



May 20, 2020

VIA ELECTRONIC FILING

Hon. Joseph L. Fiordaliso
President
New Jersey Board of Public Utilities
44 S Clinton Avenue
Trenton, New Jersey 08625

Re: Docket No. EO20030203 In the Matter of BPU Investigation of Resource Adequacy Alternatives

Dear President Fiordaliso,

Advanced Energy Economy (“AEE”), the American Wind Energy Association (“AWEA”), the Mid-Atlantic Renewable Energy Coalition (“MAREC”) and the Solar Energy Industries Association (“SEIA”), and their joint and respective member companies, submit for filing comments in response to the March 27 Order Initiating BPU Investigation of Resource Adequacy Alternatives.

Respectfully submitted,

Jeffery S. Dennis,
Managing Director and General Counsel
Catilin Marquis, Director
Prusha Hasan, Policy Associate
Advanced Energy Economy
1000 Vermont Ave. NW, Suite 300
Washington, D.C. 20005
202.380.1950
jdennis@aee.net
cmarquis@aee.net
phasan@aee.net

Gabe Tabak, Counsel
American Wind Energy Association
1501 M St. NW, 9th Fl.
Washington, DC 20007
gtabak@awea.org
(202) 383-2500

(cont'd)



(cont'd)

Bruce Burcat, Executive Director
Mid-Atlantic Renewable Energy Coalition
PO Box 385
Camden, DE 19934
(302) 331-4639
bburcat@marec.us

Katherine Gensler,
Vice President of Regulatory Affairs
Gizelle Wray,
Manager of Regulatory Affairs and Counsel
David Gahl,
Senior Director of State Affairs, Northeast
Solar Energy Industries Association
1425 K St NW Ste. 1000
Washington, DC 20005
202-682-0556
kgensler@seia.org
gwrap@seia.org
dgahl@seia.org

**Comments in Response to
State of New Jersey Board of Public Utilities
Investigation of Resource Adequacy Alternatives
(Docket No. EO 20030203)**

**Advanced Energy Economy
American Wind Energy Association
Mid-Atlantic Renewable Energy Coalition
Solar Energy Industries Association**

Advanced Energy Economy (“AEE”), the American Wind Energy Association (“AWEA”), the Mid-Atlantic Renewable Energy Coalition (“MAREC”) and the Solar Energy Industries Association (“SEIA”) thank the State of New Jersey Board of Public Utilities (“BPU” or “Board”) for its foresight and initiative in opening the above-captioned proceeding to investigate whether changes are needed to align PJM Interconnection’s (“PJM”) Reliability Pricing Model (also referred to as PJM’s capacity market) with the state’s energy and environmental policies. We appreciate the opportunity to provide responses to the important questions raised in the Commission’s March 27 *Order Initiating Proceeding: Investigation of Resource Adequacy Alternatives* (“Order Initiating Proceeding”) in the instant case. Our organizations collectively represent and work with a range of companies across the advanced energy industry, including utility-scale and small-scale wind and solar, other renewable energy technologies, battery energy storage, demand response, and energy efficiency. Given the complexity of the issues at hand, our comments focus on guiding principles that we recommend should be considered during this proceeding.

These comments are submitted on behalf of AEE;¹ AWEA;² MAREC;³ and SEIA.⁴

These organizations are referred to collectively in these comments as the “Advanced Energy Companies,” “we,” or “our.”

I. Executive Summary

The four questions posed by the Board in this proceeding can be reduced to a single foundational question: can New Jersey achieve its long-term clean energy and environmental objectives under the current resource adequacy procurement paradigm in the PJM Interconnection, L.L.C. (“PJM”) region? It is our view that BPU is correct to question the impacts on New Jersey’s clean energy policies of PJM’s current Reliability Pricing Model (“RPM”), especially now that the Federal Energy Regulatory Commission (“FERC”) has expanded the scope of the Minimum Offer Price Rule (“MOPR”) in RPM.⁵ The expanded MOPR imposed by FERC could potentially disrupt the achievement of a number of New Jersey’s legally binding clean energy regulations that seek to shape electric generation in the

¹ AEE is a national business association representing leaders in the advanced energy industry. AEE supports a broad portfolio of technologies, products, and services that enhance U.S. competitiveness and economic growth through an efficient, high-performing energy system that is clean, secure, and affordable.

² AWEA is a national trade association representing a broad range of entities with a common interest in encouraging the expansion and facilitation of wind energy resources in the United States.

³ MAREC is a nonprofit organization that was formed to help advance the opportunities for renewable energy development primarily in the region where the Regional Transmission Organization, PJM Interconnection, operates. MAREC’s footprint includes New Jersey and nine other jurisdictions in the region. MAREC members include utility scale wind (including offshore wind) and solar developers, wind turbine manufacturers and non-profit organizations dedicated to the growth of renewable energy technologies.

⁴ SEIA is the national trade association for the U.S. solar energy industry. SEIA represents all organizations that promote, manufacture, install and support the development of solar energy. SEIA works with its 1,000 member companies to build jobs and diversity, champion the use of cost-competitive solar in America, remove market barriers and educate the public on the benefits of solar energy. The comments contained in this filing do not necessarily reflect the views of any member with respect to any issue.

⁵ *Calpine Corp. et al. v. PJM Interconnection, L.L.C.*, 169 FERC ¶ 61,239 (2019) (“December 2019 Order”), *reh’g denied*, 171 FERC ¶ 61,034 (2020) (“Order on Rehearing and Clarification”).

state. However, the BPU will have several important considerations as they assess a path forward regarding resource adequacy.

New Jersey has been a leader in clean energy development. In the last two years, New Jersey passed significant legislation and enacted Executive Order No. 28 which led to the New Energy Master Plan: Pathway to 2050 (“EMP”) establishing New Jersey’s commitment to 100 percent carbon neutral electricity generation by 2050.⁶ Though the December 2019 Order could hinder New Jersey’s clean energy goals in the upcoming auctions, there is evidence that PJM is willing to constructively engage with stakeholders, including states, to accurately reflect the real costs of advanced energy technologies in the market.

For instance, in PJM’s March Compliance Filing in response to FERC’s December 2019 Order, PJM proposed implementation measures that would provide greater accuracy regarding the lifespan and costs of clean energy resources.⁷ PJM proposed to appropriately implement FERC’s directive that resources receiving, or eligible to receive, state subsidies can still participate in the capacity market based on their actual costs. PJM’s Compliance Filing also appropriately proposed that revenues associated with Renewable Energy Certificates (“RECs”) that are part of purely voluntary transactions, and that do not involve any state-sponsored or state-mandated programs, would not be considered state subsidies. The Board should continue pushing for further improvements to implementation of the expanded MOPR that will allow other resources important to New Jersey, such as offshore wind, to participate in PJM’s base residual auction (“BRA”) in the future.

⁶ See 2019 New Jersey Energy Plan: Pathway to 2050 (EMP) (January 27, 2020). Available at: https://nj.gov/emp/docs/pdf/2020_NJBPU_EMP.pdf

⁷ Compliance Filing Concerning the Minimum Offer Price Rule, Request for Waiver of RPM Auction Deadlines, and Request For an Extended Comment Period of at Least 35 Days, Docket No. EL16-49-000, et al., (March 18, 2020) (“PJM Compliance Filing”).

Even with PJM's reasonable implementation of FERC's directive, however, Advanced Energy Companies recognize that FERC's expanded MOPR policy will continue to result in unavoidable conflicts with state policy, especially as states like New Jersey put a focus on building a future offshore wind industry and invest in more distributed energy options. Because of that inevitable continued friction, the Board's desire to explore alternatives is understandable and appropriate. As a first step, the Board should encourage and collaborate in discussions with PJM and PJM stakeholders, including other states and advanced energy companies, to identify alternative approaches to resource adequacy that will align wholesale market outcomes and state policy requirements.

At the same time, given the considerations noted above, a measured but proactive exploration of steps within the state's control is prudent to ensure achievement of state policies. Clean energy objectives must take precedence, and if FERC and/or PJM and its stakeholders cannot make reforms that better align with the state's objectives, then New Jersey should consider all of the available options to ensure its own objectives are met.

In addition to answering the four questions the Board has posed, the Advanced Energy Companies suggest several overall considerations for any Board action.

First, consider the guiding principles discussed in Section II below, which reflect the unique needs of New Jersey as well as the experience of advanced energy companies across the country with interactions of state policies and wholesale markets. The guiding principles are intended to apply under any future resource adequacy mechanism adopted by the state and PJM.

Second, a Fixed Resource Requirement (“FRR”) in New Jersey would allow for exit from the RPM but could require New Jersey to procure most of its capacity needs from within its utilities’ service territories, given transmission constraints and New Jersey’s geographic location. New Jersey should consider the consistency of this approach with cost principles. Shrinking the boundaries within which the state can procure carbon-free capacity to meet its policy goals could result in cost increases, or lack of available resources, when compared with procuring over a broader area. These FRR costs must be compared with the costs of state-selected resources not clearing the RPM, which would require New Jersey utilities to purchase duplicative capacity from other sources. Additionally, if transmission constraints prevent New Jersey from cost-effectively utilizing the FRR, the state should consider other means of attaining its desired resource mix, as well as alleviating those constraints.

Third, potential to support clean energy goals must be balanced with ability to share regional benefits (including clean energy diversity). FRR comes with risks that must be carefully weighed and, as noted below, New Jersey should take time to consider these risks. If New Jersey can attain its own energy goals and resolve transmission constraints, the state will be in a position to procure low-cost energy and export it to other states – potentially expanding the level of emissions reduction. On the other hand, if numerous states pursue individual FRR plans, the remaining PJM capacity market and other states could end up preserving higher-emitting resources, working against New Jersey’s goals and increasing pollution that eventually arrives in the state given its geographic location. The Board should carefully examine whether use of the FRR would inhibit New Jersey’s ability to support both its own and regional greenhouse gas reductions.

Fourth, carbon pricing is a valuable option for New Jersey. Carbon pricing could allow PJM participants the flexibility to incorporate environmental externalities into their market prices, thus sending appropriate price signals to incent lower-emissions resources. PJM is currently exploring how state-established carbon prices can be effectively integrated into its markets, and New Jersey should actively support that work as well as state-specific carbon policies.

Fifth, an expansion to New Jersey’s Basic Generation Service could enable the state to utilize long-term bilateral contracts. The Advanced Energy Companies encourage the BPU to explore expansion of Basic Generation Service in New Jersey, particularly if that program could offer price certainty and improve financing prospects for generators while returning lower costs to ratepayers.

Sixth, explore a variety of alternative mechanisms to lessen the impacts of the expanded MOPR. The Board has a range of options at its disposal, including: rejoining and expanding upon the Regional Greenhouse Gas Initiative (“RGGI”), which the state has already begun to do; working more directly in PJM’s Carbon Pricing Senior Task Force (as noted above); collaborating with advanced energy interests, other PJM states, and PJM to drive discussions and push for specific milestones and target dates; and accelerating independent action on state policy objectives such as energy storage, clean distributed energy resources, and other matters that are directly within New Jersey’s control.

Ultimately, the Advanced Energy Companies strongly support New Jersey’s vision for a de-carbonized, competitive, and reliable electric grid. Currently, we caution the BPU to carefully consider whether the FRR is the right means for achieving these objectives at this time. Rather, we recommend that New Jersey partner with other states with a similar vision to drive reforms

within the PJM market and within PJM states that will facilitate a more cost-effective and reliable transition to clean energy across the entire PJM footprint.

We also encourage New Jersey to focus on actions that are entirely within its control to promote clean energy development and aggressive decarbonization, including many of the priorities already set out in the Clean Energy Act and Energy Master Plan. For example, New Jersey can continue to put in place strong policies that support local clean energy resources that are less impacted by FERC's MOPR decision and that reduce reliance on wholesale purchases (such as distributed energy resources, demand-side management options, improved use of advanced metering infrastructure, etc.). New Jersey can also continue to aggressively implement environmental regulations to reduce pollution from fossil fuel energy resources within the state.

We encourage the Board to evaluate these recommendations and take advantage of all reasonable options.

II. New Jersey's Clean Energy Policies Are at Odds with FERC's MOPR Directive and Certain PJM Market Rules

We agree with the Board's assessment that "the December 19 Order expanded MOPR potentially disrupts a number of New Jersey's efforts to shape its electric generation resource base."⁸ New Jersey's recent history shows its focus on deploying cleaner resources under a robust competitive framework.

In 2013, New Jersey deregulated its electricity market by amending its Electric Discount and Energy Competition Act of 1999 ("EDECA").⁹ Since EDECA, New Jersey enacted the Clean Energy Act, A-3723,¹⁰ a bill that substantially raised the Class I renewable energy

⁸ Order Initiating Proceeding at 2.

⁹ 2013 New Jersey Revised Statutes Title 48 Public Utilities N.J.S.A.48:3-49 to -87.12. *Available at:* <https://law.justia.com/codes/new-jersey/2013/title-48/>

¹⁰ Public Laws of 2018, Chapter 17. *Available at:* https://www.njleg.state.nj.us/2018/Bills/PL18/17_.PDF

requirements in the State to 35 percent by 2025 to 50 percent by 2030. This Act made New Jersey one of the leading states for renewable energy development. On the same day, Governor Murphy issued Executive Order No. 28 (“EO”), which directed state agencies to develop an updated Energy Master Plan (“EMP”).¹¹ The EO specifically required that the EMP provide a comprehensive blueprint for the total conversion of the State’s energy production profile to 100 percent clean energy sources on or before January 1, 2050.¹²

The stated goal of the EO was to halt New Jersey’s reliance on its fossil fuel generating units and to rebuild New Jersey’s reputation as a leader in the development of clean energy resources.¹³ The EMP, which was prepared by a number of executive branch agencies, including the Board, was unveiled by Governor Murphy in January 2020.¹⁴ Among other important objectives, the plan identified the least-cost electricity scenario for the State to meet its 100 percent clean energy goal in the following manner:

To accommodate demand growth and shifting load profiles, the Least Cost scenario includes a significant growth in renewable electricity generation technologies. In-state renewables, including offshore wind, utility-scale solar PV, and rooftop solar PV, dominate New Jersey’s generation mix in 2050, complemented by the continued operation of existing nuclear resources and high-quality, low-cost wind imported from other states within the PJM electricity market footprint.¹⁵

New Jersey has embraced the use of energy markets for the purpose of acquiring electricity generation service for end-users in the state, through EDECA and the participation of the state’s electric power suppliers in the PJM wholesale energy market. New Jersey has also incorporated a market structure for its legally mandated targets for renewable energy, whether the resources

¹¹ Governor Phil Murphy Executive Order No. 28 to Advance New Jersey’s Clean Energy Economy. *Available at:* <https://nj.gov/infobank/eo/056murphy/pdf/EO-28.pdf>

¹² EO at 2.

¹³ *Id.* at 1.

¹⁴ 2019 New Jersey Energy Master Plan: Pathway to 2050. *Available at:* https://nj.gov/emp/docs/pdf/2020_NJBPU_EMP.pdf

¹⁵ EMP at 54.

are provided by an electric power supplier in an open market setting, or to retail customers through a service (such as BGS) procured through a highly competitive auction process.

However, the December 2019 MOPR Order directly conflicts with the stated policy goals of New Jersey by potentially raising the cost of renewable resources and nuclear energy that receive state financial support, such as RECs, Zero Emission Credits (“ZECs”) and offshore wind renewable energy credits (“ORECs”). This conflict would clearly occur if the December 2019 Order raises the cost of the resources to a point where they cannot clear in PJM’s base residual auction (“BRA”).¹⁶ If these resources cannot clear in the RPM, New Jersey utilities will have to procure duplicative capacity through the auction, resulting in customers overpaying for capacity.

Though the December 2019 Order stands at odds with New Jersey’s policies, it is important to understand that PJM has worked constructively within FERC’s framework to ensure that capacity market participants can submit bids reflective of their actual costs.

PJM’s Stakeholder Process Shows a Constructive Approach To the December 2019 Order

Within the confines of FERC’s directives in the December 2019 Order, PJM has engaged productively with the Advanced Energy Companies and other stakeholders to ensure that capacity market offers reflect real costs. PJM’s proposal contains a robust unit-specific review process, which will permit energy projects to justify a capacity clearing price based on true project costs. The proposal also allows for lower default floor prices for renewable generation

¹⁶ The BRA is the auction that determines the capacity value of a resource. Some renewable resources rely on a level of capacity value to be profitable. If these resources are mitigated as a result of the MOPR Order and fail to clear the BRA, then the cost of these resources will rise. The perception that these resources may not clear future BRAs could also present barriers to the development of these resources due to the prospective higher costs caused by FERC’s actions.

sources based upon their actual costs and project lifetimes. Based on the progress that PJM has shown in incorporating input from states and the Advanced Energy Companies and their members in developing this approach, the BPU should continue this course of advocacy. The BPU should remain focused on further improvements that would allow other resources critical to New Jersey's clean energy plan, like offshore wind, to receive capacity accreditation when they come online.

Considering PJM's good-faith efforts on MOPR compliance, the Board should also continue work with other stakeholders in the region to identify and remove market barriers to clean energy deployment in PJM *not* related to the MOPR. New Jersey and other states with strong clean energy goals can wield tremendous leverage if they acted in coordination. Clean energy states could further utilize that leverage to push for changes that would enable broader decarbonization across PJM's footprint in a cost-effective manner. The BPU can and should continue to work with other states to improve transmission planning and cost allocation, advance energy storage and hybrid resources, and ensure that all resources can be compensated for all energy, capacity, and ancillary services products they can provide

In summary, the Board should proceed with the goal of prioritizing de-carbonization in the most cost-effective, reliable manner possible, by harnessing the benefits of joining a regional market to find the best position for New Jersey to meet these objectives. At the same time, given the tensions noted above, a measured but proactive exploration of steps within the state's control is prudent to ensure achievement of state policies. As the Board explores these options, the Advanced Energy Companies have developed a set of principles to guide our responses to this investigation and assist the Board in its decision-making process for ensuring the state meets its clean energy goals.

III. Advanced Energy Companies' Principles

New Jersey is not the only state evaluating the relationship between state clean energy policies and wholesale markets. States such as, Connecticut,¹⁷ Maryland,¹⁸ Massachusetts,¹⁹ Illinois,²⁰ and New York have launched– or are considering– similar investigations into alternatives to existing capacity markets to meet their resource adequacy needs.

¹⁷ In a January 2020 letter, Commissioner Katie Dykes, of the Connecticut Department of Energy and Environmental Protection (“DEEP”), wrote to the President and CEO of ISO New England, Gordon van Welie, indicating that DEEP will investigate “the potential of options for extricating the state from the compulsory forward capacity auctions.” Available at: <http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/475c9a0fa3aca8e4852584f800739321/%24FILE/IRP%20Request%20to%20ISO.pdf> DEEP has since held a public stakeholder meeting to assess the energy and capacity requirements of customers for the next three, five, and ten years to meet Connecticut’s long-term clean energy goals. Available at: [http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/da847543db14d52a852584e9005b2f15/\\$FILE/FINAL%20Notice%20IRP%20Technical%20Meeting-Markets%20and%20Deregulation.pdf](http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/da847543db14d52a852584e9005b2f15/$FILE/FINAL%20Notice%20IRP%20Technical%20Meeting-Markets%20and%20Deregulation.pdf) ISO New England replied to the Department’s letter on January 22, 2020. Available at: https://www.iso-ne.com/static-assets/documents/2020/01/ct_deep_tech_conf_markets_jan_22_2020_isocomments.pdf

¹⁸ The Maryland Public Service Commission (“MDPSC”) has voiced strong opposition to FERC’s Minimum Offer Price Rule December Order. After the December Order, MDPSC Chairman Jason Stanek, issued the following statement that “We [MDPSC] are deeply concerned that FERC’s decision to expand PJM’s Minimum Offer Price Rule to include new renewable resources, and others, will undermine Maryland’s aggressive clean energy goals in the years to come.” Commissioner Stanek went on to say that “The FERC decision could not only be detrimental to new renewable energy resources, such as Maryland’s offshore wind projects, but could also stifle innovation of new energy conservation and efficiency products, by effectively pricing them out of the market and making them prohibitively expensive to ratepayers. Available at: https://www.psc.state.md.us/wp-content/uploads/MD-PSC-statement-on-FERC-MOPR-decision_12202019.pdf

¹⁹ In March 2020, Massachusetts Attorney General Maura Healey issued a white paper recommending a range of changes to wholesale markets, including resource adequacy reforms. Available at: <https://www.mass.gov/news/ag-healey-makes-recommendations-to-modernize-wholesale-electricity-markets-following-clean>

²⁰ After FERC issued orders on the rehearing requests for the June 2018 and December 2019 MOPR Orders that largely upheld the findings and directives of those orders, the Illinois Commerce Commission filed an appeal with the Seventh Circuit Court of Appeals to review PJM’s capacity market rules. Multiple parties also filed challenges in the DC Circuit Court of Appeals. Additionally, environmental groups and legislators (known collectively as the Clean Jobs Coalition) are proposing a measure known as the Clean Energy Jobs Act (SB2132) that includes provisions that would direct Illinois to opt out of PJM and have the Illinois Power Agency (“IPA”) handle capacity requirements instead. The IPA is already responsible for electric supply procurement for ComEd, Ameren, and MidAmerican while retail electric suppliers and public power utilities are not required to participate in IPA’s procurement process. The bill will also bring 100% renewable energy by 2050 to Illinois.

In 2019, the Advanced Energy Companies participated in the New York Public Service Commission’s (“NYPSC”) inquiry of Resource Adequacy in 2019.²¹ In that proceeding, the Advanced Energy Companies introduced a set of principles to the NYPSC that are applicable to BPU’s inquiry. Though the Advanced Energy Companies support the use of similar principles in the BPU’s inquiry, it is important to note that New York and New Jersey are not identical, and the application of these principles will necessarily differ. For example, as a single-state electricity market, New York does not typically impact the prospects for developing clean energy in other states, and generally does not have to consider the impact of other states on its own goals. In New Jersey, the BPU’s actions will have a demonstrable impact on other states operating within PJM’s footprint. Similarly, the actions of other states could have detrimental impacts on New Jersey’s clean energy goals.

However, the following six principles proposed in New York’s resource adequacy inquiry are still applicable to BPU’s investigation. They can act as guideposts for the development and evaluation of any future market reforms that emerge out of this proceeding. We recommend that any BPU action, as well as any future market construct, be designed with the following aims:

1. **Ensure that New Jersey’s participation in wholesale markets is consistent with the attainment of its clean energy goals.** Under New Jersey Bills AB-3723/SB-2314,²² New Jersey will reach its 50% renewable target by 2030, making New Jersey’s target one of the highest in the nation. The bill also introduced other clean energy initiatives including:

²¹ Proceeding on Motion of the Commission to Consider Resource Adequacy Matters (Case 19-E-0530). <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=60430&MNO=19-E-0530> See appended Advanced Energy Companies’ comments in this proceeding for reference.

²² Public Laws of 2018, Chapter 17. Available at: https://www.njleg.state.nj.us/2018/Bills/PL18/17_.PDF

- **Community Solar:** allows utility customers access to solar projects that are located away from their residence but within their service territory.
- **Solar Transition:** increase the percentage of electricity that would be required from distributed solar projects and transitioned to a new incentive program.
- **Energy Efficiency:** requires individual utilities to implement energy efficiency measures to reduce electricity usage by 2 percent and natural gas usage by 0.75 percent.
- **Energy Storage:** mandates the goal of achieving 600 MW of energy storage by 2021 and 2,000 MW by 2030.
- **Offshore Wind:** establishes the goal of 3,500 MW of offshore wind by 2030 that will be supported by an OREC program.

As already mentioned, Governor Murphy also signed Executive Order No. 28,²³ requiring state agencies to update the Energy Master Plan to prepare for 100 percent clean energy by 2050.

These landmark actions have set forth ambitious but achievable goals for New Jersey's electricity sector and are legally binding requirements not subject to change without further legislative action. Thus, participation in PJM's capacity markets must not hinder New Jersey's pathway to achieving 100 percent clean electricity by 2050.

2. **Enable all resources to compete and participate for all services.** All resources should be able to compete on a technology-neutral basis to provide energy, resource adequacy, ancillary services, and any other benefits or services based on their price (inclusive of carbon emissions costs) and technical capabilities.

²³ See Executive Order No. 28 <https://nj.gov/infobank/eo/056murphy/pdf/EO-28.pdf>

3. **Aggressively pursue mechanisms for ensuring a fully decarbonized electric grid (not just in New Jersey, but across PJM) at the most competitive price possible.** Where possible and when consistent with the state’s interest, take advantage of the benefits of regional markets to lower costs for New Jersey. The BPU should also leverage efforts across states to lower emissions and achieve clean energy goals at the lowest possible cost. Finally, the BPU should avoid taking near-term actions that may address one smaller issue, but jeopardize broader goals.
4. **Support attaining the resource mix of the future.** The Board should work proactively with PJM and neighboring states to identify and plan for the suite of products and services that may be needed to maintain the reliability and resilience of the electricity system as the resource mix changes to reflect state policies (i.e., as it transitions to a system that has higher penetration of distributed energy resources, energy storage, and variable renewable resources, along with higher overall demand due to electrification of buildings and vehicles). Transitioning to the different resource mix of the future also means ensuring that the design of wholesale markets signals the need for and encourages the development of additional transmission infrastructure to deliver renewable resources to loads. Failure to address transmission needs will result in continued transmission bottlenecks, which pose a direct threat to cost-effective achievement of the state’s goals. Ultimately, wholesale markets & transmission policy should be capable of accommodating the shifts in New Jersey’s resource portfolio as the state moves toward 100 percent clean energy.

5. **Ensure that market constructs and state policies provide pathways for needed resources to be financed, without inefficiently prolonging the life of resources no longer needed.**

Any future market construct must improve opportunities for new entrants into the market and ensure that any major changes to existing resource adequacy mechanisms retain these opportunities. Achievement of the 2018 CEA and 2019 EMP goals will require significant new entry of advanced energy resources, including both resources specifically targeted by state policies (such as offshore wind), as well as resources not directly mandated by state policy yet nonetheless needed to cost-effectively and reliably achieve 100% clean electricity, including demand response, energy efficiency, and energy storage (beyond the goals and targets already in place under state law and policies). Such market entry will only happen if sufficient financial incentives are available within or outside the market. At the same time, it is important to avoid solutions that result in overcompensating resources that are no longer needed, or that will provide additional support for the construction of costly new carbon-emitting resources, since these resources will have a short useful life (and could pose risks including stranded investment and jeopardizing attainment of climate goals) given the mandate to decarbonize the power sector by 2040. Predictable market parameters are also important to ensure investor certainty for financing.

6. **Ensure that the roles of state regulators and the wholesale market operator (and, by extension, federal regulators) are clearly defined.** The Board and PJM should clarify and define the respective roles of state regulators and the wholesale market operator (and, logically, federal regulators overseeing the wholesale market) in ensuring resource adequacy and procuring resources. This is a crucial centerpiece for effectively bridging state policies

and the wholesale markets. Failure to clearly define these roles has caused or exacerbated conflict in other regions.

These six guiding principles inform our responses to the Board's questions below.

IV. Responses to BPU Questions

The Advanced Energy Companies offer the following responses to BPU's request for written comments.

1. Can New Jersey Utilize the Fixed Resource Requirement Alternative to Satisfy the State's Resource Adequacy Needs?

FRR would allow an exit strategy from PJM's capacity market. However, the FRR option would require New Jersey to procure most of its capacity requirement from within the state, given transmission constraints that limit New Jersey's ability to reliably import capacity from other regions. New Jersey should carefully assess if this will have significant implications for the cost and type of capacity New Jersey customers would be able to procure under any FRR construct, and compare these with the implications of state-supported resources (such as offshore wind) not clearing the RPM, and procuring duplicative capacity instead.

To Advanced Energy Companies' knowledge, no formal deliverability study has been performed to examine the implications of exercising the FRR option for one or more New Jersey utility service territories. The most detailed analysis to date, issued by the PJM Independent Market Monitor (IMM) on May 13, shows that use of the FRR would increase costs for New Jersey as a whole by between 29.6% and 0.3%.²⁴ This is obviously a significant range, and

²⁴http://www.monitoringanalytics.com/reports/Reports/2020/IMM_Potential_Impacts_of_the_Creation_of_New_Jersey_FRRS_20200513.pdf at Table 1.

others have criticized the IMM's FRR cost analysis;²⁵ the Board will need to carefully assess the underlying assumptions and associated costs for any subsequent assessment. However, it is unquestionably the case that New Jersey would be required to procure a significant proportion of its capacity requirement under the FRR option from within the state, due to import constraints that frequently bind.

PJM has routinely studied New Jersey's ability to import capacity from other regions under the BRA construct and has consistently found that utility service areas in New Jersey and the surrounding region are import constrained. As a result, PJM has included the entire state of New Jersey as part of a Locational Deliverability Area ("LDA") that is modeled separately from the rest of the PJM footprint in the BRA.

PJM identifies potential LDAs by comparing the import limit of the LDA (referred to as the Capacity Emergency Transfer Limit ("CETL")) to the amount of capacity that must be imported into that LDA to meet the reliability criterion (referred to as the Capacity Emergency Transfer Objective ("CETO")). The PJM tariff currently identifies 27 potential LDAs in the PJM footprint and always models the Mid-Atlantic Area Council ("MAAC"), Eastern Mid-Atlantic ("EMAAC") and Southwestern Mid-Atlantic (SWMAAC) LDAs separately, given deliverability issues.²⁶ The EMAAC LDA is nested within the MAAC LDA and contains four New Jersey service territories: Atlantic Electric ("AE"), Jersey Central Power & Light ("JCP&L"), Public Service Electric & Gas ("PSEG") and Rockland Electric ("RECO").²⁷ Additionally, PJM

²⁵ See e.g. Miles Farmer and Rob Gramlich, *Whether to FRRExit: Information States Need on the Costs and Benefits of Departing the PJM Capacity Construct* (May 2020), <https://gridprogress.files.wordpress.com/2020/05/whether-to-frrexit-paper7.pdf> (questioning many of the IMM's assumptions regarding its FRR cost analyses to date).

²⁶ See Schedule 10.1 of the PJM Reliability Assurance Agreement. Being modeled as a separate LDA does not necessarily result in a higher clearing price compared to the Rest of RTO or parent LDA.

²⁷ The Eastern MAAC contains the following utility service areas: PSE&G, JCP&L, PECO, AE, DPL, and RECO.

identified the PSEG Northern region (North of Linden substation) as a subzone LDA within the PSEG LDA. The PSEG North LDA is one of only three sub-zones identified in PJM footprint.²⁸

The import constraints into the LDAs that encompass New Jersey were binding in the 2021/22 BRA (the last BRA held) and as a result, the EMAAC and PSEG LDAs cleared at higher prices than the rest of PJM (i.e., capacity clearing prices for these LDAs included locational price adders relative to the immediate parent LDAs). For example, EMAAC cleared at \$165.73/MW-day, or \$25.73/MW-day relative to the rest of PJM in the 2021/22 BRA. The PSEG LDA cleared at \$204.29/MW-day, which is \$38.56/MW-day higher than EMAAC and \$64.29/MW-day higher than the rest of PJM.²⁹

Furthermore, import constraints that limit deliverability into PJM are expected to persist in the future. PJM issued parameters for the 2022/23 BRA³⁰ in 2019 and the reliability requirements, CETL, and minimum internal resource requirement for the MAAC, EMAAC, PSEG, and PSEG North zones, which are shown in the table below.

²⁸ The other two sub-zones are the Dominion South subzone and the Cleveland area of the ATSI zone.

²⁹ PJM Interconnection, 2021/2022 RPM Base Residual Auction Results, at 1, <https://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2021-2022/2021-2022-base-residual-auction-report.ashx>

³⁰ The 2022/23 BRA was scheduled for August 2019 but has not been held.

LDA Reliability Requirements and Capacity Import Limits for the 2022/2023 BRA			
Local Delivery Area	Reliability Requirement (Unforced Capacity in MW)	Capacity Emergency Transmission Limit (MW)	Minimum Internal Resource Requirement (% of obligation)
MAAC	65,149	2,252	100%
EMAAC	36,302	9,752	81.5%
PSEG	11,557	7,445	40.2%
PSEG North	6,131	3,777	NA*

Source: PJM Interconnection, 2022/2023 RPM Base Residual Auction Planning Period Parameters, <https://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2022-2023/2022-2023-rpm-bra-planning-parameters-report.ashx?la=en> . Note: An LDA’s Capacity Emergency Transmission Limit acts as a maximum limit on the quantity of capacity that can be imported into the LDA. *There is no separate obligation for PSEG North sub-zone as the PSEG North LDA is completely contained within the PSEG Zone.

The 2022/23 BRA parameters show that 81.5 percent of the EMAAC reliability requirement and 40.2 percent of the PSEG LDA reliability requirement must be met by internal resources, respectively. These requirements show that a significant proportion of New Jersey’s capacity requirement must be met from internal resources. New Jersey will need to carefully assess if, and to what degree, this may reduce competition from other suppliers and how that will affect prices for consumers in the state – as well as the potentially countervailing impacts of in-state generation goals for resources such as solar and offshore wind. As discussed below, this competitive dynamic has implications for the level of competition that can be expected under an FRR option, which (unlike the BRA) does not contain market power mitigation provisions to address market power abuse.

As noted above, in May 2020, the PJM Independent Market Monitor (“IMM”) found that exercising the FRR Option for New Jersey as a whole would increase capacity costs to customers in New Jersey by between \$386.45 million (29.6 percent) and \$4.38 million (0.3 percent) relative

Advanced Energy Companies Comments in Response to State of New Jersey Board of Public Utilities Investigation of Resource Adequacy Alternatives (Docket No. EO 20030203)

to the 2021/22 BRA.³¹ The IMM also analyzed the competitive dynamics that would arise if New Jersey were to exercise an FRR and states that it believes that the market for capacity would likely be structurally uncompetitive:

Creation of an FRR creates market power for the small number of local generation owners from whom generation must be purchased in order to meet the reliability requirements of the FRR entities. All participants in the New Jersey, JCPL, and PSEG FRRs fail the one and three pivotal supplier test which reinforces the conclusion that there is structural market power in each case. A fundamental point about the FRR approach is that the FRR approach is a nonmarket approach. In the FRR approach, there is no PJM market monitoring of offer behavior by generation owners, there are no market rules governing offers, and there are no market rules requiring competitive behavior.³²

This is consistent with prior concerns expressed by the IMM; for example, the IMM found in the 2019 State of the Market Report for PJM that all the suppliers in the EMACC and PSEG LDAs in the 2021/2022 BRA failed the PJM's market structural power test (Three Pivotal Supplier Test).³³ However, under the BRA, mitigation measures are in place.

Because the PJM IMM has already found that the PJM LDAs in New Jersey are structurally uncompetitive, Advanced Energy Companies urge the Board to consider the competitive implications of exercising the FRR option in New Jersey. Such an evaluation is necessary because, given the import constraints into the New Jersey LDAs noted above, creating an FRR for all or part of New Jersey would result in the need to satisfy the LDA's reliability requirements with a relatively smaller number of generators in the New Jersey LDAs.

³¹ IMM May 13 analysis at 6.

³² IMM May 13 analysis at 6.

³³ Monitoring Analytics, 2019 State of the Market Report for PJM, March 12, 2020, at 269 (Table 5-9 RSI results: 2019/2020 through 2021/2022 RPM Auctions) available at https://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2019/2019-som-pjm-sec5.pdf.

The IMM explained in the 2019 State of the Market report that uncompetitive market participant behavior in the BRA was addressed through PJM's existing market power mitigation measures.³⁴ Because the PJM tariff does not require any market power mitigation measures in the FRR construct, New Jersey would need to create a careful construct to ensure capacity procurements under the FRR are competitive and actually lead to least-cost outcomes. Accordingly, if the Board exercises the FRR alternative, we urge the Board to develop appropriate market power mitigation measures and identify an independent entity to review, impose, and assess the performance of those measures.

New Jersey should consider the consistency of this approach with cost principles, as limiting the footprint for procuring carbon-free energy to meet state policy goals could result in cost increases, or lack of available resources, when compared with procuring over a broader geographic area.

With the potential for limited competition and associated cost implications noted above, the Board will need to carefully consider whether the FRR option is consistent with cost minimization principles. Accordingly, the Advanced Energy Companies urge the Board to complete a capacity deliverability study to fully understand the implications of any FRR option for all of part of the state.

Furthermore, even if New Jersey is able to import the same amount of capacity from other PJM regions as it can under the BRA construct, it is not clear that the *price* New Jersey customers ultimately pay for that capacity would be comparable to the prices paid in recent BRAs, because the competitive dynamics under any FRR differ from that of the BRA. The BRA

³⁴ Monitoring Analytics, 2019 State of the Market Report for PJM, March 12, 2020, at 251, available at https://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2019/2019-som-pjm-sec5.pdf.

is essentially cleared simultaneously for each LDA, and individual suppliers do not bid into a specific LDA, but rather to supply the BRA market as a whole.³⁵ In contrast, under the FRR, New Jersey load serving entities would be required to provide PJM with an FRR plan due no later than one month prior to each BRA.

Accordingly, capacity sellers under any FRR construct would be aware that they are competing to supply capacity in areas that are import-constrained and known to be structurally uncompetitive. Without adequate market power mitigation, sellers may have less incentive to offer competitively – although the Board can also use its authority to implement customer protections, as it has for offshore wind projects receiving ORECs.³⁶ Additionally, resources that sell capacity to an FRR entity must forego the opportunity to offer into the BRA, which creates an opportunity cost for FRR participation that will be included in any New Jersey FRR procurement process. To the extent that the expanded MOPR increases clearing prices in the BRA, the opportunity cost of *not* participating in the BRA with the expanded MOPR will also increase. This higher opportunity cost of participating in any New Jersey BRA will likely increase the minimum price capacity suppliers will be willing to sell capacity to FRR entities in any New Jersey FRR procurement process. Accordingly, it is not clear that customers in New Jersey can entirely avoid the price impacts of the expanded MOPR.

New Jersey resources are not obligated to participate in any FRR procurement process, and given the opportunity cost associated with doing so (incurred regardless of whether or not it

³⁵ PJM determines the deliverability of capacity to each LDA through the auction clearing process – not the individual resources themselves.

³⁶ See *In the Matter of the Opening of Offshore Wind Renewable Energy Certificate (OREC) Application Window For 1,100 Megawatts of Offshore Wind Capacity In Furtherance of Executive Order No. 8*, NJBPU Docket No. Q018080851 (Sept. 17, 2018), at Att. 6, <https://nj.gov/bpu/pdf/boardorders/2018/20180917/9-17-18-8G.pdf> (“The OREC funding mechanism requires that... the [Electric Distribution Companies] shall serve as payment agent on behalf of the suppliers to facilitate the exchange of OREC payments from ratepayers to an OSW project and all revenues generated by an OSW project to ratepayers.”).

is located in New Jersey), it is not clear that a New Jersey FRR would garner sufficient interest from capacity suppliers to meet the state's resource adequacy requirements. This issue is further compounded by the import constraints that limit the deliverability of capacity to New Jersey and how those constraints will change over time. If New Jersey is unable to procure a sufficient amount of capacity through an FRR procurement process, it will have to pay an insufficiency charge equal to double the Net Cost of New Entry in the applicable delivery year for every MW of shortfall. Accordingly, the Board needs to carefully assess the balance between the risks of paying insufficiency charges associated with any capacity shortfalls under an FRR construct with the potential benefits of any FRR. In the near-term, there may well be more costs than benefits if FRR is implemented. In the next several years, New Jersey faces the risk of 300 MW UCAP of OSW not clearing. Not receiving capacity credit for those megawatts may pale in comparison to increased costs of going FRR.

FRR also requires a five-year commitment. This long-term commitment should be considered in light of other uncertainties involved – for instance, if a subsequent FERC order or court decision undoes the December 2019 order or PJM stakeholders push forward with capacity market changes that alleviate the impact of FERC's MOPR decision, as well as the potential risk of rejection of an FRR plan if the state is unable to procure sufficient clean energy resources to meet FRR commitments. Moreover, to support financing of clean energy projects in a state with FRR, it is likely that longer-term contracts (10 years or more) will be necessary, making the commitment in reality much longer than five years.

In short, these factors require a thorough examination of options for better integrating clean energy into wholesale markets, as discussed below. Exercising an FRR option raises complex issues and the FRR should not be undertaken without fully understating the

implications of doing so. Advanced Energy Companies share the Board’s concerns about the expanded MOPR, particularly given the state’s clean energy goals, and the risk that the state’s recent 1,100 MW Ocean Wind offshore wind procurement and potentially other renewable procurements will not clear the PJM BRA if subject to the expanded MOPR.³⁷ While we recognize the Board’s desire to resolve the expanded MOPR issue in a timely manner, Advanced Energy Companies submit that a decision on the FRR should take account of the respective timeframes for PJM’s auctions and project development. For example, Ocean Wind is not expected to be operational until 2024,³⁸ and the next BRA – which will not be conducted until early 2021 at the earliest – will be for the 2022-23 delivery year. Furthermore, given the 5-year prohibition on BRA participation that follows an FRR election, exercising the FRR option earlier than necessary could prevent New Jersey customers from enjoying the benefits of an alternative market construct, some of which are discussed below, that could result in lower cost and cleaner capacity more rapidly. In light of these uncertainties and the significant long-term commitment involved, we urge the Board to proceed in a deliberate fashion, conduct significant analyses, and engage directly with all impacted stakeholders and PJM before directing the creation of any FRR plan.

2. Can New Jersey Utilize the Fixed Resource Requirement to Accelerate

Achievement of New Jersey Clean Energy Goals?

FRR may facilitate achievement of New Jersey’s policy goals, but would not necessarily provide an accelerated or cost-effective pathway to do so.

³⁷ State of New Jersey, Board of Public Utilities, Press Release, *New Jersey Board of Public Utilities Awards Historic 1,100 MW Offshore Wind Solicitation to Ørsted’s Ocean Wind Project*, June 21, 2019.

³⁸ See *Ocean Wind: Project Overview*, <https://orstedcdn.azureedge.net/-/media/www/docs/corp/us/factsheets/ocean-wind-factsheet-feb-2020.ashx?la=en&rev=88f7a86f869c401d802e629a850c28d4&hash=FC213226BF978CE961D548507BA9F5D0>
Advanced Energy Companies Comments in Response to State of New Jersey Board of Public Utilities Investigation of Resource Adequacy Alternatives (Docket No. EO 20030203) 24 | Page

The Board seeks comment on “whether establishing FRR service area or areas in New Jersey would accelerate achievement of the State’s clean energy goals, including those set forth in the 2019 Energy Master Plan.” Advanced Energy Companies agree that FRR could facilitate achievement of New Jersey’s policy goals, but caution that the benefits of this approach must be carefully weighed against its potential cost and complexity.

Provided that a workable construct could be designed and implemented and that the market power challenges described above could be overcome, Advanced Energy Companies find that FRR does offer a *potential* approach to ensure achievement of New Jersey’s policy goals. In allowing New Jersey to exit the RPM, FRR would sidestep the potential for the expanded MOPR to exclude clean resources needed to achieve state policy targets from clearing the RPM and contributing to resource adequacy, and would also avoid the risk of retaining polluting resources no longer needed to maintain resource adequacy.

However, to the Board’s more specific question of whether FRR would accelerate achievement of the state’s goals, and to the additional question of whether FRR would be the most cost-effective pathway to reach these goals, Advanced Energy Companies offer several points of caution.

First, FRR poses a significant risk of undermining the state’s ability to take advantage of regional benefits, including clean energy diversity. While an FRR does not necessarily require use of in-state resources, as noted above, New Jersey’s geographic location and transmission constraints would likely force it to rely primarily on in-state resources to meet its resource adequacy needs under FRR. While New Jersey’s Energy Master Plan does anticipate significant buildout of in-state resources such as offshore wind, rooftop and community solar, and energy

storage,³⁹ the state would be largely cutting itself off from a more diverse set of advanced energy resources across the entire PJM region, including strong onshore wind and solar resources in the western half of PJM, as well as existing and potential future aggregations (across multiple zones) of distributed resources like demand response, energy efficiency, and distributed energy resources. It could also cut off the state's ability to rely on the wider PJM pool to meet resource adequacy and reliability requirements as it transitions to 100 percent clean energy, diminishing a key benefit of membership in a broader regional market. As explained above, this is almost certain to increase the cost of reaching the state's goals and may also slow down progress.

Second, FRR will take considerable time to design and implement and, as noted previously, will likely be subject to regulatory and legal risk. The time and uncertainty involved in the transition to FRR may obfuscate market signals, perhaps for years, which would slow the transition to a clean energy future in New Jersey and across PJM. The PJM generator interconnection queue is currently dominated by renewable energy projects. As of December 2019, 35,759 MW of solar-powered generation was in the queue, followed by 6,240 MW of wind generation requests. Energy storage deployment in the region is also growing, with 3,920 MW seeking to connect to the grid. These currently planned projects will struggle to secure financing needed to move forward in the face of market uncertainty, and new project development may also be impacted.

Third, New Jersey should consider how its actions affect the regional energy mix and emissions. Many of the renewable energy projects in PJM's interconnection queue are dependent on clearing the PJM capacity market, especially large-scale solar and/or energy storage. If New Jersey—and, potentially, other states in PJM—pursue FRR, they may harm the

³⁹ Including 7,500 MW of offshore wind by 2035 and 2,000 MW of energy storage by 2030.

prospects for clean energy deployment elsewhere in PJM by reducing the ability of renewable energy resources to clear the market and/or undermining confidence in the market, leading to difficulties securing financing and ultimately getting built. Even if New Jersey is able to undergo a transition to a cleaner resource mix through FRR, utilizing the FRR risks benefitting incumbent fossil generators, who will be able to retain market share in a shrunken and less competitive capacity market, at the expense of renewable energy, storage, demand response, and energy efficiency. This risks slowing the region's overall transition to clean energy and impacting air quality and electricity costs in New Jersey, as well as blunting the benefits of New Jersey's own carbon emissions reductions. Advanced Energy Companies submit that New Jersey should also consider a coordinated approach with other PJM states to rethink the RPM to better incorporate state policy preferences, as well as to enhance transmission planning to reduce the binding deliverability constraints that affect attainment of state goals with or without using the FRR.

Carbon Pricing

The Advanced Energy Companies support implementation of carbon pricing, and believe that a state-specific carbon price, in addition to RGGI, is a concept that the BPU should seriously consider and develop further. Carbon pricing can spur significant emissions reductions by requiring all emitters to internalize the cost of their emissions, which can spur retirement of higher-emissions resources and drive deployment of cleaner resources. In addition, the BPU should evaluate whether carbon pricing could achieve all (or a significant part of) the state's decarbonization goals at lower cost than FRR, and with greater consistency with the principles identified above – including regional consistency and ensuring that projects are financeable.

A New Jersey-specific approach (distinct from a multistate approach like RGGI or a PJM dispatch price) could emulate California’s carbon adder model, which has been approved by FERC and is applied to interstate transactions. California’s model began with in-state generators, which are required to retire carbon allowances equivalent to their emissions. The state’s grid operator, CAISO, proposed a carbon “bid adder” that generators could include with their energy bids; FERC approved this approach, stating that it was “required in order to provide generators a reasonable opportunity to recover their variable energy costs incurred as a result of the California [carbon pricing] Program.”⁴⁰ This approach was subsequently extended to resources located in other states, which could use a “flag” to indicate their willingness to have their output transmitted to California, and a contingent bid adder to recover those same compliance costs if they were actually selected for delivery.⁴¹ Although the state and RTO processes in New Jersey and PJM are not identical to California and CAISO, this conceptual framework could be applicable to a single state within a multi-state RTO such as PJM.

FERC has typically allowed jurisdictional utilities and generators to structure their bids to enable recovery of state environmental costs, and the Clean Energy Entities urge the BPU to consider whether state carbon pricing akin to California’s would be workable for New Jersey’s energy and environmental goals. Advanced Energy Companies also submit that incorporating carbon pricing directly into market dispatch (as proposed in New York,⁴² and as the PJM Carbon

⁴⁰ *California Indep. Sys. Operator Corp.*, 141 FERC ¶ 61237 at P29 (2012).

⁴¹ *See California Indep. Sys. Operator Corp.*, 147 FERC ¶ 61231 at PP238-240 (2014)(“We find that the GHG bid adder will provide a reasonable avenue both for [Energy Imbalance Market] Participating Resources to signal that they do not wish to be dispatched into California, and for EIM Participating Resources that are dispatched into California to recover the additional GHG compliance costs of such dispatch during the initial operation of the EIM.”).

⁴² <https://www.nyiso.com/carbonpricing>

Pricing Senior Task Force is currently considering) rather than through a state environmental bid adder is worth exploring.⁴³ PJM's Carbon Pricing Senior Task Force is evaluating a framework that could enable states to incorporate potential carbon-pricing policies directly into the RTO's markets. Preliminary study results indicate that carbon-pricing initiatives could be accommodated with a border adjustment mechanism, which would mitigate the resulting impacts on generation, emissions, and price.

The Advanced Energy Companies also note that carbon pricing is most effective as a complementary policy alongside sector-specific efforts. The numerous strategic areas of New Jersey's EMP – including renewable energy, electrifying transportation, maximizing efficiency, reducing energy consumption, and in-state economic development – would all be well-served by a carbon pricing scheme. However, the state's targets within each of these areas (including specific quantities of energy storage,⁴⁴ ORECs for offshore wind,⁴⁵ a successor program to the state's successful SREC program for solar,⁴⁶ and long-term job creation and economic benefits⁴⁷) mean that carbon pricing will be most effective in conjunction with subsequent regulatory and legislative actions focused on each of New Jersey's strategic energy goals. On its own, carbon pricing will not deliver these precise outcomes, but the BPU should consider whether and how it could support the state's EMP objectives.

⁴³ <https://www.pjm.com/committees-and-groups/task-forces/cpstf.aspx>

⁴⁴ EMP at 123.

⁴⁵ EMP at 116-18.

⁴⁶ EMP at 127.

⁴⁷ EMP at 215-29.

3. Can Modifications to the Board’s Basic Generation Service Construct Facilitate Resource Adequacy Procurements Aligned with the EMP Clean Energy Objectives?

The Basic Generation Service (“BGS”) construct may be a valuable tool for the Board to consider using in attaining clean energy goals, but FERC’s April rehearing order on the MOPR injects significant uncertainty that the Board must evaluate before using. The Board should consider whether incorporating long-term customer-driven contracts for clean energy can be a viable part of BGS moving forward.

BGS was developed by the BPU as part of the State’s plan to restructure the electric supply market. The power procured for BGS must be purchased at prices consistent with market conditions.⁴⁸ The BGS is provided to customers who are not supplied by third-party suppliers. A statewide auction is performed annually to procure the electric supply needs for these customers. Each year one-third of the requirements for the BGS residential small commercial customers is procured for a three-year period via the auction. A one-year procurement is utilized for the BGS commercial and industrial energy pricing customers. After the auctions are conducted, the BPU reviews the results to determine whether the results of the auction should be certified. Several factors are reviewed for this determination, but it is key that the auctions generate a result that is consistent with competitive bidding and market determined pricing. The BGS construct has been functioning for nearly twenty years. It is a market-based approach to serve retail customers. Over the years the BPU has modified the BGS but the primary structure of the BGS for all for EDCs has remains

⁴⁸ N.J.S.A. 48:3-57.

We believe the BPU has wide latitude in its authority to modify or expand the BGS under state law. N.J.S.A. 48:3-57a (1) provides the parameters of the BPU’s authority, which is that the “[p]ower procured for BGS by an electric public utility shall be purchased, *at prices consistent with market conditions.*” Initially, the BPU used this authority to develop the BGS process. It has from time to time made some course corrections but under state law we conclude that the Board could modify the BGS to accommodate the State’s long-term clean energy objectives.

One mechanism that warrants consideration is a potential change to the BGS process to include a specified portion of the load being procured via long-term contracts for clean energy resources. A recent report prepared for the Wind Solar Alliance (“WSA Report”) concludes that long-term contracts are an effective tool in helping address resource adequacy in what it describes as “hybrid” retail competitive markets.⁴⁹ The WSA Report defines these markets as the thirteen states other than Texas that “have restructured their retail electricity markets to allow for customer choice of electricity suppliers.”⁵⁰ While Texas requires all customers to choose their retail electricity supplier, the other thirteen restructured states, including New Jersey, maintain a default service provider that is responsible for providing electricity supply to customers who do not choose a retail electricity supplier.

For compliance with the New Jersey RPS, the procurement of RECs is a function of the BGS auction, New Jersey’s version of default supply, where RECs are obtained as part of the full requirements procurements for electricity supply for the BGS customers. The procurement of RECs under the current BGS process is dictated by short-term supply and demand. These

⁴⁹ Report of the Wind Solar Alliance; *Who’s The Buyer? Retail Electric Market Structure Reforms, In Support Of Resource Adequacy And Clean Energy Deployment*; Rob Gramlich and Frank Lacy; March 2020.

⁵⁰ *Id* at 9.

procurements are incorporated in the level of energy and other components of a full requirements bid in the BGS auction process. Not only does that serve to increase the price volatility of the short-term procurements for the RECs, there is little or no ability with these short-term procurements for a state to address its own energy procurement goals. Long-term contracts will allow New Jersey to take more control with respect to resource adequacy and rely less on capacity markets. They will also provide a greater hedge on volatile energy and REC pricing.

Another key benefit to introducing long-term contracting as part of the BGS, is the ability of developers to achieve lower financing costs for their projects. By ensuring a long-term revenue flow, developers can pass-through savings of lower financing costs to customers, which can be assured through a competitive auction or bidding process as a function of the BGS construct.

Right now, the function of supplying electricity and RECs to the BGS customers is filled by the BGS suppliers. However, there appears to be no legal impediment to transferring the long-term contract procurement to the EDCs. In this way the EDCs can deal directly with the multitude of clean energy providers potentially achieving lower pricing and helping to ensure a long-term supply of clean energy to meet the goals of the EMP. The WSA Report identifies reforms that states, like New Jersey, need to make to support long-term contracting but it concludes that the resource procurement role needs to be clearly assigned.”⁵¹

Of course, all the current and future potential benefits of the BGS or other default service regimes in PJM have been put at risk as a result of the FERC MOPR Order. This development is especially evident now that the FERC issued its Order on Rehearing and Clarification, which denied certain PJM states, including New Jersey, requests for rehearing or clarification that

⁵¹ *Id* at 20.

default service procurements are not state subsidies. This recent action presumably confirms that electricity procurements through these processes are subject to the MOPR. Nevertheless, many questions remain on how the MOPR can be applied by PJM given all the intricacies of the states' various default service mechanisms.

In FERC Commissioner Richard Glick's dissent on the Order on Rehearing and Clarification, he sided with the state parties and raised the serious legal and jurisdictional issues presented by FERC's action. Importantly, his dissent recognized the practical aspects of trying to implement such a sweeping edict and the ability of PJM and the Market Monitor to "sort out" the resources that would need to be mitigated in the BRA.⁵² The FERC's decision clearly casts a cloud on the advancements that can be made as part of the BGS process to support New Jersey's clean energy goals. It appears that this aspect of the BPU's consideration may have to wait until the conclusion of the legal challenges to the FERC MOPR Order, unless after investigation there is some daylight that can be found between what the BPU determines to be in the State's best interest and the real practical and legal pitfalls of the FERC MOPR decision on default service systems, such as the BGS process. However, the Board should consider actions that allow it to move towards an improved BGS framework that supports clean energy, even if they cannot be implemented immediately.

4. Can Other Mechanisms, such as a Clean Energy Standard or Clean Energy Market Facilitate Achievement of New Jersey Clean Energy Goals?

As detailed above, Advanced Energy Companies believe that carbon pricing is a valuable complementary policy path that could establish appropriate incentives, both for New Jersey's current energy goals (as set forth in the Clean Energy Act and the EMP) and for any future

⁵² Commissioner Glick Dissent on FERC Order on Rehearing and Clarification at 32, dated April 16, 2020.

policy. We encourage the BPU to strongly consider alternative policy mechanisms (such as a Clean Energy Standard or other market constructs) in conjunction with carbon pricing, to provide clear signals regarding energy transitions over the next three decades.

Carbon Pricing

While carbon pricing on its own would be unlikely to resolve all of the Board's well-defined concerns with current resource adequacy provisions, it can complement other policy solutions and achieve significant near-term reductions in emissions and drive investment by improving price signals and shifting energy revenues to low-emitting plants. Additionally, New Jersey has taken a valuable first step by rejoining RGGI as of this year, resulting in over \$20 million in auction proceeds for the state's energy and environmental programs.⁵³ While RGGI prices have historically been too low to substitute for a more robust carbon pricing program, the BPU should consider whether the RGGI framework could be supplemented, either by New Jersey-specific programs or in conjunction with some or all RGGI states.

Further, as noted above, the California bid adder approach to carbon pricing and PJM's Carbon Pricing Senior Task Force process (which is evaluating a border adjustment within PJM) provide possible models for competitive, market-based energy dispatch. Both of these models would accommodate state environmental goals and could be linked to New Jersey's resource adequacy framework.

We also urge New Jersey to devote time, attention, and resources to working with other states in the PJM region with similar clean energy goals to elevate their shared objectives within PJM processes. Together, the several PJM states that are working to achieve climate and clean energy goals can be a powerful force for change at PJM, and gains made within PJM stand a

⁵³ Available at: <https://www.state.nj.us/dep/ages/rggi.html>

better chance of success even with the current composition of FERC. Outside of the MOPR, if PJM made certain changes to its tariff and/or processes, it would facilitate increased penetration of clean energy resources. For example, if new resources were able to lock in a capacity payment for multiple years, it would drastically reduce the costs of financing and improve the chances of clearing. In ISO-NE, new resources are able to select up to a seven-year price lock, where whatever price they clear their first capacity auction, becomes the capacity price they earn for the next six years. Given that new renewable and storage resources comprise the vast majority of the interconnection queue, this change would significantly benefit clean energy resources relative to fossil resources. Our members stand by to offer additional recommendations for reforming the PJM market – including, but not limited to, carbon pricing - to facilitate increased clean energy deployment, and we believe the Board and other clean energy state regulators can play an important role in improving market rules and outcomes beyond the MOPR.

Forward Clean Energy Market

A regional Forward Clean Energy Market (FCEM) is worthy of further inquiry, although this solution is an unlikely candidate to resolve tensions between the PJM markets and New Jersey state policies in the near term. Advanced Energy Companies note that a FCEM would be most effective and also most insulated from mitigation via MOPR if implemented on a regional basis, or at least by multiple states.

The primary benefits of a FCEM construct are its reliance on competitive market forces to identify least-cost clean energy resources, its compatibility with existing wholesale market structures, and its flexibility to expand as additional states, jurisdictions, or even large customers seek to reach clean energy targets. This approach, outlined by The Brattle Group in a paper produced for NRG, centers around the procurement of Clean Energy Attribute Credits (CEACs),

which would be functionally similar to unbundled RECs. A forward auction—which could be administered by PJM, a state agency, or an independent entity—would reconcile supply of CEACs offered by generators and demand bid in by states (and other entities such as municipalities and private companies). The auction would include both existing and new resources, and, as proposed by The Brattle Group, would provide a 7-12 year price lock for new resources.⁵⁴ The FCEM concept can also be expanded to include time- and location-based incentives to maximize emission reduction benefits and to best facilitate emission reductions from energy storage. The design could also be amended to accommodate technology-specific carve-outs.⁵⁵

Following the same logic that PJM applied when explicitly excluding the Regional Greenhouse Gas Initiative (RGGI) from classification as a “state subsidy” subject to MOPR, a FCEM construct could reasonably be exempted from MOPR if applied in a technology-neutral manner across multiple states. As New Jersey works with neighboring states and with PJM, a FCEM concept is worth studying alongside other potential medium-term solutions to better align wholesale market outcomes with state policy goals.

Clean Capacity Market

A Clean Capacity Market (CCM) construct is another approach worth consideration as a medium-term solution in coordination with PJM and other PJM states. Similar to the FCEM or a carbon price, a CCM would incorporate clean energy targets into the wholesale markets,

⁵⁴ See The Brattle Group, *How States, Cities, and Customers Can Harness Competitive Markets to Meet Ambitious Carbon Goals* (updated 2019), available at <https://www.brattle.com/news-and-knowledge/publications/how-states-cities-and-customers-can-harness-competitive-markets-to-meet-ambitious-carbon-goals-through-a-forward-market-for-clean-energy-attributes-expanded-report>.

⁵⁵ See The Brattle Group, “A Dynamic Clean Energy Market for New England,” (November 2017). Available at: http://files.brattle.com/files/11819_a_dynamic_clean_energy_market_in_new_england.pdf.

allowing states to rely on competitive market forces to achieve their policy goals through least-cost, technology-neutral solutions. Unlike FCEM or a carbon price, which are directed at *energy production* by clean or polluting resources, respectively, a CCM construct, as its name suggests, would incorporate the value of clean energy resources into the *capacity* market by providing resources with additional compensation for their clean contribution to resource adequacy.

The CCM would function by incorporating a “clean capacity adder” into the RPM, analogous to adding a carbon price into the energy market. Clean capacity resources such as renewable energy (including offshore wind), nuclear, energy efficiency, demand response, and energy storage, would receive additional compensation for their clean contribution to resource adequacy, with the option to offset the cost to customers by assessing a fee on generators above a certain carbon intensity threshold.

If implemented as a technology-neutral and regional construct, CCM would resolve the risk of price suppression or competition for subsidies between states by creating a market value for megawatts of clean capacity. CCM itself could therefore avoid triggering MOPR, and would help to reduce the impact of the MOPR on clean energy deployment by making it more likely that capacity resources receiving CCM payments would clear the market even if subject to a minimum offer price.

To set up a CCM, New Jersey could work with neighboring states to establish a regional RPS and corresponding clean capacity targets for incorporation into the RPM as a clean capacity adder.

Alternatively, New Jersey could work with neighboring states and PJM to phase-in carbon-intensity thresholds into the RPM, above which resources would no longer be eligible to

receive capacity credit. This approach is similar to regulations now in effect in the European Union.

Additional Ideas for Reform

In addition to exploring the above-discussed approaches to implement structural improvements and new market constructs either within or outside of PJM's markets that would better align wholesale market outcomes and state policy objectives, the Board should work to identify and resolve other wholesale market barriers faced by advanced energy resources in PJM. Such barriers compound the negative impacts of MOPR on advanced energy deployment, but can be resolved independent of addressing the fundamental challenges posed by MOPR. Areas for reform include but are not limited to:

- Proposing changes to market design, bidding rules, and obligation rules that would allow for greater flexibility;
- Ensuring proper capacity accreditation and project lifespan information for offshore wind;
- Properly vetting and taking into account the limitations of the transmission grid and import capacity in New Jersey when calculating the locational value of capacity (e.g., ensuring that the capacity price for an in-state offshore wind resource in Northern New Jersey reflects its locational value), and continuing to work towards transmission planning and cost allocation reforms to alleviate constraints; and
- Improving price formation in the PJM energy markets to more appropriately value the energy provided by clean advanced energy resources, and to provide incentives for flexibility.

V. Further Recommendations

The Advanced Energy Companies offer the following recommendations to the Board as it moves forward in this inquiry:

1. **Maintain a leadership role in the ongoing evaluation of state environmental objectives and resource adequacy frameworks.** This inquiry provides a valuable starting point.

The BPU and other New Jersey agencies should continue to actively engage and help drive discussions with FERC, PJM, other PJM states, advanced energy interests, and other stakeholders regarding market designs and state policy approaches that would align wholesale market outcomes with New Jersey's policy requirements. As it evaluates comments and considers its path to move forward, we encourage the BPU to establish a near- and mid-term set of meetings and inquiries, including any necessary studies or further public comment opportunities on specific policy options. Presenting a highly transparent pathway and timetable will shape the state's engagement and allow stakeholders to prepare materials on complex policy issues to ensure a robust record.

2. **Continue to explore questions regarding FRR.** As noted above, the FRR presents a number of complex and technical issues that merit further consideration. Even with the Board's gracious grant of an extension and reply comment deadline in this proceeding, the relatively brief comment period and complexity of issues at hand are appropriate for further discussion (particularly as more information becomes available on the timing of subsequent PJM capacity auctions). Advanced Energy Companies suggest that the Board establish FRR-specific workshops, technical conferences, or hearings as soon as public health circumstances permit. Additionally, the Board should consider retention of an external consultant or analyst to explore legal, economic, and technical challenges associated with

FRR, to facilitate quantitative and qualitative cost/benefit assessment in comparison to other resource adequacy options under consideration.

3. **Move deliberately.** The decision of whether or not to opt for the FRR (and, if not, whether to adopt other resource adequacy policies) carries real and significant consequences for a range of advanced energy providers that have, are planning, or are considering projects in New Jersey. Advanced Energy Companies urge the Board to avoid any rash or sudden action (particularly without clear timing for PJM capacity auctions). As noted in our comments, the five-year lock-in for FRR would significantly shape investment decisions. Even if underlying BPU or FERC decisions change, New Jersey risks path dependency wherein it will be difficult to move rapidly once a new course is set. Accordingly, the state should ensure a full record and provide clear signals to all participants well in advance of any final decision – but should act decisively once the record is complete and the state has considered all options at its disposal.
4. **Accelerate action on state policy objectives beyond resource adequacy.** The deeply flawed PJM MOPR Order and its impact on resource adequacy are undoubtedly significant obstacles to New Jersey’s climate and energy goals that the state must overcome. However, the Clean Energy Act and the EMP are multi-faceted, and New Jersey should not lose sight of its ability to move forward on many of its goals as this resource adequacy proceeding continues. For instance, many of our members are frustrated by New Jersey’s delayed course of action, especially on resources such as energy storage. New Jersey risks losing clean energy development from these job-creating sectors to neighboring states that are acting more rapidly.

APPENDIX

Advanced Energy Companies' Comments to the New York Public Service Commission

Case 19-E-0530

- Initial Comments dated November 8, 2019
- Reply Comments dated January 31, 2020



November 8, 2019

VIA ELECTRONIC FILING

Hon. Michelle Phillips
Secretary to the Commission
New York State Public Service Commission
Empire State Plaza, Agency Building 3
Albany, New York 12223-1350

Re: Case 19-E-0530 – Proceeding on Motion of the Commission to Consider Resource Adequacy Matters

Dear Secretary Phillips:

Advanced Energy Economy Institute (AEE Institute), on behalf of Advanced Energy Economy (AEE), the Alliance for Clean Energy New York (ACE NY), the American Wind Energy Association (AWEA), the Solar Energy Industries Association (SEIA), and their joint and respective member companies, submit for filing comments in response to the August 8 *Order Instituting Proceeding and Soliciting Comments*.

Respectfully Submitted,

Ryan Katofsky
Managing Director
AEE Institute

Comments in Response to Order Instituting Proceeding and Soliciting Comments (Case 19-E-0530)

**Advanced Energy Economy Institute
Alliance for Clean Energy New York
American Wind Energy Association
Solar Energy Industries Association**

Advanced Energy Economy Institute (“AEE Institute”), the Alliance for Clean Energy New York (“ACE NY”), the American Wind Energy Association (“AWEA”), and the Solar Energy Industries Association (“SEIA”) applaud the New York Public Service Commission (“NY PSC” or “Commission”) for its foresight and initiative in opening the above-captioned proceeding to investigate whether changes are needed to align the New York Independent System Operator’s (“NYISO’s”) resource adequacy provisions with the state’s energy and environmental policies. We appreciate the opportunity to provide responses to the important questions raised in the Commission’s August 8 *Order Instituting Proceeding and Soliciting Comments* (“Order Instituting Proceeding”) in the instant case. Our organizations collectively represent and work with a range of companies across the advanced energy industry, including large-scale and small-scale wind and solar, hydroelectric power, other renewable energy technologies, battery energy storage, demand response, and energy efficiency. Given the complexity of the issues at hand, our comments place a particular focus on guiding principles that we believe should inform this proceeding as it unfolds.

These comments reflect the joint views of AEE Institute, working with Advanced Energy Economy (“AEE”);¹ ACE NY;² AWEA³; SEIA;⁴ and their joint and respective member companies. These organizations and companies are referred to collectively in these comments as the “advanced energy companies,” “we,” or “our.”

I. EXECUTIVE SUMMARY

The seven questions posed by the Commission in this proceeding can be reduced to a single foundational question: Will NYISO's market rules inevitably collide with New York State policies and, in so doing, inhibit the ability to satisfy those policies cost effectively? It is our view that NYISO market rules are *already* colliding and interfering with the achievement of state policy objectives, and that, on the current trajectory, this interference will only worsen. Reforms are needed to realign market-directed outcomes with the outcomes mandated by state policies; failure to address this disconnect will make it difficult or impossible for the state to meet the legally-binding targets set by the Climate Leadership and Community Protection Act (“CLCPA”) and other state policies *reliably, cost-effectively, and on time*.

¹ AEE is a national business association representing leaders in the advanced energy industry. AEE supports a broad portfolio of technologies, products, and services that enhance U.S. competitiveness and economic growth through an efficient, high-performing energy system that is clean, secure, and affordable.

² ACE NY’s mission is to promote the use of clean, renewable electricity technologies and energy efficiency in New York State, in order to increase energy diversity and security, boost economic development, improve public health, and reduce air pollution.

³ The American Wind Energy Association (AWEA) is a national trade association representing a broad range of entities with a common interest in encouraging the expansion and facilitation of wind energy resources in the United States.

⁴ The Solar Energy Industries Association is the driving force behind solar energy and is building a strong solar industry to power America through advocacy and education. As the national trade association for the U.S. solar energy industry, which employs more than 242,000 Americans, we represent all organizations that promote, manufacture, install and support the development of solar energy. SEIA works with its 1,000 member companies to build jobs and diversity, champion the use of cost-competitive solar in America, remove market barriers and educate the public on the benefits of solar energy.

While there are multiple sources of tension between the NYISO markets and New York State policies, our comments identify a few sources of acute pain. In particular, application of Buyer-side Mitigation (“BSM”), at the direction of the Federal Energy Regulatory Commission (“FERC”), to energy storage and other resources supported by state policy tragically harms the price signaling that would otherwise facilitate the resource entry and exit needed to meet state policy goals. Specifically, BSM hurts exactly those new, carbon-free, state-supported generators the system most needs; meanwhile it overpays, via artificially BSM-inflated capacity prices, existing generating units that are no longer needed to maintain resource adequacy. Design parameters in the installed capacity (“ICAP”) market based around traditional generation resources, and insufficient price signals in NYISO’s markets more generally (that is, failing to incent market entry by resources needed to reach the state’s goals or encouraging the orderly exit of resources that work against those goals) further exacerbate the misalignment between the NYISO market and the state’s policy goals.

There are multiple potential approaches to address the current disconnect between NYISO markets and New York State policies. Our comments therefore open with a set of guiding principles that any potential reforms should be measured against. We then consider some specific options for addressing resource adequacy in New York State. While we do not take a collective position at this time regarding the optimal approach to maintain resource adequacy while also ensuring that the state’s policy objectives will be fulfilled, we reach the conclusion that the state could rely on the NYISO competitive wholesale markets to cost-effectively meet the state's policy objectives, but only if FERC and/or NYISO are willing to enact reforms that ensure the cost-effective achievement of the state’s policy goals. In short, the state’s policy goals must be a central part of NYISO’s market design. If such reforms prove infeasible, the state will

need to step in to diminish NYISO's role and assert more direct control over ensuring resource adequacy.

We further note that additional market changes beyond the specific resource adequacy/capacity market construct questions raised in this proceeding can also play an important role in transitioning the state's resource mix in accordance with state policy and thereby addressing the concerns raised by the Commission. Specifically, incorporation of carbon pricing into the NYISO markets and consideration of reforms to NYISO's energy and ancillary services markets (including price formation and the design of new grid services markets) will increase the flexibility of the electricity system and support efficient market entry and exit, enabling cost-effective attainment of the state's policy goals while also maintaining reliability and resource adequacy. We therefore request that these issues, in particular the incorporation of carbon pricing into the NYISO markets, be included in the scope of this proceeding.

II. BACKGROUND AND PERSPECTIVE IN THIS CASE

As the costs of advanced energy technologies continue to decline and as state policies necessitate a shift to a low- and eventually zero-carbon electricity system, New York faces a potential disconnect between the future resource mix that will achieve state policy goals cost-effectively and the resource mix that current NYISO wholesale market rules are poised to deliver. New York is not alone in facing this disconnect between state policy and wholesale market design. By tackling this issue proactively, remaining open to a range of solutions, and soliciting broad stakeholder input, the Commission has put New York in a position to arrive at cost-effective, long-term solutions to achieve the state's policy objectives and potentially to serve as a model for other regions.

However, the questions raised by the Commission in its Order instituting this proceeding do not have singular, obvious answers, and significant effort will be required to achieve the laudable goal of “reconcil[ing] resource adequacy provisions and the State’s renewable energy and environmental emission reduction goals.”⁵ We encourage the Commission to give this issue the attention it deserves, and we look forward to remaining engaged in a productive dialogue as the Commission and other stakeholders continue to propose, consider, and evaluate the implications of potential solutions. As the Commission reviews comments in this docket, we offer several overarching recommendations.

First, consider the guiding principles discussed in Section III below, which reflect the unique needs of New York State as well as the experience of advanced energy companies across the country with the interaction of state policies and wholesale markets. These guiding principles are intended to apply under any future resource adequacy mechanism adopted by the state and NYISO.

Second, strongly consider and evaluate the near- and medium-term benefits of adding a carbon price in NYISO, as well as revising the state’s Renewable Energy Certificate (“REC”) procurement mechanism. Doing so could help alleviate concerns about conflicts between wholesale market mechanisms and state policies by reflecting New York’s greenhouse gas reduction requirements in NYISO’s markets. These actions are relevant today, even as the Commission continues to explore the potential benefits of broader market changes in the future.

⁵ Order Instituting Proceeding at 1.

Implementing carbon pricing in the wholesale market, as is currently being contemplated by the NYISO, would provide a near-term opportunity to align the NYISO markets with New York State public policy goals, and we encourage the Commission to consider broadening this proceeding to consider the valuable role of carbon pricing in addressing the tensions between state policy goals and the NYISO wholesale markets underlying this proceeding. A recent report from The Analysis Group finds that pricing carbon emissions in NYISO would lower the cost of achieving the goals of the CLCPA by up to \$850 million⁶ while also providing a financing tool and sending near-term and long-term price signals to incent investment in zero- and low-carbon resources and encourage the orderly retirement of higher-emitting resources. We also note that establishing a price on carbon should be accompanied by a prohibition on applying BSM rules to new clean energy resources. Without such adjustments, clean energy resources may be blocked from responding to these improved price signals, raising prices and directly inhibiting the achievement of the state's policy goals.

Nevertheless, carbon pricing alone will not provide sufficient incentive for the resource deployment needed to reach New York's ambitious environmental and energy goals in the long-term. This is especially the case for technologies such as energy storage that have lower MWh output than renewables and that will therefore receive a lower financial signal from a policy that rewards production of clean MWh.

⁶ Susan Tierney and Paul Hibbard, *Clean Energy in New York State: The Role and Economic Impacts of a Carbon Price in NYISO's Wholesale Electricity Markets*, prepared by Analysis Group for the New York Independent System Operator, Oct. 3 2019. P. 36. Available at: https://www.analysisgroup.com/globalassets/uploadedfiles/content/news_and_events/news/2019-analysis-group-nyiso-final-report.pdf

In addition, the Indexed REC procurement mechanism proposed by AWEA and ACE NY in their March 12 petition⁷ in Case 15-E-0302 would, if accepted by the Commission, give renewable energy project developers the confidence to continue to develop projects and bid for contracts even while the future structure of the NYISO capacity market is subject to change. Maintaining investor confidence needed to facilitate development of new clean resources is critical to achieving continued progress toward the state's goals.

Third, continue working proactively to better integrate advanced energy resources into the market. Apart from but related to this proceeding, both the Commission and NYISO have taken actions to strengthen alignment between market rules and state policies by removing barriers to entry for advanced energy resources and are exploring opportunities to incorporate state policy goals into the wholesale market. In addition to NYISO's proposal to incorporate the social cost of carbon into the wholesale price of electricity, we applaud the following efforts by NYISO and the Commission, which will better align the state's energy and environmental goals and NYISO market rules, and which any subsequent Commission action should build upon:

- **NYISO's efforts to integrate electric storage and distributed energy resources ("DERs") into the wholesale market.** NYISO has taken significant steps to recognize the benefits that electric storage and DERs can bring to its wholesale markets, releasing the "DER Roadmap" in 2017 to explore approaches to accommodating these resources. In addition to its efforts to comply with FERC Order No. 841 (which requires NYISO and the other RTOs/ISOs to adopt revised market rules to incorporate storage in their

⁷ *Statement of American Wind Energy Association and Alliance for Clean Energy New York in Opposition to Petition of Multiple Intervenors and Independent Power Producers of New York Inc., and Petition of American Wind Energy Association and Alliance for Clean Energy New York for an Order Modifying the Clean Energy Standard Tier 1 Procurement Process, Case 15-E-0302, March 12, 2019*

markets), in a recent FERC filing NYISO also proposed changes to its tariff that would allow aggregations of DERs to participate in its markets. While AEE and multiple other organizations did note the need for multiple improvements to NYISO’s proposal,⁸ we applaud NYISO’s effort to address electric storage and DER participation, which will allow the state to more reliably and cost-effectively reach its environmental and clean energy goals.

- **NY PSC’s continued focus on changing wholesale market rules that create barriers to the participation for advanced energy technologies.** Most recently, the Commission and the New York State Energy Research and Development Authority (“NYSERDA”) filed a joint complaint at FERC against NYISO regarding the application of BSM to battery energy storage, a request that was supported by AEE, ACE NY, and other organizations.⁹ Such engagement on the part of the Commission is key to ensure continued alignment between the state’s energy policies and the wholesale market—including but not limited to NYISO’s resource adequacy provisions.

These and related efforts by the Commission and NYISO will not solve the fundamental challenges identified in this proceeding, but they will avoid exacerbating the disconnect between state policies and NYISO market rules.

Fourth, carefully consider the unique opportunities and challenges associated with operating as a single-state ISO. New York’s position as a single-state ISO may allow it to more

⁸ See comments filed in Docket No. ER19-2276 on July 18, 2019 by Advanced Energy Management Alliance (“AEMA”), Advanced Energy Economy (“AEE”), Consumer Power Advocates (“CPA”), Energy Spectrum, Inc., Natural Resources Defense Council (“NRDC”), Sustainable FERC Project, and the New York Battery & Energy Storage Technology Consortium (“NY-BEST”).

⁹ Docket No. EL19-86-000, July 29, 2019.

quickly and effectively adopt approaches tested elsewhere and may further open up certain options that are otherwise unavailable in multi-state markets. In general, New York, with a single-state ISO, has an opportunity to demonstrate alternative market designs that take into account the state's greenhouse gas reduction targets, electricity supply preferences, and other energy policies. We encourage the Commission to evaluate and take advantage of such alternatives.

III. GUIDING PRINCIPLES

As the Commission considers potential market reforms to better align NYISO's resource adequacy provisions with the state's energy and environmental policies, our organizations recognize that there are multiple potential paths forward. Accordingly, we offer the following seven guiding principles, which are informed by the collective experience of advanced energy companies in New York and in markets across the country and are intended to serve as relevant guideposts for the development and evaluation of any future market reforms that emerge out of this proceeding. Specifically, we recommend that any future market construct be designed such that it will do the following:

1. **Maintain New York's high level of reliability.** With the express assent of Congress,¹⁰ New York has adopted and maintained higher reliability standards than required in other jurisdictions. In support of these higher reliability standards, NYISO and the Commission have both adopted unique programs that that utilize a wide array of advanced energy

¹⁰ See, e.g., 16 U.S.C. 824(i)(3) (“[T]he State of New York may establish rules that result in greater reliability within that State”).

technologies and demand-side management measures to maintain the state’s heightened level of reliability and resilience, such as the use of Special Case Resources (“SCRs”) in NYISO and the Commercial System Relief Program and Distribution Load Relief Program on the retail side. The capability of advanced energy technologies like wind, solar, and storage to provide reliability services is increasing rapidly,¹¹ and the state should continue to support and expand the unique programs that have utilized advanced energy to meet its heightened reliability standards.

2. **Ensure achievement of state goals adopted in the CLCPA.** The CLCPA, signed by Governor Cuomo in July 2019, sets forth ambitious but achievable goals for the electricity sector, including a requirement that the state’s electricity be 70% renewable by 2030 and 100% clean by 2040. These legally binding requirements are not subject to change without further legislative action, so any changes to NYISO’s markets must be compatible with and in service of achieving a 100% clean electricity system by 2040.
3. **Enable all resources to compete and participate.** All resources should be able to compete on a technology-neutral basis to provide energy, resource adequacy, ancillary services, and any other benefits or services based on their price (inclusive of carbon emissions costs) and technical capabilities.
4. **Allow resources to deliver their full value to ratepayers and do not mitigate payments for attributes or services *not* valued within the wholesale markets.** The offers of resources with attributes that meet state policy objectives, where such attributes

¹¹ See, e.g., “Using Renewables to Operate a Low-Carbon Grid: Demonstration of Advanced Reliability Services From a Utility-Scale Solar PV Plant”, California ISO, National Renewable Energy Laboratory (NREL), and First Solar, <http://www.caiso.com/Documents/UsingRenewablesToOperateLow-CarbonGrid.pdf>.

are not valued in NYISO markets, should not be administratively repriced in a manner that raises customer costs and risks such resources not clearing the ICAP market. Policies that do so, such as BSM, inefficiently raise the capacity price above the efficient level or over-procure redundant resources, and thus raise costs to load.

5. **Adjust to the different resource mix of the future.** Both NYISO and the Commission should work proactively to identify and plan for the suite of products and services that may be needed to maintain the reliability and resilience of the electricity system as the resource mix changes to reflect state policies (*i.e.*, as it transitions to a system that has higher penetration of DERs, energy storage, and variable renewable resources, along with higher overall demand due to electrification of buildings and vehicles). Adjusting to the different resource mix of the future also means ensuring that the design of wholesale markets signals the need for and encourages the development of additional transmission infrastructure to deliver renewable resources to loads. Failure to address transmission needs will result in continued transmission bottlenecks, which pose a direct threat to cost-effective achievement of the CLCPA goals.
6. **Ensure that market constructs and state policies provide pathways for needed resources to be financed, without inefficiently prolonging the life of resources no longer needed.** Any future market construct must improve opportunities for new entrants into the market and ensure that any major changes to existing resource adequacy mechanisms retain these opportunities. Achievement of the CLCPA will require significant new entry of advanced energy resources, including both resources specifically targeted by state policies (such as offshore wind), as well as resources not directly mandated by state policy yet nonetheless needed to cost-effectively and reliably achieve

100% clean electricity, including demand response, energy efficiency, and energy storage (beyond the goals and targets already in place under state law and policies). Such market entry will only happen if sufficient financial incentives are available within or outside the market. At the same time, it is important to avoid solutions that result in over-compensating resources that are no longer needed, or that will provide additional support for the construction of costly new carbon-emitting resources, since these resources will have a short useful life (and could impose stranded investment risk) given the mandates of the CLCPA to decarbonize the power sector by 2040.

- 7. Ensure that the roles of state regulators and the wholesale market operator (and by extension federal regulators) are clearly defined.** The PSC and NYISO should, in any revised construct, clarify and define the roles of state regulators and the wholesale market operator (and by extension federal regulators overseeing the wholesale market) in ensuring resource adequacy and procuring resources. This is a crucial centerpiece of effectively bridging state policies and the wholesale markets; failure to clearly define these roles has caused or exacerbated conflict in other regions. Options to balance and define these roles are discussed in more detail in response to Questions Four and Six, below.

These seven guiding principles inform our responses to the Commission's questions and apply in addition the specific discussion that follows.

IV. RESPONSES TO NYPSC REQUEST FOR COMMENT

Consistent with the guiding principles detailed above, AEE Institute, ACE NY, AWEA, and SEIA provide the following initial responses to the questions raised by the Commission in this proceeding.

Q1. Are the State’s energy policies and mandates, such as those related to Offshore Wind, photovoltaics, other renewables, and energy storage compatible with the NYISO’s resource adequacy mechanisms? If not, what issues are manifested? Also, if not, how could they be aligned?

Current NYISO resource adequacy mechanisms are not aligned with the energy mandates codified through the CLCPA and other policies. Indeed, certain NYISO policies, such as BSM, directly conflict with New York State policies and associated mandates. Specifically, we note at least four major issues that must be considered.

First, the current market structure may prevent ratepayers from getting all the value out of resources developed and deployed to meet state energy policies, resulting in inefficient infrastructure buildout. If resources deployed with the support of and to meet state policies are unduly prevented from participating in NYISO markets and contributing to resource adequacy, or if their capacity value is inappropriately discounted, consumers will be paying for these resources without receiving their full value. At the same time, customers will also be forced to pay for additional (and unneeded) resources to meet resource adequacy requirements through the NYISO Installed Capacity (ICAP) market. The salience of this concern depends on application of existing ICAP market rules—especially BSM—and whether these rules prevent state-supported resources from having a fair chance to sell their capacity into ICAP. In short, the more resources deployed to meet state policy goals that ICAP market rules like BSM exclude from the ICAP market, the more additional capacity consumers will have to buy and the more

their costs will go up. The need to buy that additional capacity could also slow or inhibit the achievement of the CLCPA goals to the extent that additional capacity is higher-emitting.

Especially in light of these adverse outcomes, it is our view that NYISO's capacity market should not seek to mitigate or otherwise regulate the revenues that resources may receive for services they provide in other markets, or the revenues they receive for attributes they provide outside of the wholesale market. BSM rules should instead focus on their original intent to ensure that buyers are not seeking to exercise market power and artificially reduce capacity prices by dumping uneconomic capacity in the markets. Applying BSM rules to revenues received by resources for services they provide in other markets (e.g., demand response or DERs providing retail services) or for attributes they provide that are not valued in the wholesale markets (e.g., carbon emission reductions and other environmental attributes in furtherance of state goals) extends BSM beyond its original intent and effectiveness. This application of BSM rules is also illogical, as it penalizes resources for services they are providing outside the wholesale market and preserves a market construct where higher-emitting generators effectively enjoy a subsidy because the cost of their emissions are not reflected in their operations. Applying BSM to the offers of resources deployed to meet state policy goals not only denies them a fair chance to sell their capacity into the ICAP, but also denies customers the full benefit of the costs they will incur—*regardless* of these resources' treatment in capacity markets— to attain the state's energy and environmental policy goals.

Unfortunately, recent FERC filings indicate that NYISO clearly intends to apply BSM measures to an ever-expanding set of resources that receive state support when such resources offer to sell capacity in the ICAP market. For example, NYISO has already proposed in its compliance filing in response to FERC Order No. 841 to eliminate the BSM exemption for small

storage resources below 2 MW, which (if accepted) would extend BSM to these small electric storage facilities that will be critical to meeting state policy objectives.¹² In addition, without changes to NYISO rules, BSM will be applied to other large-scale renewable resources developed Downstate to meet state goals. Due to pending matters at FERC, there is concern that BSM measures could be extended further, including to resources Upstate.¹³ All of these pending and in-place BSM rules will also impact resources such as the planned 1,700 MW of offshore wind that will be procured in the near term and 9,000 MW that will be procured over time.

In addition, the method NYISO uses to determine the capacity value of resources is critical; undervaluing resources needed to reach state goals will directly undermine cost-effective achievement of these goals. For example, NYISO is proposing to discount the capacity value of energy storage to 75 percent after 1000 MW of market penetration is reached, which would be counter to the CLCPA's objectives.¹⁴ These discriminatory capacity valuation rules should be addressed. Arbitrary and discriminatory discounting of the capacity value of electric storage resources and other advanced energy technologies risks undercompensating them for the capacity value they provide while also saddling consumers with the cost of procuring additional unneeded capacity.

Second, current resource adequacy mechanisms and related market rules may not cost-effectively maintain reliability under the future resource mix contemplated by state policy. In simple terms, today's ICAP market design procures "plain" MWs of capacity to cover

¹² See NYISO Order No. 841 Compliance Filing at 51-54 (Dec. 3, 2018), FERC Docket No. ER19-467-000.

¹³ See, e.g., FERC Docket No. EL13-62-000 et al. (addressing complaints regarding alleged "price suppression" in Upstate New York).

¹⁴ See NYISO Proposed Tariff Revisions Regarding Establishment of Participation Model for Aggregations of Resources, Including Distributed Energy Resources, at 79-82 (June 27, 2019), FERC Docket No. ER19-2276-000.

load as a means of ensuring resource adequacy. This will not be optimal or sufficient for a future electricity system dominated by renewable energy, energy storage, DERs, and demand management—*i.e.*, the resource mix prioritized by the state as embodied in the CLCPA, the Reforming the Energy Vision proceeding, and other state policies and programs. Under this resource mix, flexibility will be needed to address variations in renewable energy output and more dynamic consumer behavior and loads. Going forward, the market must send investment signals to ensure adequate flexibility, ramping, and load-following and load-management, and identify ways to respond to emerging grid needs, rather than simply encourage additional generation capacity that lacks such essential characteristics. We acknowledge and appreciate that NYISO has started to work on some of these issues and encourage them to move expeditiously.

Additionally, changes to related NYISO market rules should be considered to avoid a heightened risk of renewable energy curtailment as the resource mix in New York shifts toward increased penetration of variable renewable energy resources. Currently, resources are permitted to interconnect without funding system upgrades with the understanding that, at times, those resources and/or other resources interconnecting at the same or nearby points may be required to curtail their output. While this structure was an effective mechanism to foster competition among traditional resources with variable costs, it is not a valid mechanism for renewable resources with no variable costs. Given the likely proliferation of renewable resources on the Upstate transmission and distribution system, renewable-on-renewable curtailments are increasingly likely, and are already occurring today in certain locations and under certain system conditions. Achieving the resource mix mandated by the CLCPA requires resolution of this growing issue.

Third, the failure of current market constructs to sufficiently value advanced energy resources risks their ability to access financing opportunities needed to drive market-based

new entry of resources needed to meet state goals. The range of resources needed to achieve state goals cost-effectively while maintaining reliability must be financeable, as such resources will not enter the market without a path to economic viability. However, due to a combination of factors, the current resource adequacy construct combined with other NYISO markets is currently unlikely to provide sufficient long-term revenue opportunities to allow the NYISO markets, on their own, to drive the transition required by the CLCPA. In addition to the challenges discussed above regarding the distortive effect of applying BSM to resources needed to meet state goals, the current oversupply of capacity in NYISO and lack of sufficient price formation in the energy market all contribute to a failure to provide sufficient signals through the market to incentivize entry of resources needed to meet state goals. Addressing efficient market exit (as discussed below), improving energy market price formation (through mechanisms like the Operating Reserve Demand Curve or other features), and addressing gaps in the ancillary services markets will all help to ensure that advanced energy resources are compensated according to the value they provide to the grid.

Importantly, the challenges that advanced energy resources are facing in NYISO's markets exist *despite*, and not because of, their relative economic competitiveness. Advanced energy resources have come down in cost rapidly over the past decades; at the same time, technology advancements increasingly allow a mix of advanced energy resources to deliver all the products and services needed to maintain reliability. Recent analysis by Rocky Mountain Institute finds that a "Clean Energy Portfolio" comprised of wind, solar, storage, and demand-

side management that matches the operational characteristics of gas generation offers a lower-cost solution than 90 percent of proposed gas-fired generation.¹⁵

Also facing challenges under the current resource adequacy construct are resources such as demand response, energy efficiency, and energy storage that are currently heavily reliant on capacity market revenues and/or complementary NYISO or state policies and programs. Given the importance of capacity market revenues for these resources today, the lack of a multi-year price lock for new resources in the current ICAP market presents a challenge to securing financing to enable market entry. While some flexible, clean resources such as energy storage also have revenue opportunities in the energy and ancillary service markets, without a stable capacity price signal, these flexible, clean resources may not be built and thus will not have the opportunity to participate in energy and ancillary services markets. Going forward, it is also important to note that some of these resources are also not specifically targeted by state procurements or policies, yet will be needed to maintain reliability as the state reaches its CLCPA goals.

In short, a one-size fits all resource adequacy construct is insufficient to meet the varied needs of our future energy system. Any new resource adequacy construct must take into account the needs and characteristics of resources that are financed and that participate in the market very differently today.

Fourth, current market rules may limit efficient market exit needed to enable entry of new clean resources. If NYISO takes overly conservative or unsubstantiated steps to preserve

¹⁵ Rocky Mountain Institute, *The Growing Market for Clean Energy Portfolios and Prospects for Gas Pipelines in the Era of Clean Energy* (2019), both available at <https://rmi.org/insight/clean-energy-portfolios-pipelines-and-plants/>.

existing generation, either through capacity auction parameters that inefficiently prolong the economic life of such resources, mitigating new market entrants, generically boosting market revenues, or issuing Reliability Must Run (RMR) contracts, costs to customers will needlessly increase. Even under existing market rules, older fossil-fired capacity—which often has high marginal costs and long start-up times—is being retained in the market by capacity payments that reward such units for the capability to operate for a long duration when dispatched, despite the fact that this capability is likely to have diminished value in the grid of the future; in fact, the long start-up times of these resources limits system flexibility and actually works against reliability as the resource mix transitions to more and more clean energy. Such practices risk creating capacity surpluses that could reduce energy and capacity prices for all resources and make it difficult or impossible to incent the entry of the significant quantity of new resources needed to meet the state’s policy objectives.

In light of these four challenges, we offer below several recommendations to ensure better alignment between state policy goals and the wholesale markets administered by NYISO *in addition to* the specific recommendations that we discuss in response to Question Four, below. In particular, we recommend that the Commission do the following:

- Provide support for NYISO’s proposal to incorporate carbon pricing into wholesale market prices, as described previously; this would be a significant step toward resolving the revenue issues noted above.
- Oppose application of BSM to resources supported by the policy mechanisms put in place to meet the CLCPA requirements, while being mindful of resources such as DR and storage that rely heavily on capacity market revenue to get developed and deployed in the first place, and that will help the state meet its goals. If current and proposed application

of BSM to resources supported by state policy continues and/or is expanded, the Commission may need to consider taking over additional resource adequacy responsibility to avoid the negative impacts of undue application of BSM. This is discussed in more detail in response to Question Four.

- Engage in strategic planning and expansion of transmission and non-transmission alternatives to enable renewable energy to serve load and to avoid the growing risk of renewable-on-renewable curtailment. Toward this goal, consider the eight recommendations included in the paper *Building Clean Energy in New York: The Case for Transmission Investments* which was filed by ACE NY in Case No. 18-E-0623.¹⁶
- Explore and support new approaches for valuing essential reliability services in the wholesale market, including but not limited to: flexibility to respond to sudden and/or unexpected changes in supply and demand, such as “ramping” capability; additional operating reserves (perhaps as an alternative to a ramping product and/or growing energy demand to shape regional load more optimally); and frequency response as a contingency reserve service, provided more quickly than frequency regulation (“Fast Frequency Response”). Reforms to existing products to enable additional flexibility should also be considered.
- Support ongoing efforts to create active and dynamic DER markets, such as efforts underway through the Market Design and Integration Working Group, and ongoing rate design reforms, such as the mass-market successor to net energy metering (“NEM”) in the value of DER (“VDER”) proceeding. In addition, support new efforts related to

¹⁶ Building Clean Energy in NY: The Case for Transmission Investments, Alliance for Clean Energy New York, Filed in Case 18-E-0623 on September 10, 2019.

DERs, including further evolution of the Load Serving Entity (“LSE”) Distribution System Platform (“DSP”) model such that it not serve as a “gatekeeper,” but rather work in concert with NYISO to best shape load profiles and coordinate services, including resource adequacy, in a manner that stacks savings value for all customers. Additionally, evaluate and update baseline methods used to determine how all resources and customers/aggregations can best provide multiple use applications across power system domains, including resource adequacy services.

In addition to these relatively near-term opportunities, we recommend considering more fundamental market reforms, consistent with the guiding principles outlined above, building upon successful solutions already in place in New York and elsewhere, and consistent with the issues discussed in response to Questions Four and Five, below.

Q2. Does the interaction of policies and market structure mechanisms result in safe and adequate service at just and reasonable rates for customers?

In our view, there is a significant risk that the interaction of policies and market structure mechanisms may *not* result in safe and adequate service at just and reasonable rates for customers in New York—if not today, then in the near future.

Taking each issue in turn, the current combination of market structures and state policies will not result in *safe and adequate service* if either the wholesale or retail market fails to (1) provide a pathway for financing of new, clean generating resources, and (2) incentivize investment in tools and technologies that can provide the products and services needed in a more distributed, dynamic grid (e.g., ramping capability, fast frequency response capability). As discussed above, our organizations have significant concerns that the current resource adequacy

construct (and related market design aspects) will fall short on both counts, particularly as New York moves toward its CLCPA goals.

The current market structure would also fail to deliver reliable electricity service at *just and reasonable rates* if resources developed and deployed to meet state policies have their offers administratively re-priced and are therefore not given a fair opportunity to provide, and be justly compensated for, resource adequacy and/or other services they are capable of providing in the wholesale market. In this case, as discussed above in response to Question One, consumers would be forced to procure additional and unnecessary capacity resources to meet system needs. As the market is currently designed, there is the very real possibility that this is the outcome we will get. Specifically, the ICAP market will *not* produce just and reasonable rates for customers because BSM rules will, through the administrative application of an offer floor, raise the clearing price customers pay for capacity. The resulting price will lead to inefficient deployment of capital because it will be artificially high and signal the need for capacity when there is no such need. It will also fail the *just and reasonable* test because imposing administrative floors on the capacity offers of resources deployed to meet state policies forces New York consumers to pay more for this capacity than suppliers are otherwise willing to provide it for.

Additionally, if the market fails to allow DERs, energy storage, and other advanced energy technologies to provide all the services they are technically capable of providing, such resources will be excluded from the market with or without undue over-mitigation, jeopardizing both *safe and adequate service* and *just and reasonable rates*.

Q3. Is an ICAP product an effective long-term solution for resource adequacy given the required future generating resource mix, which may have lower marginal costs or different availability profiles than many current generation resources in operation? What are the salient attributes of such long-term solutions?

Consistent with our responses to Questions One and Two, above, it is our view that the ICAP market as currently conceived will not be an effective long-term solution for resource adequacy in New York, to the extent that it:

- Does not allow resources developed and deployed to meet state policies to provide all of their value to the market
- Fails to incentivize investment in new, zero-carbon generating resources
- Fails to encourage the efficient exit of resources no longer needed for reliability
- Does not support procurement of resources to provide flexibility, ramping, and other services that will be needed in a system with higher penetration of variable resources and more diverse loads.

Specifically, if the current resource adequacy construct is maintained, the ICAP market rules should be reviewed and potentially revised or replaced to better reflect the future resource mix in New York. Current ICAP market rules such as capacity value calculations, design of auction parameters, and Capacity Resource Interconnection Service procedures should be revisited and likely updated to ensure that they do not unnecessarily obstruct the integration of resources required to meet the state's policy objectives. Of course, any revisions must not jeopardize reliability.

Furthermore, we encourage the Commission to look beyond the ICAP market to address the impacts of low/zero marginal cost resources on other markets, especially if NYISO does not make necessary reforms to its capacity market. For example, energy market price formation will need to be improved (through mechanisms like the Operating Reserve Demand Curve or other features) to ensure that resources are fully compensated for the services they provide and have incentives to respond to scarcity or reliability events on the grid. This is especially true as more

low- and zero-marginal cost renewable and other advanced energy technologies make up the majority of the resource mix. Several options to address these challenges are discussed in more detail in response to Question Four, below.

Q4. Is there a preferred mechanism(s) for ensuring resource adequacy? What are the cost impacts and benefits to consumers under the various potential resource adequacy mechanisms?

Our organizations do not have a single preferred mechanism for ensuring resource adequacy. However, we recommend following the guiding principles in Section III above to develop a preferred mechanism going forward, and we emphasize that any mechanism must allow opportunities for third-party investment while also ensuring that resources developed and deployed to meet state policy objectives are not unduly mitigated, and that they are able to provide all of the value they are capable of providing in wholesale markets.

Before discussing potential mechanisms, it is important to note that the Federal Power Act (FPA) confirms that states have broad authority to determine the specific types of generation or non-generation resources used to serve customers.¹⁷ This is especially true for New York, which has consistently been given explicit authority by Congress to address reliability within the state and adopt higher standards.¹⁸ FERC, in turn, regulates the rates, terms, and conditions of the provision of capacity products in wholesale markets.

¹⁷ 16 U.S.C. § 824(b)(1) (reserving jurisdiction “over facilities used for the generation of electric energy” to the states).

¹⁸ Energy Policy Act of 2005, 16 U.S.C. § 824o,“(3) Nothing in this section shall be construed to preempt any authority of any State to take action to ensure the safety, adequacy, and reliability of electric service within that State, as long as such action is not inconsistent with any reliability standard, except that the State of New York may establish rules that result in greater reliability within that State, as long as such action does not result in lesser reliability outside the State than that provided by the reliability standards.”

<https://www.govinfo.gov/content/pkg/BILLS-109hr6enr/pdf/BILLS-109hr6enr.pdf>

Within these inextricably linked responsibilities, there are a range of options New York can consider to more clearly define each party's roles and responsibilities as the state complies with the CLCPA and as the resource mix changes. The range of available options for ensuring resource adequacy can be thought of along a spectrum, all falling somewhere between two "bookends," which we will use to explore tradeoffs, including costs and benefits to consumers.

Wholesale Market-Driven Resource Adequacy

At one end, NYISO, under FERC regulation, would retain primary responsibility for ensuring resource adequacy, procuring resources to meet resource adequacy requirements through its centralized capacity market construct (or another construct in the future). This approach has several potential drawbacks, many already described above in discussion of the ICAP market, including:

- Conflict between New York State policies and the NYISO market, if resources procured to meet state policy goals become subject to BSM and other market rules and design parameters that inhibit the efficient entry of resources needed to meet state policy goals and retain resources that work against those goals;
- Administrative determinations of the capacity value of resources that may result in discrimination between resource types or systematic under-valuing of resources;
- Potential for over-procurement of capacity and delayed retirements, at an increased cost to consumers;
- Increased complexity of NYISO markets that value all of the attributes required to meet state policy objectives, and potential for conflict with FERC where the state chooses to value some attributes (*e.g.*, environmental performance) outside of the market;

- Federal agency—and not New York State officials—has major, and potentially preclusive, impact on the selection of resources that provide resource adequacy in the state.

State Agency-Driven Resource Adequacy

At the other bookend is a bottom-up planning and procurement approach whereby New York State regulators (through the NYPSC, NYSERDA, or another agency) could take on primary responsibility for resource adequacy, and engage in more centralized planning and procurement of resources to meet resource adequacy requirements. This approach also has several potential drawbacks, including:

- Potential scrutiny and even rejection by FERC (described in more detail below);
- Potential for diminished competition (and resultant cost increases and diminished choice for customers);
- Potential for exclusion of third-party resources depending on the mechanisms used to procure resources (perhaps alleviated by following an approach similar to NYSERDA's existing competitive auction for REC procurement);
- Possible exclusion or under-procurement of resources needed to maintain reliability and reach clean energy goals, yet not specifically supported by state procurement targets (e.g., demand response, energy efficiency resources, energy storage adopted to provide demand response, etc.);
- Increased administrative burden at the state level.

Between these two bookends, there are many alternative options for defining the roles of the state and NYISO in ensuring resource adequacy at least cost while satisfying New York State’s policy mandates.

Wholesale Market-Driven Resource Adequacy Alternatives

NYISO could continue to hold primary responsibility for procuring resources needed to meet reliability requirements through its markets but take proactive steps to ensure that the market outcomes reflect the state’s policies and resource preferences. Some other markets have attempted to make such reforms.

PJM Interconnection (“PJM”) and ISO New England (“ISO-NE”) both provide examples of reform approaches that we strongly recommend *avoiding* or, at a minimum, significantly scrutinizing to understand their full impact. For example, in response to FERC directives to dramatically expand its BSM rules, PJM proposed a Resource-Specific Carve Out option (“ReCO”) that would allow resources subject to BSM to effectively remove themselves from the centralized wholesale capacity market structure and still be counted toward resource adequacy requirements. This approach could alleviate the central problem in NYISO’s market today by protecting resources needed to meet state policy objectives from the worst impacts of BSM. However, as contemplated in PJM, ReCO could be very complicated to implement, and because of how PJM proposes to calculate the contribution of carved-out resources to resource adequacy requirements, it may not fully value them and may require the procure of additional unneeded capacity within the centralized market. We have also heard concerns that extensive carve-outs risk bifurcating the market, and may erode price signals, harming resources need to meet state policy goals that rely on the capacity market (e.g., demand response, some DERs) without

contemplating a transition or replacement for these lost revenues. Finally, it could result in lost market opportunities for third parties if ReCO plans are not sufficiently open to competition.

Under ISO-NE's Competitive Auctions with Sponsored Resources (CASPR), the auction design attempts to incorporate state policy objectives by aligning retirement of aging generation and replacement with the entry resources deployed to meet state-policy objectives. In theory, this approach should align how the centralized capacity market procures resources with the policy mandates of the six New England states. However, this approach still risks retention of aging resources at the cost of excluding from the capacity market the resources needed to meet state goals. Developed in New England as a short-term solution, CASPR or a similar approach will not solve New York's long-term needs; it is built upon a foundation of applying BSM to clean resources, is likely to suffer from significant illiquidity, and does not provide entering clean resources with sufficient revenue certainty.

A more viable alternative that would avoid the downsides of the approaches taken in PJM and ISO-NE would be to design the NYISO capacity market around the goal of procuring resources needed for the state to meet its mandated clean energy targets. Each year, an increasing amount of clean energy (renewable energy, energy storage, demand response, etc.) would be procured through the NYISO markets, alongside a decreasing amount of non-clean resources. In essence, the NYISO would serve as a centralized procurement agent for the state so that all products and services would be transacted through the NYISO markets. Renewables and nuclear power could be secured through a bundled procurement for capacity and RECs/Zero Emission Credits ("ZECs"), alongside a complementary "flex capacity procurement" for resources such as storage and demand response.

State Agency-Driven Resource Adequacy Alternatives

On the other side of the spectrum of options, the state could take a more active role in ensuring resource adequacy than it does today, but continue to rely on NYISO to establish resource adequacy requirements and dispatch resources in the energy and ancillary services markets, while also ensuring that resource adequacy resources perform as required.

The Midcontinent ISO (“MISO”) and California ISO (“CAISO”) both follow this kind of approach. In MISO, most states conduct integrated resource planning (“IRP”) or other resource adequacy planning process under which vertically-integrated utilities procure resources to meet reliability needs. This set of resources is brought to MISO to meet the region’s resource adequacy needs. MISO’s centralized capacity market is effectively a residual market that allows utility members to purchase capacity to resolve deficiencies outside of the state-driven planning processes; prices in this market are very low most of the time. In CAISO, the California Public Utilities Commission (“CPUC”) administers a resource adequacy program that requires the states utilities to procure resources under contract to meet most of the state’s resource adequacy needs.

One way that this could work in New York is to shift away from the mandatory ICAP to a *voluntary* residual capacity market with bilateral trading. Under this approach, the New York State Reliability Council (“NYSRC”) and NYISO would continue to collaborate to calculate mandatory reliability requirements for wholesale customers (i.e., LSEs) in the New York Control Area as they do today. Importantly, however, the ICAP market would be voluntary rather than mandatory, and BSM would not be applied to resources developed and deployed to meet state policies. Wholesale customers would be able to satisfy the mandatory reliability requirements by demonstrating that they have self-supplied or procured capacity that meets NYISO requirements. This proposal would enable wholesale customers to realize the value of the utility-scale

renewable resources deployed to meet state policy goals. A voluntary market would also allow wholesale customers to engage in long-term contracts (which is already allowed) without fear of being subject to BSM.

Under such an approach, it would be essential to ensure that resource adequacy requirements must ensure procurement not only of the mix of resources that can satisfy the requirements of the CLCPA, but all resources needed to meet the state's broader goals, including but not limited to demand response, energy storage, and DERs. Otherwise, these resources will be left to rely on a residual capacity market that is unlikely to provide sufficiently strong price signals to enable investment. The NYISO or NYPSC could facilitate bilateral transactions by increasing price transparency potentially by posting limited information about bilateral offers, developing a standardized contract, or hosting a bilateral trading platform.

Should New York State take on additional resource adequacy responsibility beyond what it does today, the NYPSC should be cognizant of the fact that wholesale capacity transactions are FERC jurisdictional. If New York State plays the role of overseeing capacity sales for resale, it could run afoul of FERC's jurisdiction. In CAISO, FERC recognized, but did not assert, in the first instance, its jurisdiction over capacity sales. If the NYPSC wanted to oversee a resource adequacy program in the manner that the CPUC does, it could request a similar finding from FERC.

Recommendations for Resource Adequacy in New York

Overall, we find that the existing capacity market structure is only viable moving forward to the extent that it can both avoid over-mitigation of resources developed and deployed to meet state targets, and incorporate reforms to ensure that a resource mix consistent with state policy can be financed and deployed without jeopardizing reliability. The state should quickly

determine whether the NYISO market can be sufficiently reformed to meet the state's policy goals, and if not, consider asserting a broader direct state role in managing resource adequacy.

When considering a reformed NYISO role in resource adequacy, we recommend avoiding the approaches taken in PJM and ISO-NE and instead recommend introducing reforms into the NYISO markets that would allow the market to deliver the resources needed to achieve state goals. However, we acknowledge that trying to reform the NYISO, a FERC jurisdictional entity, will be extremely challenging, and may introduce concerns, including but not limited to excessive use of BSM. If, after further consideration, reforms to the NYISO market prove too difficult, appear insufficient to meet state goals, or are found to be otherwise undesirable, the state should explore options to take on a more primary role in ensuring resource adequacy, such as by setting reliability requirements for LSEs with a voluntary residual capacity market, as described above.

In addition to reconsidering the capacity market construct as a means to address resource adequacy while achieving the state's mandates, the Commission should work with NYISO and FERC to enact NYISO's proposal to incorporate carbon pricing into wholesale market prices (as discussed above), and should further reform the energy and ancillary markets to incent flexible resources. For example, as noted above, new ancillary services products can be developed, such as ramping products, fast frequency, and others, to ensure reliability in an evolving resource mix and ensure that advanced energy technologies are compensated for providing those services. NYISO is already examining changes to its operating reserve demand curve that governs the quantity of reserves purchased in NYISO as well as how they are priced. The NYPSC should encourage those efforts.

Q5: Should alternative approaches be considered to ensure the procurement of generation resources is aligned with State policy goals. If so, which ones? Are there existing or proposed models which might be instructive, such as the State overseeing LSEs' resource adequacy portfolios (e.g., an approach similar to the one used by California) or restructuring NYISO rules to accommodate State public policies (e.g., a Fixed Resource Requirement Alternative, as proposed by FERC Order issued on June 29, 2018 in Docket No. EL16-49, ¶160 et seq.)?

A thorough exploration of potential improvements and alternatives will serve New York well. At this time, our organizations do not have a single preferred approach, but instead recommend that the Commission and NYISO keep in mind the guiding principles above, and the recommendations above in response to Question Four.

With respect to the two alternatives the Commission references, namely, CAISO and the pending Fixed Resource Requirement Alternative (now called ReCO) in PJM, we caution that these approaches may not be directly applicable or desirable, as discussed above. Specifically, as noted above in our response to Question Four, while the PJM ReCO could provide some protection from BSM for resources deployed to meet state policy goals, it also has significant shortcomings that could inhibit achievement of state policy objectives; if those shortcomings are not resolved, we would not recommend such an approach. The approach taken by CAISO could be workable, although it has encountered difficulties; specifically, in the past regulators have arguably engaged in too much direct control of the LSE procurement and planning processes, including rejecting attempts by some LSEs to sign bilateral resource adequacy contracts with natural gas units. Over time, these decisions likely contributed to a shortage of ramping resources in California.¹⁹ As a result, the CPUC has engaged in emergency procurements, such as a recent

¹⁹ CAISO, *Summer Loads & Resource Assessment* (May 8, 2019), <http://www.caiso.com/Documents/Briefing-2019-SummerLoads-Resources-Assessment-Report-May2019.pdf>, at 2.

2.5 GW all-source RFP for peak energy, which would come online in the summer of June 2021.²⁰ Such interference and emergency procurements can be avoided with better upfront planning by the NYPSC. Additionally, following the CAISO model would require approval by FERC.

Q6: What is the State role with respect to resource adequacy matters that best serves New York’s electricity customers with safe, adequate, and reliable service at just and reasonable rates in the context of state policies?

Generally speaking, and consistent with the Federal Power Act and court precedent, the state has the role of determining what kind of resources should serve its consumers as well as setting environmental performance objectives. NYISO’s role is to develop market mechanisms and procure grid services that leverage a competitive framework to deliver the most cost-effective, reliable, and stable resource mix consistent with state policies. Within this framework, there are many options for dividing these roles, as described in our response to Question Four, above.

Given that New York has a single-state ISO, the Commission is in a unique position to influence the approach taken to ensure that resource adequacy requirements are met competitively, in keeping with state goals, and in a manner that ensures not just adequate capacity but also adequate flexibility, ramping, and other services. In this regard, we note that RTO membership has always been voluntary, and state regulators can exert significant authority over whether those utilities should join or form an independent grid operator. NYISO is a case

²⁰ These actions occurred after a CPUC regulator proposed a 2 GW of emergency procurements by June 2021 to address 4 GW of natural gas retirements by the end of 2020. *See* Utility Dive, “California proposes 2.5 GW procurement, gas plants extensions to ensure reliability,” Iulia Gheorghiu (Sept. 13, 2019), available at <https://www.utilitydive.com/news/california-proposes-25-gw-procurement-gas-plants-extensions-to-ensure-rel/562883/>.

in point; while it is subject to FERC jurisdiction, it is also a creation of New York State law and regulation. Accordingly, its markets should produce outcomes that are consistent with both the Federal Power Act and state law.

Q7: What, if any, next steps should the Commission take with respect to resource adequacy matters?

Given the many interrelated and complex issues at play in this proceeding, our organizations recommend holding one or more technical conferences to allow for additional education, exploration, and discussion among stakeholders, the Commission, NYISO, NYSEERDA, and other relevant parties. This would be particularly valuable to consider the broader reforms to NYISO markets beyond the ICAP market that could help resolve the conflicts underlying the Commission's questions here, including integration of a carbon price into the NYISO market. The Commission should also consider whether external resources and/or expertise should be brought in to ensure that the issues raised in this proceeding can be fully explored before any reforms are implemented. Of course, the value of broad stakeholder engagement and a thorough exploration of the issues needs to be balanced with the need to move expeditiously, so that the state can stay on track with its clean energy targets. Moving expeditiously will also allow qualifying projects to maximize the value to New York State of the Federal Production Tax Credit (PTC) and Investment Tax Credit (ITC), both of which are beginning to ramp down over the next several years.

Moving forward, the Commission should also monitor FERC's actions in the PJM docket regarding application of its BSM rules currently under consideration at FERC (Docket Nos. EL18-178 et al.). If FERC imposes or otherwise supports applying minimum offer price rules/BSM to resources designed to achieve PJM state policy objectives, then the NYSPSC should

strongly consider revising the manner in which capacity is procured in the state, because, if the current FERC commissioners support strong minimum offer price rules in PJM, they are likely to support them in NYISO's ICAP market as well. The NYPSC should also seek comments on the issues experienced and "lessons learned" from the California resource adequacy program to better understand how state regulators can more effectively oversee a resource adequacy program within a state. Conversations with FERC and NYISO about next steps in the event New York State seeks a more direct role in resource adequacy would be instructive and informative and give the state more information about the various paths forward for resource adequacy.

In addition, we offer the following resources to inform the Commission's consideration of this important topic:

- Audun Bodderud, *Market Considerations for a High Penetration Renewables Scenario*, Energy Systems Integration Group (Oct. 2018), available at <https://www.esig.energy/download/session-1-market-considerations-for-a-high-penetration-renewables-scenario-audun-bodderud/>
- Bethany Frew, *Beyond Capacity Adequacy* (Sept. 2018), available at <https://www.esig.energy/beyond-capacity-adequacy/>
- Electric Power Research Institute, *Wholesale Electricity Market Design Initiatives in the United States: Survey and Research Needs* (2016 Technical Update) (Nov. 2016), available at <https://www.epri.com/#/pages/product/3002009273/?lang=en-US>
- Energy Innovation, *Wholesale Electricity Market Design for Rapid Decarbonization*, Energy Innovation (June 2019), available at <https://energyinnovation.org/publication/wholesale-electricity-market-design-for-rapid-decarbonization/>.
- Wind Solar Alliance, *Customer-Focused and Clean: Power Markets for the Future* (Nov. 2018), PJM Focus available at <https://static1.squarespace.com/static/58ecc722197aea316e9b93fc/t/5be480688a922ddc7214af20/1541701745128/WSA+ARA+PJM+market+design+report+final.pdf>; MISO Focus available at <https://static1.squarespace.com/static/58ecc722197aea316e9b93fc/t/5be5a3010ebbe8659191505f/1541776133013/WSA+ARA+MISO+market+design+report+final.pdf>.

V. CONCLUSION

AEE Institute, ACE NY, AWEA, and SEIA appreciate the Commission's effort to tackle the important, pressing, and increasingly common question of how to achieve alignment between wholesale market rules, resource adequacy, and state energy and environmental policies. We look forward to our continued participation in this important proceeding.



January 31, 2020

VIA ELECTRONIC FILING

Hon. Michelle Phillips
Secretary to the Commission
New York State Public Service Commission
Empire State Plaza, Agency Building 3
Albany, New York 12223-1350

Re: Case 19-E-0530 – Proceeding on Motion of the Commission to Consider Resource Adequacy Matters

Dear Secretary Phillips:

Advanced Energy Economy Institute (AEE Institute), on behalf of Advanced Energy Economy (AEE), the Alliance for Clean Energy New York (ACE NY), the American Wind Energy Association (AWEA), and the Solar Energy Industries Association (SEIA), and pursuant to the *Notice Extending Reply Comment Deadline*, submits for filing reply comments in response to the August 8 *Order Instituting Proceeding and Soliciting Comments*.

Respectfully Submitted,

Ryan Katofsky
Managing Director
AEE Institute

Reply Comments in Response to Order Instituting Proceeding on Resource Adequacy Matters (Case 19-E-0530)

**Advanced Energy Economy Institute
Alliance for Clean Energy New York
American Wind Energy Association
Solar Energy Industries Association**

Introduction and Summary

Advanced Energy Economy Institute (“AEE Institute”), the Alliance for Clean Energy New York (“ACE NY”), the American Wind Energy Association (“AWEA”), and the Solar Energy Industries Association (“SEIA”) continue to applaud the New York Public Service Commission (“NY PSC” or “Commission”) for its foresight and initiative in opening this proceeding to investigate whether changes are needed to align the New York Independent System Operator’s (“NYISO’s”) resource adequacy provisions with the state’s energy and environmental policies. Given recent policy shifts at the Federal Energy Regulatory Commission (“FERC”) on similar issues at PJM Interconnection (“PJM”), the Commission’s actions have proven to be extremely timely. Our organizations collectively represent and work with a range of companies across the advanced energy industry, including large-scale and small-scale wind and solar, hydroelectric power, other renewable energy technologies, battery energy storage, demand response, and energy efficiency. These comments reflect the joint views of AEE Institute, working with Advanced Energy Economy (“AEE”),¹ ACE NY,² AWEA,³ and SEIA.⁴ These organizations are referred to collectively in these comments as the “advanced energy companies,” “we,” or “our.”

¹ AEE is a national business association representing leaders in the advanced energy industry. AEE supports a broad portfolio of technologies, products, and services that enhance U.S. competitiveness and economic growth through an efficient, high-performing energy system that is clean, secure, and affordable.

² ACE NY’s mission is to promote the use of clean, renewable electricity technologies and energy efficiency in New York State, in order to increase energy diversity and security, boost economic development, improve public health, and reduce air pollution.

³ The American Wind Energy Association (AWEA) is a national trade association representing a broad range of entities with a common interest in encouraging the expansion and facilitation of wind energy resources in the United States. The views expressed in this filing do not necessarily represent the views of each individual member of AWEA.

⁴ The Solar Energy Industries Association is the driving force behind solar energy and is building a strong solar industry to power America through advocacy and education. As the national trade association for the U.S. solar energy industry, which employs more than 242,000 Americans, we represent all organizations that promote, manufacture,

Our Initial Comments⁵ focused on providing guiding principles that are broadly applicable regardless of whether New York continues to delegate much of the responsibility for ensuring resource adequacy to the NYISO or assumes a greater role in the future. We did not express a preference for a continued NYISO role or an expanded state role, but instead posed a range of options, each with costs and benefits to consider. Since Initial Comments were filed, several parties (including AEE Institute and ACE NY), filed letters in support of extending the comment deadline to allow time to weigh the impact of a then-expected FERC order on PJM’s Minimum Offer Price Rule (“PJM MOPR Order”).⁶ The issues that were subsequently addressed in that order are highly relevant to the topics under consideration in this proceeding, and the change of direction signaled by FERC could have a significant impact on the options available to New York in this proceeding.

As we describe below, FERC’s order, if implemented without significant changes, will hinder the ability of clean energy to compete in PJM’s capacity market, and we expect that it would be much more challenging for New York to meet its clean energy goals without significant additional costs to ratepayers if the same policies were applied to the NYISO. Today, the NYISO assures resource adequacy for New York through its FERC-approved capacity market within the parameters established by the New York State Reliability Council. While we acknowledge concerns with the ability of the capacity market, as currently designed, to deliver on New York’s policy goals, we believe that properly designed competitive wholesale markets can facilitate efficient, cost-competitive outcomes and achievement of those policy goals, and do not at this time recommend that New York State (“NYS”) assume exclusive responsibility for ensuring resource adequacy. The Commission should continue to press for better alignment of the NYISO capacity market with NYS policy goals through solutions that would avoid the issues inherent in FERC’s recent PJM MOPR Order and/or that could be pursued in the event that FERC’s policy with respect to state-sponsored resources shifts. Well-designed competitive markets that give all resources and resource owners the opportunity to compete to meet the state’s clean energy goals remains the first, best option.

However, we also recognize that the position taken by FERC in its PJM MOPR Order raises the possibility that, if that position were extended broadly, NYS may be forced to assume this responsibility in the future. Many parties have already filed requests for rehearing at FERC, and such reconsideration and

install and support the development of solar energy. SEIA works with its 1,000 member companies to build jobs and diversity, champion the use of cost-competitive solar in America, remove market barriers and educate the public on the benefits of solar energy. The comments contained in this filing represent the position of SEIA as an organization, but do not necessarily reflect the views of any particular member with respect to any issue.

⁵ Initial Comments on the Order Instituting Proceeding and Soliciting Comments, Advanced Energy Economy Institute, Alliance for Clean Energy New York, American Wind Energy Association, Solar Energy Industries Association, filed in 19-E-0530 on November 12, 2019. (“Initial Comments”)

⁶ Calpine Corporation, et al. v. PJM Interconnection, L.L.C., 169 FERC ¶ 61,239 (2019) (“PJM MOPR Order”).

other appeals could change FERC’s policy. They should be allowed to play out. We further note that each RTO/ISO is different, and FERC’s policy decision in PJM certainly does not automatically apply to NYISO. Even with these caveats in mind, we still find that it would be prudent for the Commission to begin considering now how the state might go about taking on a greater role with respect to resource adequacy, and what the implications of that would be for costs and benefits to consumers and achievement of clean energy goals. The Commission should develop clear threshold criteria that would be used to determine whether and when the state should move to take more control of resource adequacy. The Commission should also initiate discussions aimed at structuring a transparent stakeholder process that would, if necessary, develop a state-regulated market-based resource adequacy mechanism.

Impact of the Recent FERC Order

In our initial comments, we urged the Commission to closely monitor FERC’s actions in the PJM proceeding (Dockets Nos. EL16-49 and EL18-178, et al.) regarding application of Buyer-Side Mitigation (BSM, known in PJM as the Minimum Offer Price Rule, or MOPR). Our comments advised that “[i]f FERC imposes or otherwise supports applying minimum offer price rules/BSM to resources designed to achieve PJM state policy objectives, then the NYPSC should strongly consider revising the manner in which capacity is procured in the state, because, if the current FERC commissioners support strong minimum offer price rules in PJM, they are likely to support them in NYISO’s ICAP market as well.”⁷

FERC has since issued a decision in that case, ordering PJM to significantly expand application of the MOPR to all new and existing capacity resources that receive or are eligible to receive “State Subsidies,” unless an exemption applies.⁸ Unfortunately, if FERC’s PJM MOPR Order stands without substantial modification, and if a similar approach were applied to the NYISO, the state’s ability to meet its clean energy goals cost-effectively through the NYISO markets would be threatened.

In particular, the PJM MOPR Order takes the following positions that would conflict with New York’s state goals as codified in the CLCPA:

- **Broad definition of State Subsidy:** The order contains a very broad definition of subsidy that encompasses almost all existing policy tools used by states to meet their lawful generation resource and environmental emissions goals.⁹ ZECs, compliance RECs, and potentially even

⁷ Initial Comments at 34-35.

⁸ *Calpine Corporation, et al. v. PJM Interconnection, L.L.C.*, 169 FERC ¶ 61,239 (2019) (“PJM MOPR Order”).

⁹ FERC defines a State Subsidy as “A direct or indirect payment, concession, rebate, subsidy, non-bypassable consumer charge, or other financial benefit that is (1) a result of any action, mandated process, or sponsored process of a state government, a political subdivision or agency of a state, or an electric cooperative formed pursuant to state law, and that (2) is derived from or connected to the procurement of (a) electricity or electric generation capacity sold

voluntary RECs could be considered State Subsidies subject to the MOPR. Even eligibility for state support would be enough to qualify a unit as subsidized.

- **Broad application to advanced energy technologies:** The order rejects PJM’s proposal to exclude energy efficiency resources, and explicitly requires that demand response, energy storage, and “emerging technology” all be subject to the MOPR.¹⁰
- **High offer floors:** For new resources, PJM is required to calculate the offer floor at 100% of the net Cost of New Entry (CONE) (i.e., the typical cost to construct the resource type net of its energy and ancillary services market revenues).¹¹ Based on earlier filings by PJM, estimated offer floors for onshore and offshore wind and solar PV would be well above recent clearing prices in the PJM capacity auction, meaning that application of MOPR would exclude these resources from the capacity market.
- **No materiality thresholds:** FERC rejected PJM’s proposal to adopt two “materiality thresholds,” which would have limited the reach of the expanded MOPR by excluding (1) capacity resources with an unforced capacity rating of 20 MW or smaller, and (2) capacity resources that receive a subsidy that amounts to 1% or less of their actual or anticipated total revenues from energy, capacity, and ancillary services markets.¹² This means that even *de minimis* state support could result in the imposition of the MOPR on a resource, with no requirement that there be actual or likely price suppression as a result of the state subsidy.
- **All-or-Nothing Capacity Market Participation:** PJM has had a Fixed Resource Requirement (“FRR”) in its tariff that allows a utility to leave the capacity market and self-supply its own resource needs. A variation on this option was provided in the PJM case. FERC declined to require PJM to develop a Fixed Resource Requirement Alternative (FRR-A) that would have allowed states to remove individual resources subject to the MOPR, along with a commensurate amount of load, from the capacity market. While we noted the challenges with an FRR-A in our initial comments in this proceeding,¹³ the exclusion of this option forces states that wish to avoid application of the MOPR to state-sponsored or state-mandated resources to instead pursue a

at wholesale in interstate commerce, or (b) an attribute of the generation process for electricity or electric generation capacity sold at wholesale in interstate commerce, or (3) will support the construction, development, or operation of a new or existing capacity resource, or (4) could have the effect of allowing a resource to clear in any PJM capacity auction.” PJM MOPR Order at P 67.

¹⁰ PJM MOPR Order at 62.

¹¹ PJM MOPR Order at 59-62.

¹² PJM MOPR Order at 44-45.

¹³ See Initial Comments at 27-28.

“Full” FRR. Under a Full FRR, a utility would remove its entire load from the PJM capacity market and demonstrate to PJM that it holds sufficient capacity to satisfy its share of the region’s resource adequacy requirements.

If applied to the NYISO market, FERC’s order would have the effect of mitigating the capacity market participation of generation resources that New Yorkers are investing in to advance the state’s clean energy and emissions reduction goals. In light of FERC’s decision, the NYPSC must carefully evaluate its options to avoid this perverse outcome. The comments that follow offer additional advice to guide this evaluation.

FERC Frustrates Options for Working with the NYISO

There was overwhelming agreement in parties’ initial comments that NYISO rules are impeding New York from reaching its clean energy goals, and many parties indicated a strong preference for modifying NYISO rules rather than shifting responsibility for resource adequacy to the state. A few parties put forward ideas on how to integrate state goals and resource preferences into the NYISO ICAP market. While these ideas are worthy of consideration, they ultimately rely on approval from FERC—a result that its recent order now calls into question, at least in the near term. However, it is possible that the PJM MOPR Order will be amended and/or that the position of FERC with respect to the integration of state-supported resources into wholesale markets may shift by the time New York State is ready to implement an alternative to resource adequacy under NYISO, and that changes to NYISO rules might become a viable option once more. For this reason, options for reforming the NYISO should remain the first-best option, with the understanding that they have diminished near-term potential, but possible longer-term prospects at FERC.

Carbon Pricing Remains an Important Option that Could Pass FERC Scrutiny, but is Not Alone Sufficient

As noted in our initial comments, our organizations view adoption of a carbon price in the NYISO energy market as an important step to better align New York’s energy and environmental policy goals with short- and long-term price incentives in the wholesale market. Most other commenters similarly voiced support for applying a carbon price to the energy market and encouraged the Commission and NYISO to work together to move this priority forward.¹⁴ This proceeding is the appropriate and timely forum for the Commission to explore NYS endorsement of carbon pricing at the NYISO and to opine on NYISO’s

¹⁴ See, e.g., NYISO Market Monitoring Unit; Joint Utilities; Independent Power Producers of New York; New York City; NYISO; Exelon; New York Association of Public Power; and National Resource Defense Council, Sierra Club, Sustainable FERC Project, Environment America, and Vote Solar.

proposal. Importantly, the PJM MOPR Order does not explicitly identify a carbon price adder as a form of state subsidy that would be subject to MOPR, and could be reasonably interpreted to exclude a carbon price from the definition of a State Subsidy.¹⁵ We therefore view adoption of a carbon price as an achievable, near-term, no regrets solution to better align New York State's policy goals and NYISO's markets.

However, we reiterate that a carbon price alone will be insufficient to equip the state to meet its clean energy goals through the wholesale market, especially over the long term as NYS pursues its legal mandate to reach 100% emissions-free power within twenty years. In particular, as we emphasized in our initial comments, the harmful effects of BSM will water down the effectiveness of a carbon price as an incentive for new entry of clean energy resources unless BSM rules are changed. We note that Exelon's initial comments in this proceeding included a study showing that carbon pricing can help reduce the impacts of BSM in the short-term.¹⁶ This makes carbon pricing an important policy to respond to FERC's actions in a critical transition period so as to reduce ratepayer costs while New York is striving to achieve its CLCPA goals and is considering its future role in resource adequacy. However, even in the near term the study predicts that offshore wind and energy storage would still be subject to BSM because the higher costs of these resources may not be sufficiently reduced by a carbon price.¹⁷ Furthermore, the study only looks out to 2025, and therefore does not consider what would happen when the grid is running with a much higher percentage of clean resources and the impact of a carbon price adder will be diminished.¹⁸

Relatedly, a carbon price, unless set sufficiently high, may not provide an adequate price signal to facilitate financing of new clean energy resources needed to meet the CLCPA targets. As we pointed out in our initial comments, this is particularly true for resources such as energy storage that have low MWh output and therefore receive limited benefit from a MWh-based incentive such as a carbon price adder. This is why we support carbon pricing as a policy complementary to the State's procurement programs for clean energy. While we continue to support and encourage adoption of a carbon price in the NYISO markets, we therefore urge the Commission to also explore additional, complementary solutions for the longer term.

¹⁵ FERC's definition of a State Subsidy is quoted in supra n. 9. A carbon price increases the cost of carbon-polluting units in a manner not dissimilar to costs imposed on such resources by other environmental regulations, which are not contemplated by the MOPR. We note that several parties requested clarification from FERC that a carbon tax or cap-and-trade program such as the Regional Greenhouse Gas Initiative would not be considered a State Subsidy under the expanded MOPR. *See, e.g.,* PJM Rehearing Request at 22-23; Exelon Rehearing Request at 5.

¹⁶ Exelon comments at Attachment B.

¹⁷ The study projects that all incremental energy storage would be subject to BSM even with a carbon price that is otherwise largely effective at exempting clean resources from BSM. *See Id.* at 6-7.

¹⁸ Other commenters agree that carbon pricing is a near-term tool that will have more limited impact in the long term. *See* National Resource Defense Council, Sierra Club, Sustainable FERC Project, Environment America, and Vote Solar at 9, "Over the long term, when fossil resources are not on the margin, the carbon price value could be drastically lower."

New York Should Establish a Threshold for When it May Need to Take Steps to Assume Greater Control of Resource Adequacy

We continue to press for FERC to modify or withdraw its PJM MOPR decision, and continue to advocate for competitive wholesale markets that provide for both fair competition and achievement of state clean energy goals and policies. However, if FERC maintains a hard line on BSM rules, New York State may be forced to consider taking on more responsibility for resource adequacy in the state. NYS should develop a clear threshold for when it will take steps to assume this responsibility. For example, one key threshold for New York State to consider is that the state's preferred resources, which will be deployed to meet the Clean Energy Standard, should be able to fully count toward (and be compensated for) their contributions to resource adequacy. This will ensure that utility customers will not have to pay for additional, unnecessary capacity. This minimum threshold criterion should be applied not just with respect to how FERC addresses BSM in the NYISO, but more generally, since BSM is not the only issue affecting participation of the state's preferred resources in wholesale markets.

New York Should Start to Consider the Implications of Assuming Greater Responsibility for Resource Adequacy Now

While the future of BSM in FERC-jurisdictional wholesale markets is being determined, NYS should prepare for the possibility that it may need to assume greater responsibility for resource adequacy. We do not recommend that the State take over resource adequacy immediately, but that it should do so only when its threshold criteria, as discussed above, have been met. This may take some time as parties will seek to clarify FERC's PJM MOPR Order, revise it, and potentially overturn it. And there is a chance that FERC, with different commissioners, might decide differently in the future. However, New York should prepare for the possibility that the policy preferences expressed by FERC in the PJM MOPR Order could be applied to the NYISO as well, and could be long-standing. If New York decides to assume greater responsibility for resource adequacy, it should already have in place a fully-vetted plan to do so. The State should start now to make sure that it considers all of the implications of such a decision and that it is prepared.

An initial step would be to charge a stakeholder group to work on the issue of resource adequacy and BSM. Like the stakeholder group that worked on Carbon pricing, this could be a joint effort of the NYPSC and the NYISO. The NYPSC could put time limits on the group with clear deliverables. This group would produce the concepts that either NYISO or the NYPSC could use to ensure reliability and compliance with NYS clean energy goals.

There are many methods the state could employ to ensure resource adequacy; however, we strongly believe that it should rely on competitive and transparent market mechanisms, such as auctions. The difficult process of defining and refining these market mechanisms is best accomplished through in-person

stakeholder meetings followed by several opportunities for written comment. We recommend that the NYPSC begin to formulate how it would organize such stakeholder efforts and initiate them in the near future.

While we do not propose any specific mechanism within these comments, we believe establishing guiding principles will benefit the process. The principles we provided in our initial comments could serve as a starting point. They are explained in more detail in our initial comments,¹⁹ and they are summarized below:

1. **Maintain New York’s high level of reliability.** With the express assent of Congress²⁰ and in recognition of the unique needs of the City of New York, NYS has adopted and maintained higher reliability standards than required in other jurisdictions. This should not change, regardless of who ultimately has responsibility for resource adequacy. The state should continue to support and expand the unique programs that have utilized advanced energy to meet its heightened reliability standards.
2. **Ensure achievement of state goals adopted in the CLCPA.** Any changes to NYISO’s markets or new mechanisms established by the state must be compatible with and in service of achieving a 100% clean electricity system by 2040.
3. **Enable all resources to compete and participate.** All resources should be able to compete on a technology-neutral basis to provide energy, resource adequacy, ancillary services, and any other benefits or services based on their price (inclusive of carbon emissions costs) and technical capabilities.
4. **Allow resources to deliver their full value to ratepayers and do not mitigate payments for attributes or services *not* valued within the wholesale markets.** The offers of resources with attributes that meet state policy objectives, where such attributes are not valued in NYISO markets, should not be administratively repriced in a manner that raises customer costs and risks such resources not clearing the ICAP market. Policies that do so, such as BSM, inefficiently raise the capacity price above the efficient level or over-procure redundant resources, and thus raise costs to customers.
5. **Adjust to the different resource mix of the future.** NYS should identify and plan for the suite of products and services (including additional transmission infrastructure) that may be needed to maintain the reliability and resilience of the electricity system as the resource mix changes to

¹⁹ Initial Comments at 9

²⁰ *See, e.g.*, 16 U.S.C. 824(i)(3) (“[T]he State of New York may establish rules that result in greater reliability within that State”).

reflect state policies (*i.e.*, as it transitions to a system that has higher penetration of DERs, energy storage, and variable renewable resources, along with higher overall demand due to electrification of buildings and vehicles). Additionally, we continue to support competitive as well as traditionally regulated transmission solutions under the NYISO and PSC’s Public Policy Transmission Needs (“PPTN”) processes in order to enable new clean energy generation to be interconnected safely, reliably and in a manner consistent with the State’s resource adequacy needs. New York State will not meet its goals under CLCPA without additional expansion and upgrade of its bulk transmission network. We strongly encourage the PSC to carefully consider current and future PPTN matters before it that will remove hurdles to the participation of non-incumbent utility companies also in developing new transmission projects in New York to accomplish the CLCPA goals, and not limit itself to transmission development solely from incumbent utilities.

6. **Ensure that market constructs and state policies provide pathways for needed resources to be financed, without inefficiently prolonging the life of resources no longer needed.** Any future market construct must improve opportunities for new entrants into the market and ensure that any major changes to existing resource adequacy mechanisms retain these opportunities. At the same time, it is important to avoid solutions that result in over-compensating resources that are no longer needed or that are expected to have short useful lives given the CLCPA mandate to decarbonize the power sector by 2040.
7. **Ensure that the roles of state regulators and the wholesale market operator (and by extension federal regulators) are clearly defined.** The PSC and NYISO should, in any revised construct, clarify and define the roles of state regulators and the wholesale market operator (and by extension federal regulators overseeing the wholesale market) in ensuring resource adequacy and procuring resources. This is a crucial centerpiece of effectively bridging state policies and the wholesale markets; failure to clearly define these roles has caused or exacerbated conflict in other regions.

Conclusion

AEE Institute, ACE NY, AWEA, and SEIA appreciate the Commission’s initiative and leadership on the important question of aligning resource adequacy mechanisms with clean energy goals. The recent order from FERC has underscored the need for this proceeding, and we urge the Commission to, as a first-best option, continue to explore opportunities to reform the NYISO markets to better align them with New York’s policy goals, through mechanisms including but not limited to carbon pricing and reforms to the

ICAP market. At the same time, the Commission should begin exploring what steps may be necessary for the state to increase its role in ensuring resource adequacy should it become necessary, as well as the implications of doing so. We look forward to our continued participation in this important proceeding.