benefits of the competitive market highlighted above are largely the result of private investment from competitive power suppliers in all types of generation resources. In order to ensure this investment continues, private investors must have confidence that the markets in which they invest will provide the *opportunity* to compete fairly and recover costs. Constant revisions to market rules and new state policies only increase uncertainty and, unfortunately, may drive out private capital willing to invest. The current patchwork of expensive state subsidies burdens taxpayers, raises costs, and does not necessarily achieve meaningful widespread emissions reductions, and pursuing policies such as exiting the capacity market only risks losing the benefits the competitive market has provided over several decades.

EPSA further submits that the global coronavirus pandemic has thrown the importance of safe, reliable and affordable electricity into sharp relief. PJM has maintained full and reliable operations during this challenging period of time, and as the families and businesses of the state of New Jersey face economic uncertainty and financial hardship, exiting a capacity market that has produced least cost outcomes, reduced emissions, and created market efficiencies, is a costly path that would overturn years of progress for power prices, consumers and the environment.²⁰ As we begin the slow recovery from this pandemic, consumers must be confident in the reliability and affordability of their electricity.

II. The Path Forward

As New Jersey looks at ways to reduce carbon emissions and meet other environmental policy goals, EPSA and our member companies welcome, and indeed, believe it is critical, to have a conversation surrounding how the market may be adjusted, such as implementing carbon pricing policies or other mechanisms, to advance sustainable environmental progress while ensuring reliable service at the lowest possible cost. New Jersey's recent reentry into Regional Greenhouse Gas Initiative ("RGGI") suggests that it shares this vision.

EPSA has previously announced support for market-based tools that allow all resources to compete, such as carbon pricing, and urges the Board to consider the continued benefits that will be achieved utilizing market frameworks.²¹ EPSA is part of a coalition that includes the American Wind Energy Association, the American Council on Renewable Energy, renewable developers, and the R Street Institute that has called on the Federal Energy Regulatory Commission ("FERC" or "Commission") to examine the potential of carbon pricing in wholesale electricity markets. We look forward to working with New Jersey and other state leaders, FERC, clean-energy advocates, and all stakeholders to build a durable regulatory framework for sustainable environmental progress.²²

²⁰ *A Clean Power Plan New Jersey Customers Can Afford*, by Todd A. Snitchler, President & CEO, Electric Power Supply Association (April 17, 2020). Available at: <https://www.njspotlight.com/2020/04/op-ed-a-clean-power-plan-new-jersey-customers-can-afford/>.

²¹ *Carbon Price, Transparent Open Markets Should Drive Clean Energy Efforts States: Look to Regional Markets to Achieve Energy Goals, Says EPSA's Todd Snitchler*, Electric Power Supply Association (February 26, 2020). Available at: https://epsa.org/wp-content/uploads/2020/02/EP-SA-Press-Release_Carbon-Price-Position_2.26.20.pdf.

²² *See Coalition Request to FERC for Technical Conference or Workshop on Carbon Pricing in Wholesale Electric Energy Markets*, Docket No. AD20-14-000, (April 14, 2020) ("Carbon Price Petition"). Available at: https://epsa.org/wp-content/uploads/2020/04/Carbon-Pricing_Request-for-Tech-Conf-or-Workshop.pdf. Although comments are not due until May 21, 2020, numerous interested parties have filed early in support of this request,

Policies designed to encourage carbon emission reductions generally fall into two buckets: mandates to procure specific technologies or resources (e.g., renewable portfolio standards or offshore wind goals), or policies to limit and reduce carbon emissions via a cap or price on emissions. The latter is directly focused on the relevant policy objective and inherently more compatible with competitive, market-based mechanisms, but can be politically challenging to implement. The former, however, indirectly targets carbon emission reductions and is generally not compatible with market mechanisms, but relatively easier to implement on a state-by-state basis. Mandate-based policies have been the source of much ire in the PJM region over the past few years.

In November 2019, Governor Murphy signed Executive Order #92 which raised New Jersey's offshore wind goal from 3,500 MW to 7,500 MW by 2035.²³ The first tranche of 1,100 MW has an estimated commercial operation date of 2024.²⁴ Numerous obstacles, including the development of transmission infrastructure required to interconnect offshore resources to the onshore PJM transmission system, suggest that not all 7,500 MW of offshore wind will be interconnected and operational at once, or even within the next few years. As such, New Jersey has time to carefully evaluate all options to ensure its carbon emission reduction goals are met as efficiently and reliably as possible, and at the lowest cost to consumers.

A. Accommodating New Jersey's Offshore Wind Through the Competitive Market

As an alternative to a “go it alone” approach, we strongly encourage the Board to consider regional options to meet carbon emission reduction goals, in consultation with other states, both individually and through the Organization of PJM States, Inc. (“OPSI”), PJM, and all interested stakeholders. In section 2d of the Request, the Board seeks input on whether there are other models for meeting the state's resource adequacy and clean energy needs.²⁵ We urge the Board to formally ask PJM to consider the adopting a market design similar to ISO New England's Competitive Auctions with Sponsored Policy Resources (“CASPR”) to the PJM region. Early engagement and leadership from the Board will ensure New Jersey's needs are adequately considered in the development of any new market designs. EPSA members would welcome a discussion of CASPR or similar mechanism in PJM.

While a strong MOPR currently remains a necessary element to a competitive capacity market, CASPR or a similar mechanism can provide state-mandated resources an opportunity to enter the market while simultaneously preserving the integrity of that market and eliminating the potential for consumers to “pay twice” for capacity. The following four design criteria utilized for CASPR are useful for adapting the design to PJM: 1) competitive capacity pricing, 2) accommodation of the entry of new sponsored policy resources into the [Forward Capacity

including the Maryland Public Service Commission and Maryland Department of the Environment, Massachusetts Attorney General, the PJM Independent Market Monitor, and the Institute for Policy Integrity at NYU School of Law. As of May 18, six states and New Jersey have filed motions to intervene in the proceeding.

²³ Executive Order No. 92 (November 19, 2019). Available at: <https://nj.gov/infobank/eo/056murphy/pdf/EO-92.pdf>

²⁴ *Governor Murphy Announces Offshore Wind Solicitation Schedules of 7,500 MW through 2035*, (February 2, 2020). Available at: <https://www.nj.gov/governor/news/news/562020/20200228a.shtml>

²⁵ Request at p. 2.

Market] over time, 3) avoidance of cost shifts, and 4) a transparent, market-based approach.²⁶ The goal of CASPR is to allow new state-supported resources (e.g., offshore wind) the opportunity to enter the market by taking the place of older resources willing to permanently exit the market. CASPR is a way to manage the entry and exit of resources via a market-based construct, taking the decision of which types of resources will enter as given (in the near-term).

These issues are extremely contentious and have divided stakeholders. Any workable path forward will require stakeholders to strike an appropriate balance between competing objectives that are often in tension. In its transmittal letter to FERC, ISO New England indicated that there “exists no perfect solution.”²⁷ However, CASPR generally achieved widespread support from key stakeholder sectors.²⁸ Not only does CASPR provide an example of a workable proposal that can achieve some level of consensus across a diverse group of stakeholders, it shows a willingness from FERC to consider, and, in this case, accept a proposal that attempts to accommodate the states while preserving the integrity of the capacity market. Importantly, given that CASPR has been approved by FERC, a similar mechanism in PJM could be a just and reasonable means to manage the tensions between state mandates and functioning of the wholesale electricity market.²⁹

At a high level, CASPR is a substitution auction that enables state mandated resources to match up with and obtain the capacity obligation of an existing competitive resource, in exchange for the existing resource permanently leaving the market. As PJM has maintained reserve margins in excess of the target installed reserve margins, pairing the entry of state-preferred resources with an equal amount of existing resource retirements could provide the dual benefit of managing resource entry and exit while maintaining competitive price signals. A CASPR-like design in PJM need not look identical to CASPR in ISO New England. Indeed, the two regions have a significantly different mix of resources, with many more resources potentially eligible to permanently retire in PJM. According to the PJM IMM, there are already 5,294 MW of planned retirements through 2024, the majority of which are coal-fired resources.³⁰ To increase the effectiveness of CASPR in PJM, additional design changes to expand the pool of existing resources that could commit to retire to allow state supported resources to participate without being subject to the MOPR should be considered.

Importantly, while CASPR could serve the near-term needs of the states (e.g., offshore wind integration), it should not be viewed as a long-term mechanism to achieve states’ increasingly aggressive carbon emission reduction goals. We encourage New Jersey and other PJM states to consider additional changes to incorporate the negative externality (e.g., carbon

²⁶ ISO New England, Inc., *Re: Revisions to ISO New England Transmission, Markets, and Services Tariff Related to Competitive Auctions with Sponsored Policy Resources*, (January 8, 2019) (“CASPR Transmittal Letter”) at p. 4.

²⁷ CASPR Transmittal Letter at p. 5.

²⁸ See Comments of New England States Committee on Electricity (January 29, 2018). See also Comments and Limited Protest of the New England Power Generators Association (January 29, 2018). As part of the CASPR design, ISO New England phased out the Renewable Technology Resource MOPR exemption, which was a source of protest from stakeholders. That is not an issue in PJM as there currently exists no blanket MOPR exemption for new renewables.

²⁹ *ISO New England, Inc.*, 162 FERC ¶ 61,205 (March 9, 2018) (“CASPR Order”).

³⁰ Monitoring Analytics, *State of the Market Report for PJM, 2020*, Table 12-4.

emissions) into the market so that all resources can compete to reduce carbon emissions and maintain grid reliability at the lowest cost to consumers.

B. Utilizing Regional Markets to Achieve New Jersey’s Carbon Emission Reduction Goals

In sections 2c and 4 of the Request, the Board seeks input on other mechanisms to facilitate the achievement of New Jersey’s carbon emission reduction goals, including an energy market carbon dispatch price, a Clean Energy Standard (“CES”), and a Clean Energy Market.³¹ As has been demonstrated above, we firmly believe that any program to achieve New Jersey’s goals that is not regional and market-based in nature will likely fail to achieve those goals and impose unnecessarily high costs and financial risk on consumers. Below, we discuss alternative competitive processes that could facilitate the State’s long-term clean energy objectives, including a regional price on carbon and CES.

Any program designed to abate carbon dioxide or other harmful greenhouse gas (“GHG”) emissions should be transparent, competitive, and market-based such that all emitters have the opportunity to compete against one another to yield the most cost-effective reductions in carbon dioxide and/or other GHG emissions. Ideally, such an approach would be economy-wide so that one industry is not unduly responsible for more than its fair share of emissions reductions. An economy-wide approach will select—based on most emissions abated per dollar spent—the most efficient carbon reductions across all emitting sectors of the economy.

Part and parcel to this, any ton of carbon dioxide or other GHG emissions avoided is a ton avoided, regardless of fuel source or technology type. If the goal of the public policy is to cost-effectively reduce harmful emissions in an effort to seriously address climate change, any resource that can displace a resource with a higher emissions profile should have the incentive to do so. Any program designed around an “all-or-nothing” approach to valuing emissions, where only zero emissions resources are eligible to participate, will likely increase program costs and ultimately frustrate its accomplishment.³² Simply because a resource is not a zero emissions resource does not mean it should be barred from participation in carbon abatement programs. Over time, a properly designed program will weed out older, less efficient, dirtier resources in favor of newer, more efficient, cleaner options. It is critical that any mechanism adopted by New Jersey to reduce carbon dioxide and other GHG emissions recognize this fact and allow all resources to compete.

EPSA considers the above to represent a “first best” solution or optimal path forward. Given this, any approach that does not meet the criteria above would be a sub-optimal approach that may be a second or one-hundredth best solution. Importantly, EPSA has not reached consensus on an approach beyond an economy-wide price on carbon. Therefore, the thoughts below do not reflect consensus among EPSA membership with respect to preference for any sub-optimal approach over another. While there are undoubtedly political realities that may create roadblocks to the achievement of the optimal path, EPSA firmly believes the Board should pursue options that meet the criteria outlined above. However, in the event the Board considers other paths, EPSA submits that any proposal be viewed through the lens of the principles listed above.

³¹ Request at p. 4.

³² See *supra* note 5.

C. Carbon Pricing in PJM

In section 2c of the Request, the Board asks whether New Jersey should consider adopting an energy market carbon dispatch price. As discussed above, PJM and other organized markets have been successful in driving efficiencies through lower wholesale power costs to consumers, investment in new power generation technologies and resources, retirement of older technologies, and decreased carbon dioxide and other GHG emissions from the power sector. PJM reevaluates system needs on a minute-by-minute basis to ensure power demand is consistently and reliably met with the most cost-effective mix of generation, considering numerous constraints. PJM markets could be a vehicle to facilitate and achieve New Jersey's carbon emission reduction goals by implementing a price on carbon that would be administered through the organized market.

Three of the seven organized markets in the U.S. have either implemented some form of carbon price³³ or have undertaken extensive and inclusive stakeholder processes to understand the technical complexity and effects of a carbon price.³⁴ Such a price could be reflected in the minute-by-minute dispatch and optimization of generation resources such that emissions reductions occur in a more efficient and dynamic manner than a simple mandate for zero emission resources. This approach would align with one of EPSA's core principles: competitive wholesale power markets are the most effective tool to achieve policy objectives. If implemented correctly, such a program could eliminate technology-specific subsidies in favor of pricing environmental attributes in the market and allowing competition to drive private investment. Much of the framework for implementation exists already and could likely be implemented in a timely manner.

Another benefit of such an approach is that it would allow PJM to incorporate both environmental and reliability requirements in order to obtain the lowest cost set of resources and technologies that jointly produce the greatest emission abatement while maintaining reliability. Reliability—the ability provide power when and where it is needed—is critical and will only become more of a focal point as the grid integrates more and more intermittent resources. By establishing a program—such as a price on carbon in PJM—that jointly considers *all* benefits that a resource has when it comes to reliability, emissions reduction, and cost, the Board could achieve the most efficient carbon abatement while considering all the constraints in the organized markets.

In 2019, a diverse group of stakeholders, which included EPSA members, asked PJM to initiate a stakeholder process around carbon pricing.³⁵ The stakeholder process led to robust discussion on topics including, but not limited to, jurisdictional issues, leakage mitigation mechanisms, border adjustments, and sub-regional approaches to pricing carbon. Stakeholders also had the opportunity to hear from a number of experts in the field. As part of the analysis, PJM produced a series of technical analyses evaluating the technical challenges associated with a

³³ See California Independent System Operator Corporation, <http://www.caiso.com/Documents/Oct29-2018-OrderAcceptingTariffRevisions-EIMBidAdder-ER18-2341.pdf>

³⁴ See New York Independent System Operator, Inc., Carbon Pricing: <https://www.nyiso.com/carbonpricing>; PJM Interconnection, Carbon Pricing Senior Task Force: <https://www.pjm.com/committees-and-groups/task-forces/cpstf.aspx>

³⁵ See Issue Charge: <https://www.pjm.com/-/media/committees-groups/task-forces/cpstf/postings/issue-charge.ashx?la=en>

carbon price at the regional and sub-regional level. Importantly, PJM made clear throughout that PJM would not be the entity imposing the carbon price; rather, the states would be responsible for imposing a carbon price and PJM would simply be the facilitator of the state policy.

While there are many benefits to such an approach, without complementary action in the other emitting sectors undue burden would be placed on the power sector to reduce emissions. Emissions in the power sector are down nearly 30 percent since 2005 while emissions in the transportation sector are down only 4 percent over that same timeframe.³⁶ In other words, much of the low-hanging fruit has already been plucked in the power sector. Needlessly raising the cost of electrification will also jeopardize future efforts to electrify other carbon-emitting sectors. Further, much like a price on carbon, we understand the political challenges associated with adopting a region wide price on carbon. However, given the recent petition by EPSA and others for FERC to hold a technical conference on carbon pricing in the organized markets, there is growing interest across the industry to explore regional carbon pricing as a viable option.³⁷

Likewise, if the carbon price incorporated within an RTO exists alongside state procurement mandates, it is not clear that the carbon price policy would “bind” to produce significant carbon emissions reductions. That is because the states’ mandates will enter their preferred resources into the market regardless of the newly formed energy price signal, thereby dampening the competitive, technology-neutral effect of the latter. Any RTO carbon price should thus be designed to displace duplicative state laws—or risk that a carbon price would merely be a potentially costly redundancy. Similarly, any RTO carbon price should be sufficient to incent the type of investment needed to meet carbon emission reduction goals. Just last year, New Jersey adopted regulations to rejoin the RGGI. Historically, RGGI allowance clearing prices have been very low, with the most recent clearing prices less than \$6 per allowance.³⁸ Such a low level may not be sufficient to incent the types of investments needed to meet state goals. EPSA encourages New Jersey to work with other RGGI states to bring carbon emission allowance levels into closer alignment with the states’ carbon emission reduction goals.

D. Clean Energy Standard

In section 4 of the request, the Board asks for input on mechanisms like a CES to achieve New Jersey’s carbon emission reduction goals. Numerous states across the country, including New Jersey, have implemented renewable portfolio standards (“RPS”) or other mandates that require retail electricity providers to procure a pre-defined percentage of their power from renewable or other defined resource types. In 2019, federal legislation was introduced to create a national version of these RPS programs, or CES.³⁹ At a high level, a CES would allow resources with clean energy attributes to earn a credit for the amount of energy produced and require retail electricity providers to procure increasing amounts of their electricity from clean energy sources.

³⁶ Energy Information Administration, State Carbon Dioxide Emissions Data (data for 2017), available at: <https://www.eia.gov/environment/emissions/state/>

³⁷ See Carbon Price Petition.

³⁸ RGGI, Allowance Prices and Volumes, <https://www.rggi.org/auctions/auction-results/prices-volumes> (accessed May 20, 2020).

³⁹ Clean Energy Standard Act of 2019, S. 1359, 116th Cong. (2019).

A nationwide or regional marketplace for clean energy resources is more sensible than a state-by-state approach. A CES would need to be designed such that buyers and sellers of these clean energy attributes could come together outside of a traditional monopoly utility/captive customer framework to promote the least-cost procurement of clean energy. Such a framework should allow competition on as geographically large a scale as possible; either national or some other regional basis. A CES should rely on an auction-based process to promote a robust trade in compliance credits.⁴⁰

A CES will also need to avoid arbitrarily picking and choosing which resources are eligible to participate, which would potentially foreclose the opportunity for a more dynamic approach that allows all resources, regardless of fuel or technology type, to participate to reduce emissions and sends signals for innovation in technology, efficiency and operation. New Jersey should consider which resources should qualify to be awarded credits under a CES. A less carbon-intensive fossil generator should be recognized as lower total emissions and non-emitting resources should only be recognized for the actual carbon emissions displaced. This is consistent with the design proposed in draft form by the U.S. House Energy and Commerce Committee under the leadership of Rep. Frank Pallone.⁴¹

One other problem with a CES is that a system where clean energy attribute credits are awarded for each megawatt hour of production does not actually reflect the *carbon emissions reduction* value of those clean energy resources. A clean energy resource producing at a time or season dominated by emissions-free resources may produce no carbon emissions reductions whatsoever, even while a resource that displaces the output of a coal plant would reduce emissions substantially. Each of these resources would qualify for a number of clean energy attribute credits scaled to their energy production—not to their carbon savings. The simplest versions of CES thus assume that carbon reductions will be correlated with clean energy resources' energy production—an assumption that will not always hold, especially as clean energy resources' place in the U.S. energy economy rises. To the extent New Jersey considers a CES, the CES should be dynamic, such that the carbon abatement contributions of all resources to emissions reductions are measured relative to the actual carbon emissions displaced.⁴²

Finally, as with a price on carbon limited to the organized markets, a CES alone would place undue pressure on the power sector to reduce emissions without requiring emission abatement in the other emitting sectors such as transportation. While a price on carbon can coordinate carbon emission reduction among all carbon-emitting sectors, a CES is less able to dynamically coordinate carbon emission reductions among sectors.

⁴⁰ For details on what an auction might look like, see: Kathleen Spees et. al, “How States, Cities, and Customers Can Harness Competitive Markets to Meet Ambitious Carbon Goals,” Sept. 2019.

https://brattlefiles.blob.core.windows.net/files/17063_how_states_cities_and_customers_can_harness_competitive_markets_to_meet_ambitious_carbon_goals_-_through_a_forward_market_for_clean_energy_attributes.pdf

⁴¹ U.S. House Energy and Commerce Committee, “The CLEAN Future Act: Fact Sheet” (Jan. 2020), pp. 4-5.

<https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/CLEAN%20Future%20Act%20Memo.pdf>

⁴² For a detailed description of such a dynamic market for CES, see Spees, pp. 34-38.

E. Additional Tools to Meet Carbon emission reduction goals

As the Board moves forward, it is important to carefully consider all the options that exist to meet New Jersey's goals, along with additional tools that will be needed to reliably operate a power grid with significant levels of intermittent renewable resources. Numerous empirical analyses have shown the benefits of regional, market-based approaches to meet carbon emission reduction goals relative to highly fragmented state-by-state approaches or resource-specific goals. Similar studies have also demonstrated that a 100 percent renewable power system is extremely costly and some level of firm, flexible, dispatchable capacity will be necessary to reliably operate the system in an affordable manner.⁴³ Further, when adding additional intermittent renewables, it is possible to overbuild certain resources, leading to curtailment and wasted energy during periods when net load is low.⁴⁴ However, these analyses all consistently reveal two common themes: first, regional, market-based options to achieving carbon reduction goals can more effectively meet those goals at a lower cost to consumers than one-off, state-by-state approaches; and second, organized markets will need to incentivize and compensate resources for flexibility needed to reliably operate the system in a highly intermittent future.⁴⁵

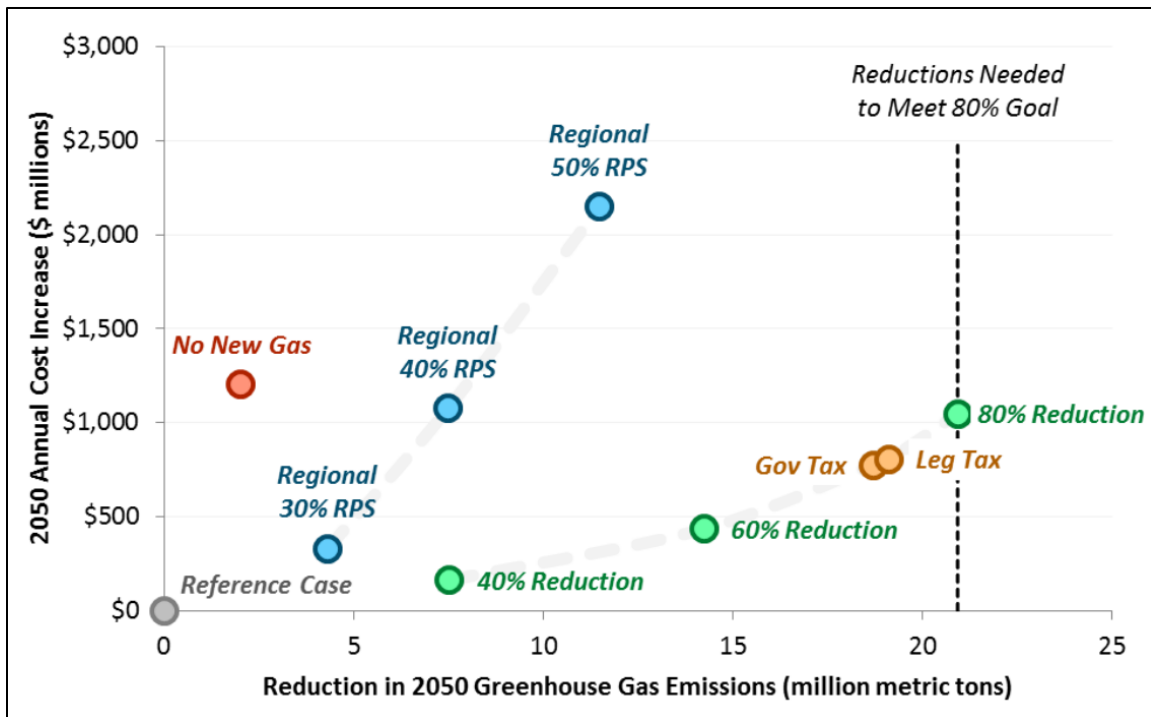
In a December 2017 analysis, Energy and Environmental Economics ("E3") conducted a study to evaluate the implications of a variety of different policies in both their effectiveness at reducing carbon emissions within the electric sector as well as their cost impacts for electric ratepayers in the Pacific northwest.⁴⁶ The analysis evaluated a range of possible policy scenarios to meet carbon reduction goals, including: aggressive RPS goals, a cap on carbon emissions, a price on carbon emissions, and even a scenario where policy makers prohibited the construction of new gas generation, forcing all future energy and capacity needs to be met by GHG-free resources. The results, while fascinating, are rather intuitive and are shown in the figure below.

⁴³ Energy and Environmental Economics, *Long-Run Resource Adequacy under Deep Decarbonization Pathways for California*, (June 2019) ("E3 California Resource Adequacy Analysis"). Available at: https://www.ethree.com/wp-content/uploads/2019/06/E3_Long_Run_Resource_Adequacy_CA_Deep-Decarbonization_Final.pdf.

⁴⁴ Energy and Environmental Economics, *Pacific Northwest Low Carbon Scenario Analysis*, (December 2017) ("E3 Pacific NW GHG Analysis"). Available at: http://www.publicgeneratingpool.com/wp-content/uploads/2017/12/E3_PGP_GHGReductionStudy_2017-12-15_FINAL.pdf

⁴⁵ Electric Power Research Institute, *Ancillary Services in the United States* (June 2019).

⁴⁶ E3 Pacific NW GHG Analysis at iii.



Source: Energy & Environmental Economics

As demonstrated by the chart above, regional, market-based approaches to emissions reductions (e.g., 40, 60, and 80% Reduction and Gov Tax/Leg Tax scenarios) produce greater emissions reductions at a lower cost to consumers than more restrictive approaches (e.g., 30, 40, 50% RPS scenarios). The most expensive and least effective policy to achieve emissions reduction goals was the No New Gas scenario, largely because the costs of technologies capable of providing firm, dispatchable capacity are extremely high relative to the costs of natural gas generation. A similar study, showing the relative efficiencies and benefits of a range of policy mechanisms across PJM, could be of value to policymakers and stakeholders. Such policies could compare aggressive state-by-state RPS programs and other carveouts relative to more regional approaches such as a clean energy standard or price on carbon.

As intermittent resources become more prevalent on the system, it is critical that grid operators have the resources necessary to maintain reliability, resources that can quickly respond to system needs. In a similar study conducted by the E3 in California, authors found that the least-cost electricity portfolio to meet the state's 2050 economy-wide GHG goals includes 17-35 GW of natural gas generation capacity for reliability.⁴⁷ EPSC also believes that additional work to identify, evaluate, and implement new market designs or products to better reflect the needed operational flexibility will be critical to reliably integrate increasing amounts of intermittent resources.

III. Conclusion

We recognize the tension that currently exists between state policies and federal power markets. While there are diverse and passionate viewpoints on these challenging issues, now is

⁴⁷ E3 California Resource Adequacy Analysis at p. 58.

the time to work collaboratively to find workable solutions that lead to sustainable environmental progress. Competitive power markets should be recognized as the best mechanism to achieve state clean energy goals—not an inhibitor to them. We hope our comments can help facilitate much needed discussions and help New Jersey find the best outcomes for its economy, its residents, and the environment.

Respectfully submitted,

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