STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

Investigation of Resource Adequacy Alternatives	**)**	**Docket No. EO20030203**

COMMENTS AND RESPONSES OF NRG ENERGY, INC.

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

Staff seeks written comments to discuss the feasibility of establishing a ("FRR") service area or areas in New Jersey. Suggested topics for inclusion in the comments are as follows:

a. Discussion of the FRR requirements under the PJM Tariff and how they may be applied to a restructured state, New Jersey specifically.

See Section III.D

c. Discussion of the pricing and/or rate implications associated with FRR.

See Section III.D

h. Discussion of any affiliate relations or market power concerns related to implementation of FRR in New Jersey.

See Section III.D

i. Discussion of any related topics.

See Section III.D

2. Can New Jersey Utilize the FRR to Accelerate Achievement of New Jersey Clean Energy Goals?

Staff seeks written comments to discuss 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. Suggested topics for inclusion in the comments are as follows:

a. Discuss whether FRR is a viable construct to assist New Jersey in achieving its clean energy goals.

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c. Discuss whether the State should consider adopting an energy market carbon dispatch price, in addition to RGGI, in lieu of an FRR approach.
   (i) How would such an approach work?
   (ii) Discuss whether such a carbon price is a viable construct to ultimately get New Jersey to achieve the totality of the 2019 EMP goals.

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d. Discuss whether there are any other models for meeting the state's resource

adequacy needs and advancing the state's clean energy agenda.

See Sections III.A, III.B and III.C

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

Staff seeks written comments to discuss the feasibility of modifying the Basic Generation Service ("BGS") construct in New Jersey. Suggested topics for inclusion in the comments are as follows:

c. Discussion of the pros and cons of modifying the BGS construct to facilitate the State's long-term clean energy objectives.

See Section III.A

f. Discussion of whether the BGS construct can ultimately get New Jersey to achieve the totality of the 2019 EMP goals.

See Section III.A

g. Discussion of any additional related topics.

See Section III.A

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

Staff seeks written comments to discuss the feasibility of implementing a Clean Energy Standard, Clean Energy Market or other mechanisms to competitively source carbon-free energy and ensure appropriate decision-making for resource adequacy aligned with state public policy goals. Suggested topics for inclusion in the comments are as follows:

a. Discussion of alternative competitive processes to facilitate the State's long-term clean energy objectives.

See Sections III.A and III.B

b. Discussion of implementation of a Clean Energy Standard.

See Section III.B

c. Discussion of the pros and cons of various alternative market constructs to achieve a clean energy future.

See Section III.B

COMMENTS AND RESPONSES OF NRG ENERGY, INC.

NRG Energy, Inc. ("NRG") submits these comments in the above-captioned proceeding in support of reforms that deliver a clean energy future to the State of New Jersey. The Board of Public Utilities Staff ("Staff" or "Board Staff") has asked detailed and thoughtful questions about how to design a clean energy policy for the power sector.[1] The state now has an opportunity to reform its existing regulatory structures such as Basic Generation Service ("BGS"), and adopt a new clean energy standard, to leverage both wholesale and retail competition. Success will mean a less expensive transition to a clean energy future, while achieving the state's resource adequacy goals.

NRG understands that the Staff may have initiated this process in more ordinary times with a technical conference, instead of a more impersonal round of written comments. NRG hopes Staff will be able to facilitate a productive exchange of views on these topics at an appropriate time. NRG looks forwards to participating in this ongoing dialogue.

I. Executive Summary

A competitive retail market can play an important role in facilitating clean-energy development and in assuring resource adequacy. Those who sell energy to customers on a retail basis should face financial incentives to cover the positions of both their existing and likely future contractual supply obligations. They should also face pressure to comply with a clean-energy standard in a cost-effective manner. The current BGS, while it leverages wholesale competition, constitutes 86% of the mass retail market.[2] This has led to a single, undifferentiated

[1] Request for Written Comments, *Investigation of Resource Adequacy Alternatives*, Docket No. EO20030203 (March 27, 2020).

[2] Rob Gramlich & Frank Lacey, "Who's the Buyer: Retail Electric Market Structure Reforms in Support of Resource Adequacy and Clean Energy Deployment," *Grid Strategies* (prepared for Wind Solar

product being sold to retail customers, and has failed to lead the market toward investments in clean energy or in innovative customer-facing products necessary for a high-renewables future.

NRG proposes in these comments a reform plan for BGS, where a transition to a fully competitive retail market occurs, accompanied by higher customer-protection and clean-energy standards than presently exist. A properly incentivized set of buyers of clean energy products—in competition with one another, without guaranteed rate recovery, and acting on behalf of the customers they serve—can be an engine for cost-effectively achieving decarbonization.

New Jersey should also adopt a robust clean energy standard, backed by a competitive auction process. Similar to the state's leading role when it helped launch the Generation Attribute Tracking System now housed in PJM, the state should take the lead role in working with the regional market operator on forming a new marketplace for clean energy products. The addition of a forward clean energy market to PJM would be a conduit for New Jersey's and other states' policy goals. Such a market would promote robust competition between suppliers of clean energy, drive development of resources by providing transparent and predictable pricing of their clean energy attributes, and allow buyers of that clean energy to opportunistically procure it at lower cost when it is more plentiful and less expensive.

Both of these policy reforms are crucial to New Jersey getting it right on clean energy policy for the benefit of its customers and the long-term durability of this policy shift. In proposing these reforms, our comments are substantially informed by two important published works, the Wind Solar Alliance's *Who's the Buyer: Retail Electric Market Structure Reforms in Support of Resource Adequacy and Clean Energy Deployment*[3] and the Brattle Group's *How*

Alliance) (March 2020), p. 11. (Wind Solar Alliance Report") https://windsolaralliance.org/wp-content/uploads/2020/03/WSA-Retail-Structure-Contracting-FINAL.pdf.

[3] *Id.*

States, Cities and Customers Can Harness Competitive Markets to Meet Ambitious Carbon Goals Through a Forward Market for Clean Energy Attributes.[4]

NRG understands that the state may be concerned that resources that receive "State Subsidies" in recognition of their non-emitting characteristics will be subject to a Minimum Offer Price Rule in light of the Federal Energy Regulatory Commission's December 2019 order on the PJM capacity market.[5] The approaches outlined above can avoid that outcome and give New Jersey a clear line of sight to its decarbonization goals. These approaches are compelling alternatives to the Fixed Resource Requirement alternative ("FRR"), which would be a parochial, anti-competitive solution "which 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"[6] at the very time when regional, competitive approaches are called for to solve the grave issues posed by the emission of greenhouse gases across all sectors.

II. Background Information on NRG

With a headquarters in Princeton, New Jersey, NRG is a leading integrated power company in the U.S. A Fortune 500 company, NRG creates value through best in class operations, reliable and efficient electric generation, and a retail platform serving residential and commercial businesses. NRG has approximately 23,000 MW of generation resources throughout the U.S., while our retail electricity providers serve more than three and a half

[4] Kathleen Spees et. al., "How States, Cities and Customers Can Harness Competitive Markets to Meet Ambitious Carbon Goals Through a Forward Market for Clean Energy Attributes," *The Brattle Group* (prepared for NRG) (Sept. 2019) ("Brattle report"). https://brattlefiles.blob.core.windows.net/files/17063_how_states_cities_and_customers_can_harness_competitive_markets_to_meet_ambitious_carbon_goals_-_through_a_forward_market_for_clean_energy_attributes.pdf.

[5] *Calpine et al v. PJM Interconnection*, 169 FERC ¶ 61,239 (Dec. 19, 2019).

[6] Monitoring Analytics, acting at the PJM Independent Market Monitor, *Potential Impacts of the Creation of New Jersey FRRs* (May 13, 2020), p. 4.

million customers across more than a dozen states. The company has five licensed retail companies that are actively serving residential, commercial, industrial and institutional customers across New Jersey. [7]

NRG is committed to lowering the carbon intensity of electricity production, as well as increasing the deployment of clean generation technologies. In September 2019, NRG announced its commitment to reducing its greenhouse gas emissions by 50% by 2025 and achieving net-zero emissions by 2050.[8]

III. Comments

A. Basic Generation Service ("BGS") and the Associated Retail Market Rules are a Barrier to the Attainment of New Jersey's Policy Goals.[9]

The Board Staff has requested comments on whether the current BGS construct should be modified to facilitate attainment of the Energy Master Plan ("EMP") Clean Energy objectives. The answer is a resounding yes. The Board of Public Utilities ("BPU") should move to make BGS a true provider of last resort service, rather than a service that dominates the retail market. NRG offers a pathway to accomplish this below. This would assist both the state's resource adequacy and clean energy goals. As explained in the Wind Solar Alliance report, because of the retail market's domination by BGS, no supplier in the New Jersey market today has the incentive or ability to enter into long term contracts with generation resources.[10] NRG agrees with the Wind Solar Alliance and its successor the American Council on Renewable Energy,[11] and urges

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[7] *Reliant Energy Northeast LLC d/b/a NRG Home/NRG Business* ESL-0093; *Green Mountain Energy Company* ESL-0098; *Energy Plus Holdings LLC* ESL-0087; *XOOM Energy New Jersey, LLC* ESL-0115; *Stream Energy New Jersey, LLC* ESL-0109.

[8] https://www.nrg.com/about/newsroom/2019/38151.html.

[9] This section of NRG's comments is responsive to Topic 3 in the Board Staff's Request.

[10] Wind Solar Alliance Report, p. 11.

[11] Following the publication of the Wind Solar Alliance report, the organization and ACORE merged in Spring 2020. NRG understands ACORE filed the Wind Solar Alliance report in this proceeding on May 13, 2020.

the Board to consider reforms to BGS and its retail market rules to encourage investment in clean energy resources by Third Party Suppliers ("TPSs").

In NRG's experience, when TPSs have both the incentive and ability to procure generation on a longer-term basis to meet the demands of their customers, they do. As a case in point, in 2019 NRG entered into power purchase agreements with an average tenure of 10 years for 1.6 GW of solar generation in ERCOT to satisfy the growing demand for renewable resources from its retail customers in that market.[12] Meanwhile, with a few exceptions, the primary source of support for renewable resources in New Jersey and the rest of the PJM market has come through relatively short-term purchases of Renewable Energy Credits ("RECs"), rather than from a direct investment in renewable generation by retail market participants.[13]

This profound difference between Texas and New Jersey has occurred for two reasons. First, the Texas market has relegated its cost-of-service entities to providing only a poles-and-wires function, leaving the retail market fully competitive. This move is consistent with New Jersey's legislative mandate to place greater reliance on the competitive markets encapsulated in the Electric Discount and Energy Competition Act ("EDECA").[14] In the same vein, it would be inconsistent with New Jersey law to place BGS in a position of centrally procuring all of the clean energy resources that a robust CES would require. Second, Texas public policy has accommodated the growth in wind and solar by encouraging transmission investments to move

[12] NRG Energy Inc., *2019 Form 10-K*, p. 10. http://www.annualreports.com/HostedData/AnnualReports/PDF/NYSE_NRG_2019.pdf.

[13] RECs are used to satisfy both voluntary renewable energy purchases by customers as well as New Jersey's Renewable Portfolio Standard ("RPS") requirements. This is not to say direct investments by TPSs never happen. For example, NRG retail subsidiary, Green Mountain Energy Company ("GME"), built the first utility scale wind project in the Eastern United States—the Green Mountain Energy Wind Farm in Garrett, Pennsylvania, in 2000. GME was the first retail supplier in the country to offer green power products to residential customers and has offered renewable options to mass market customers longer than any other retail supplier.

[14] *Electric Discount and Energy Competition Act* ("EDECA"), N.J.S.A. 48:3-50.

those resources to Texans in urban centers and broadly socializing transmission's cost. Nonetheless, NRG believes that New Jersey can ensure the accomplishment of its clean energy goals by TPSs through the adoption of a robust Clean Energy Standard ("CES"), detailed in Section III.B of these comments.

Competitive retail markets also ensure resource adequacy. A truly competitive retail market imposes a significant incentive on TPSs to cover the positions they are contractually obligated to serve, or that they expect to serve in the future given expectations of their market share. In ERCOT, for example, only 10-20% of total energy volumes transacted in the market were unhedged by a bilateral contract.[15] In other words, a well-designed retail marketplace will lead to voluntary bilateral agreements that ultimately fulfill a resource adequacy function that presently is left to the PJM capacity market and the BGS. This creates a virtuous cycle for renewable development, as many of those hedges take the form of renewable PPAs, like the ones NRG has entered.

As the amount of intermittent renewable energy *supply* grows, it will also be necessary to have *demand* do more to help "integrate" the system. Even if one posits that the BGS auction is a robust competition between wholesale energy suppliers, it does little to address the demand side. This can only happen in a flourishing retail market where TPSs have an incentive to offer retail products to customers that are both attractive to them, and which help shape demand to the value of the wholesale energy system. In Texas, customers have an abundance of choice with a wide variety of product offerings.[16] Importantly, 1.25 million out of 7.45 million customers have

[15] Potomac Economics, acting as ERCOT Independent Market Monitor, *Review of Summer 2019*, p. 23. https://interchange.puc.texas.gov/Documents/49852_6_1036679.PDF.

[16] As of April 2020, Texas consumers can choose from among hundreds of electricity supply plans offering up to 100% renewable energy, time of use pricing, free nights & weekends, pre-pay or flat billing plans, demand response plans and plans offering energy efficiency technology aimed at reducing

voluntarily elected a price-responsive demand product—nearly a 17% adoption rate.[17] By contrast, the nationwide average for adoption of time-of-use rates by residential customers is a mere 1.7%.[18] A fully competitive retail market and its diverse set of product offerings, in other words, is more "renewable ready" and, again, helps promote resource adequacy.

1. BGS dominates the retail market and should be reformed.

New Jersey's BGS program and the related rules governing the retail market should be reformed to enable the robust competition that would allow TPSs to make the investments in clean energy resources that the Board is now trying to encourage. The current market structure biases customers toward utility service, as evidenced by the fact that 86% of New Jersey's residential customers are on BGS.[19] In a market dominated by a state-directed procurement, no supplier will make longer term investments in the market. NRG offers the following observations that highlight the necessity for reform.

a. BGS ensures the regulated monopoly utilities dominate the "competitive" electricity market.

BGS keeps the regulated monopoly utility squarely in the middle of all interactions between customers and their chosen TPSs, putting the TPSs at a competitive disadvantage. The utilities process all customer switches, notify customers about their switching choices, have the power to accept or reject switching requests, decide on when those switches will be processed, control access to all customer account data, and own the relationship with the customer as the

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customers' total bills, along with contract terms ranging from 1 to 60 months. http://www.powertochoose.org/en-us/.

[17] Wind Solar Alliance Report, p. 4.

[18] Ryan Hledik et. al., *The National Landscape of Residential TOU Rates: A preliminary summary*, Brattle Group (Nov. 2017), http://files.brattle.com/files/12658_the_national_landscape_of_residential_tou_rates_a_preliminary_summary.pdf.

[19] Wind Solar Alliance Report, p. 11.

biller of all TPS charges. The utilities determine how TPS charges will appear on the bill and how much space a supplier is allocated to communicate with its customers. TPS charges appear as a line item (typically on page 4 of the utility bill), ensuring a TPS instantly becomes an afterthought for customers who selected the TPS's services.[20] Such limitations significantly limit the kinds of products and services a TPS can offer to its customers, as TPSs are limited to putting only commodity charges on the utility bill. These limitations also create a race to the bottom for TPSs, allowing thinly capitalized bad actors to market low-quality products at the expense of a more flourishing, high-value market's creation.

NRG has been a vocal advocate for enabling TPSs to establish a billing relationship with their customers by offering a single bill that includes both their own supply charges and the delivery charges of the regulated distribution company. Customers want a single bill and in the wider economy they expect to be billed by the supplier of the products and services they purchase, not by the company that delivered that good or service. Imagine that when purchasing products from Target, Wal-Mart, or any other retail merchant, that the bill came instead from FedEx or the U.S. Postal Service. It would be absurd. As Wind Solar Alliance aptly noted, "when utilities are allowed to control the billing relationship, it biases customers toward utility products and services including default service."[21]

b. BGS is the product of "first resort."

All customers are automatically assigned to BGS by default whether they want it or not,

[20] Further complicating matters, each utility has its own business rules governing how these transactions work – there are no standardized processes across the utilities that would enable efficiency. Suppliers must keep track of the various utility rules and implement complex programing in their systems to ensure they can communicate and follow all these rules simultaneously – unnecessarily driving up supplier pricing.

[21] Wind Solar Alliance Report p. 14.

and all customers have the free option to return to BGS at any time. As Wind Solar Alliance points out, such a structure "undermines retailers' incentives to plan to serve customers over any significant and sustained period of time."[22] It consequently erodes the role retailers might play in providing resource adequacy—making it a foregone conclusion the service will be provided by a central administrator. Customers who move to a different address are automatically placed on BGS and must remain there for an entire billing period before they can choose a competitive supplier – and when they do choose, they are forced to wait until the next billing period to get the TPS service they selected. As roughly 10% of customers move each year, TPSs are continuously working to backfill the churn that makes maintaining a stable customer base difficult. In contrast, in both Texas and Pennsylvania, a customer enrolled with Reliant (TX)[23] or NRG Home (PA) has the right to move and retain NRG Home as her supplier, with no disruption to her contract terms.[24]

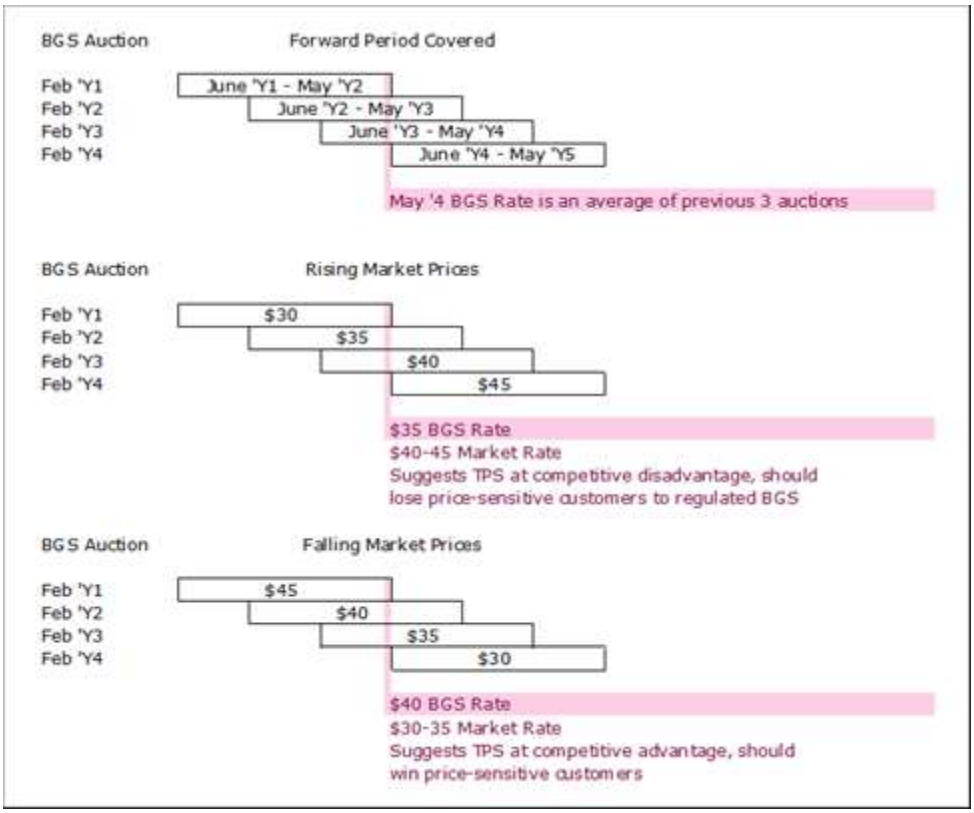
c. The inherent flaws with how BGS is procured and how rates are set directly inhibit customer demand for renewable energy and TPS incentives to invest in clean energy resources.

The current BGS structure ensures that BGS rates will diverge from market prices over time (either up or down). BGS supply is procured by soliciting electricity supply from the wholesale market for one-third of the BGS load under three-year terms, resulting in laddered,

[22] Wind Solar Alliance Report, p. 11.
[23] Reliant Energy is an NRG retail subsidiary serving more than 1 million customers in Texas.
[24] In PA, customers can move within a single utility service territory and keep their supplier. In TX, a customer can move within any of the competitive areas of ERCOT and keep their supplier. And both TX and PA allow a customer to start new service with their chosen supplier – in TX there is no other option, while in PA, this is an option the PUC adopted in 2015. See: *PECO Energy Company's Plan for Seamless Moves and Instant Connects*, M-2014-2401085, Final Order adopted October 22, 2015; *Joint Plan of MetEd, Penelec, Penn Power, West Penn Power for Seamless Moves and Instant Connects*, M-2014-2401130, M-2014-2401155, M-2014-2401151, M-2014-2401148, Final Order adopted October 1, 2015; *PPL Electric Utilities Corporation Plan for Seamless Moves and Instant Connects*, M-2014-2401103, Final Order adopted October 1, 2015; *Duquesne Light Company Plan for Seamless Moves and Instant Connects*, M-2-14-2401127, Final Order adopted September 3, 2015.

three-year load-weighted average BGS rates that are subject to frequent reconciliation (which differs by utility) to reflect load shifts and other adjustments. As such, BGS rates generally lag prevailing market price trends. This pricing lag creates a boom and bust cycle—when market prices are low, customers shop with a TPS. As prices begin to rise, they exercise their free option to return to BGS. This arbitrage, which exists because of regulation and not the market price of energy, directly inhibits a TPS's ability to invest in clean energy resources.[25] Figure 1 presents an illustrative example.

Figure 1: BGS vs. Default Market Price Divergence[26]



BGS rates do not include all the costs associated with providing that service to retail

[25] Wind Solar Alliance Report, p. 12.
[26] Chart prepared by NRG.

customers – meaning TPSs are competing against an institutionalized below-market utility offer. Testimony presented in at least three recent utility rate cases (in Maryland, New Jersey, and Pennsylvania) consistently demonstrated that the cost to provide default service is being subsidized by distribution service customers and is underpriced by approximately 1.25 cents/kWh.[27] These rate cases revealed that default service rates tend to include only the cost of wholesale energy supply, some uncollectible expense, and the administrative cost to run the auctions used to procure default supply. These rates typically do not include costs for rents, computers, IT support, call centers, or a myriad of other business functions required to supply default service, and which all competitive TPSs bear and reflect in their prices.[28] By allowing BGS to be subsidized, TPSs' renewable options that are priced competitively may appear much more expensive to a consumer and drive a decision to forgo that clean energy option.

Meanwhile, as the Board Staff is aware, the utility "Price-to-Compare" ("PTC") is fraught with problems. Each utility calculates the PTC differently, with price calculation formulas that are opaque, and which are unique to each individual customer. Each utility's PTC is reconciled on inconsistent and frequent schedules.[29]

Such price comparisons are in any case misleading to customers due to the simple fact that BGS service bears no resemblance to competitive supply service. If the goals of retail policy are not only to discipline costs, but to attract long-term investment in supply and foster product innovation, the utility PTC is incompatible with those goals. The focus on price comparisons

[27] *Default Service Pricing – The Flaw and the Fix: Current Pricing Practices Allow Utilities to Maintain Market Dominance in Deregulated Markets*," Frank Lacey, The Electricity Journal, 32(3), April 2019, pp. 4-10.
[28] Pa. P.U.C. et al. v. PECO Energy Company, Docket No. R-2018-3000164 (Order entered December 20, 2018); In the Mater of the Application of Baltimore Gas and Electric Company for Adjustments to its Electric and Gas Base Rates, Case No. 9610 (Order No. 89400 issued December 17, 2019).
[29] See Letter from Murray E. Bevan on behalf of RESA to Heather Azoulay (October 19, 2012), p. 2.

suggests to customers that the primary, and possibly only, attribute to consider when shopping for alternative options is price and savings compared to the utility PTC, to the exclusion of all other value propositions—including clean energy. In the context of the Board's EMP objectives, the current BGS structure is plainly counterproductive.

2. The Board should take steps to foster robust competition and clean energy development.

NRG urges the Board to use its authority to evolve New Jersey's electricity market to meet the needs of the 21st Century and to enable TPSs to make the clean energy investments that will support the objectives outlined in the EMP. The time is right for the Board to: 1) eliminate BGS, 2) remove the utilities from the role of providing supply service, 3) open the New Jersey market fully to retail competition, and 4) provide New Jersey customers with full access to innovative energy options, including renewable resources that the competitive retail market can deliver.

a. The BPU has the authority to establish a market structure conducive to robust competition.

When the legislature adopted EDECA it provided the Board with broad authority not only to determine how BGS should be structured, but it also permitted the Board to *eliminate* BGS should the Board find it "to be no longer necessary or in the public interest."[30] Moreover, the Board has the authority to determine whether to allow TPSs to provide BGS service on a competitive basis.[31] Such authority enables the Board to pursue a transition to a fully competitive retail market. The legislature declared when it adopted EDECA that it is the policy of the State to "place greater reliance on competitive markets, where such markets exist, to deliver energy

[30] N.J.S.A. 48:3-57a.
[31] N.J.S.A. 48:3-57c.

services to consumers in greater variety and at lower cost than traditional, bundled public utility service."[32] BGS may have served a purpose during the transition to retail energy choice two decades ago. But, as has been demonstrated here, the current BGS structure is an impediment to New Jersey achieving both its clean energy and resource adequacy goals.

b. A plan for a competitive retail transition that supports clean energy and resource adequacy.

The Board should transition New Jersey's retail electricity market to a structure that supports robust, sustainable competition. Such a plan would include the following high-level steps:

- Within one year of issuing an order to transition to a fully competitive retail market, the Board or its agent would hold a competitive transition auction in each utility service territory. Similar to the BGS auctions, where qualified wholesale providers make offers to serve tranches of demand of a single utility, this would be a multi-party auction where TPSs make offers for tranches of utility customers. In this auction, TPSs would bid to inherit the responsibility of making wholesale supply arrangements and to bill and supply tranches of customers on a retail basis. The Board would establish the rules and procedures of the auction.

- Licensed TPSs in good standing would submit applications to the BPU to be a qualified participant in the auction. The BPU would set sufficient customer-service and credit qualifications, likely stricter than those that exist for the present set of TPSs. Qualified participants would compete to provide for an initial period of the transition a fixed-price, term-limited (e.g., 12 or 24-month) product. TPSs would be obligated to sell this product to the tranche of customers they won; however, customers would unilaterally possess the right to terminate or cancel early, switching to another provider that offered more attractive terms, a higher-quality product, or for any other reason the customer chose.

- The auction would not be winner-take-all but have provisions to ensure no TPS had a market concentration greater than a certain percentage to ensure the ongoing competitiveness of the retail marketplace (e.g., a ceiling of 25% market share per TPS in a utility territory would guarantee at least four TPSs, as opposed to the single BGS utility).

- Winning TPS offerors would be required to comply with the existing RPS, as TPSs presently do, or to meet possibly a higher level of compliance or be required

[32] N.J.S.A. 48:3-50a.(2).

to commit to supplemental actions (such as by buying a number of RGGI allowances sufficient to cover a certain part of the portfolio, assuming a system-average emissions rate).

- TPSs electing to participate in the assignment process would be required to pay certain fees and provide consolidated billing services and would be required to follow all billing and collections rules as set forth by the BPU that currently apply to BGS, including the rules governing the management of bad debt. They also could be required to fund an educational program designed to inform customers of the competitive market for electricity.

- After the initial period of the auction, the market would transition to be fully competitive, with no regulatory obligation on any TPS to serve customers. However, the Board would conduct a process to select one or more qualifying TPSs to provide a Provider of Last Resort service at a non-discountable price, which would be available to any customer whose TPS defaulted and exited the market, or who was otherwise without a TPS. Otherwise, all customers would select a TPS for electricity service, just as they select broadband, cellular, and cable service providers today.

- All TPSs after the initial period would be on an equal regulatory footing, with each having to comply with a clean energy standard, customer protection provisions, and resource adequacy requirements that the Board may impose.

This plan shows New Jersey a way to harness competition in the retail space for the achievement of its public policy goals. While NRG strongly recommends the plan be considered and adopted, taking individual, positive steps now, such as requiring supplier consolidated billing within the current BGS construct, would be positive and retain optionality for wider reforms.

B. The Board Should Adopt a Forward Clean Energy Market to Ensure Transparent, Affordable, and Fast Progress Toward Decarbonizing New Jersey and the Region's Power Sector.[33]

NRG strongly agrees with the suggestion in the EMP that consumers "may be better served with a new clean energy market mechanism that would enable competition among zero-emission generating resources in an all-inclusive and technology-neutral manner."[34] New Jersey

[33] This section of NRG's comments is responsive to Topic 4 in the Board Staff's Request.
[34] EMP, pp. 102-3.

provided early leadership in standing up the region's registry mechanism for RECs. Working toward a next-generation policy instrument to facilitate cost-effective investment in clean energy would secure New Jersey's place as a thought leader in the field. NRG therefore urges the Board to consider what kind of *engine* a robust clean energy standard ("CES") will have at its core. In this regard, the work of the Brattle Group on a Forward Clean Energy Market ("FCEM") is informative. FCEM has many design features that make it attractive for a jurisdiction like New Jersey, which by statute and executive order has a substantial amount of existing and future demand it must procure associated with clean energy resources, and which is not entirely subsumed by side deals and carveouts for particular owners and technologies.[35]

1. A Forward Clean Energy Market is an accelerator of clean energy deployment, which protects consumers by avoiding design flaws of the existing REC market.

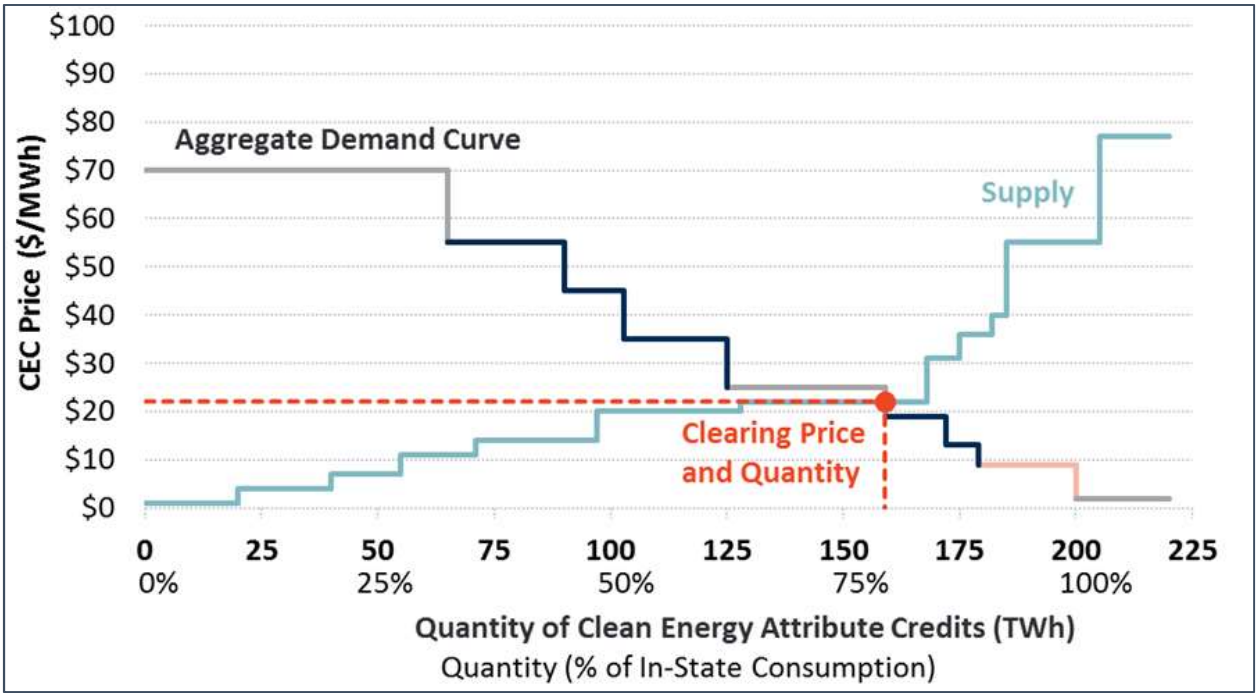
FCEM is a market-based implementation mechanism for a robust CES. In Brattle's formulation, FCEM is an annual, three-year forward auction where sellers of clean energy attribute credits ("CEACs") make offers to supply the projected quantity of demand and price primarily driven by the state's public policy requirements. These CEACs are intended to be a technology-neutral successor to RECs and zero-emissions credits ("ZECs"), facilitating a trade in resources that reduce emissions on the system. As with the REC-based compliance regime today, the state's demand for clean energy would be denominated in a continuously escalating percentage of load that would need to be matched to these CEACs, which are used as the compliance instrument to demonstrate the fulfillment of the CES's obligations.

FCEM differs from the existing REC market by providing a greater degree of consistency and predictability around price formation for the attributes of clean energy than

[35] The EMP calls for a 100% clean energy supply for the power sector, while the RPS codified in EDECA is 50% by 2030.

does the current REC market. This transparent, two-sided forward and spot auction system is a market-based approach to clean-energy deployment, for the ultimate benefit of customers.

Figure 2: Illustrative Two-Sided Auction for CEACs[36]



FCEM leads to faster, cheaper adoption of clean energy. FCEM does this by design, in several ways:

- the forward nature of the market provides a valuable price signal to developers and investors in potential clean energy projects to bring them online;
- a uniform-clearing-price auction, which pays CEACs at a single, transparent price in any given auction and serves to police bidding behavior;[37]
- contracts for *new* resources could be extended for seven years at that same price, providing additional certainty for the incremental resource build that is necessary for a significant transformation;

[36] Brattle report, Figure 10, pg. 25.
[37] Alfred Kahn, et. al., "Uniform Pricing or Pay-as-Bid Pricing: A Dilemma for California and Beyond," *Electricity Journal* (Feb. 2001). ftp://cramton.umd.edu/papers2000-2004/kahn-cramton-porter-tabors-uniform-or-pay-as-bid-pricing-ej.pdf.

- a sloped demand curve for CEACs allows the market to procure more clean energy at an earlier date and at a lower cost than will otherwise occur;

- CEACs can be banked for a time-limited period, further incentivizing entities to buy more clean energy earlier than is necessary for strict compliance.

Each of these features is explained in greater detail in the Brattle report. So long as there is a consistent CES trajectory, then the presence of a forward market, a sloped demand curve, the new resource price lock, and bankability provisions work in unison to avoid the herky jerky activity often seen in the existing REC markets.

Figure 3: New Jersey SREC Pricing (Denoting Significant Changes in Law and Market)[38]

Like the sale of unbundled RECs today, CEACs are sold separately from a resource's

[38] Chart prepared by NRG.

energy and capacity through FCEM. "Unbundled" RECs sometimes have received a poor reputation because of their attenuation from a resource's physical products. This structure has one major advantage, however. When resource developers or owners are responsible for separately selling these products, they have a powerful incentive to maximize the value of the project's energy and capacity through siting and operational decisions. That is not typically the case when a buyer of a project purchases the entirety of the project's output, locking themselves into whatever risk of the output's potential undervaluation through the life of the contract term, or when a contract for differences is signed where the REC offtaker absorbs the risk of energy and capacity market price fluctuations.

In a marketplace of increasing intermittent renewable penetration, when net load patterns will change significantly and have impacts on the value of energy and capacity, it is especially important that captive customers not absorb more of this risk than they must. Through FCEM, a project developer bids the "missing money" associated with the price premium associated with clean energy based on their expectations of the revenues they will obtain from the forward capacity market and the energy markets. The accuracy of that expectation is a risk that the developer—and not a captive set of customers—appropriately bears through FCEM. Of course, and as explained more fully in Section III.A of these comments, a robust competitive retail market offers more hedging arrangements that allow project developers to enter into arm's-length contracts with competitive retailers and financial intermediaries to allow them to hedge the risk associated with these expectations.

2. FCEM's design accommodates New Jersey's goal to ensure only resources that are contributing to the State's decarbonization receive credit.

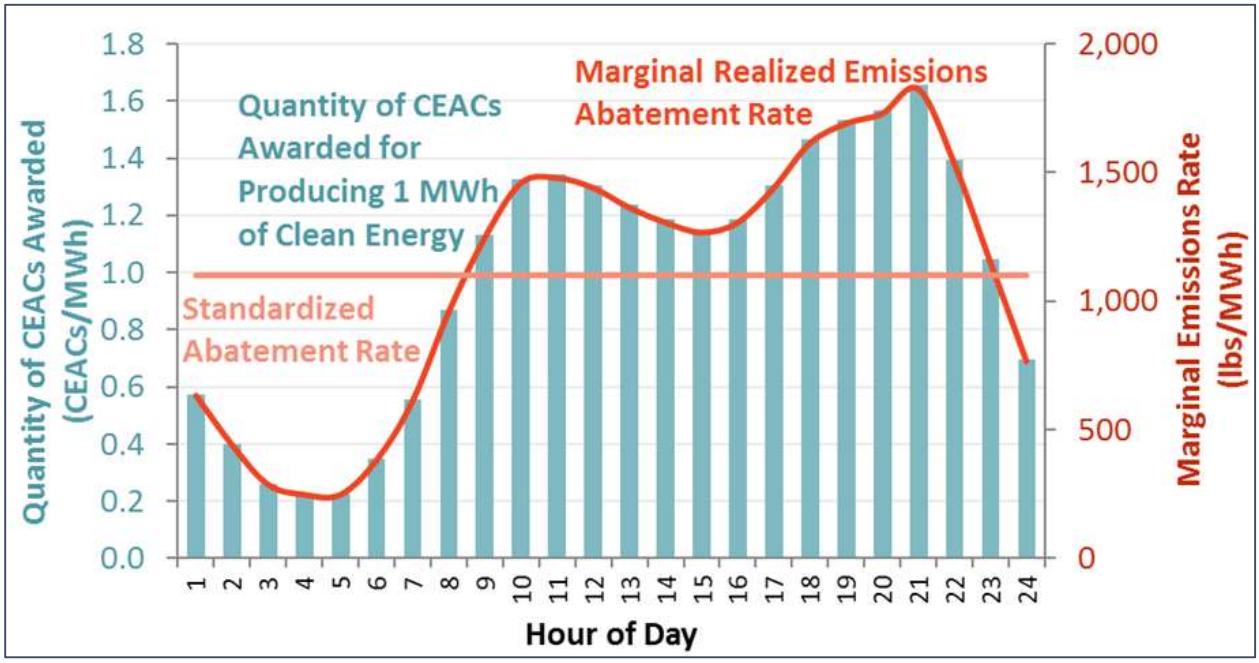
The EMP suggests a CES where "New Jersey could measure regulatory compliance

based on an hour-by-hour accounting of how much clean energy is being produced for New Jersey, compared to how much electricity is being consumed by New Jersey customers."[39] FCEM can be designed to accommodate a policy requirement to have time-variable accounting for CEACs.

In the time-variable quantification of CEACs, one CEAC is defined as the emissions-reducing effect of one MWh produced by a clean-energy resource generating during a time period when the marginal economic unit is the system's average-emitting marginal unit. Resources qualify for a greater or lesser number of CEACs per MWh of production when their contributions toward decarbonization are greater or lesser, respectively, than avoiding the emissions of this average marginal unit. Put simply, this allows the clean-energy resources that will be most useful in replacing fossil units that run for capacity purposes to be more amply compensated for that contribution. It is also a CES design that is purposefully aligned with achieving system reliability, while a classical RPS is not.

[39] EMP, p. 104.

Figure 4: Time-Variable CEACs Tied to Emissions Abatement[40]



This time-varying CEAC design is a complex if useful solution; as a practical matter, it would require the close integration of this policy with the regional market for energy administered by PJM, further militating toward the cooperative federalism design NRG supports in Section III.B of these comments.

3. Technology carveouts are inadvisable but if statutorily required can be accommodated within FCEM.

New Jersey already has existing contracts as well as statutorily required carveouts and mandates for a significant portion of its load. Assuming these laws go unchanged, it will be necessary to tailor any CES to these preselected resources and carveouts, rather than having a fully competitive marketplace where all technologies enjoy an equal footing. For carveouts, the Brattle report observes that the same principles of FCEM can be applied in a technology carve-out auction that precedes the running of the full FCEM.[41]

[40] Brattle Report, Figure 11, pg 36.
[41] Brattle report, pp. 38-41.

4. The retail market should be aligned with FCEM.

The EMP posits that New Jersey's seminal restructuring statute, the EDECA, does not establish an explicit bar on the state's adoption of a robust CES as a component of its retail regulation.[42] As we discuss in Section III.A, this transition to retail restructuring largely has been stillborn, with a dominant market position still held by utilities acting as default retailers, supplied with energy through the BGS process. The flaws of BGS are discussed at length above, but particularly relevant to its potential adaptation to a marketplace for clean energy is that while BGS has ensured a reasonably priced supply of energy, largely from existing assets, it has not proven to be a mechanism that has encouraged either the customer-side innovation or the new resource entry that are needed for a decarbonizing transformation that New Jersey is seeking. A CES that is successful at deploying massive amounts of clean energy quickly and as cost effectively as possible will require a competitive market at both the wholesale *and* retail level.

As described in Section III.A, the Board should move to phase out the incumbent default utility supply construct as part of its transition to a clean energy future. Doing so would spur a growth in innovation and cause those engaged in the business of selling energy on a retail basis to assume an appropriate share of the risk associated with a bold move toward a decarbonized energy sector. In that scenario, a requirement for retailers who possess CEACs through bilateral arrangements to offer them into the market together with suppliers whose existing and new clean energy resources are not bilaterally contracted for, would ensure a liquid and transparent price hub for the forward and spot value of clean energy attributes.

On the other hand, if the Board elects to continue with a BGS construct where a utility incumbent plays an outsized role in furnishing retail energy supply service, the CES obligations

[42] *Id.*, p. 107.

properly follow the utility in that role. In FCEM, a default provider should be required to bid at an administratively approved slope. Competitive retailers would then be free to agglomerate their demand into that curve through an administrative process, place price-and-quantity demand bids separately, or procure CEACs bilaterally. This permissiveness would be valuable because a highly liquid FCEM provides a bogey for the long-term bilateral contracts with generators that are spurred by successful competitive retail market designs.

5. The Board should take concrete steps to cause FCEM to be incorporated into the PJM marketplace.

The New Jersey EMP wisely endorses a CES that "encourage[s] competition among all eligible generating resources, both inside and outside the state."[43] It will be hard enough to obtain a 100% CES by 2050 even if one assumed a frictionless trade in energy in the region; if a state closes its borders to energy imports from places where resources are more plentiful, lower cost, or produce at advantageous times of the day and year, this goal likely will become impossible or exorbitantly high cost. At the same time, however, the Board's Order instituting this proceeding and the notice start on a note of FRR—a policy that removes the state from participation in a regional capacity market. These two policies—a CES that looks to the region and an FRR that withdraws the state from an existing regional market—are in conflict with one another.

NRG suggests a CES marketplace, FCEM, whose results feed into the existing regional markets for capacity and energy. Indeed, FCEM's timing—an annual auction, three years forward—is consciously purposed to fit into PJM's Reliability Pricing Model ("RPM"). Conceptually, an owner of CEACs or a developer of a new project that would create CEACs would make a supply offer of CEACs into FCEM three years in advance of their delivery. If

[43] EMP, p. 103.

their offer cleared the market, they would then be able to participate in the forward capacity auction at a lower economic offer than otherwise they would. This is a market design that can scale up regionally over time, and can fit together with existing regional market structures. But regardless of FCEM's particulars, it would be difficult indeed for New Jersey to establish a state-centric FRR mechanism and expect whatever CES mechanism it set up to gain wide purchase regionally.

New Jersey, FERC, and PJM should strike an approach of cooperative federalism in recognition of the fact that New Jersey's and other states' actions affect the regional market, and *vice versa*, rather than attempting to draw bright lines between these actors' domains. In short, FCEM, even with a demand largely founded on state legal requirements, can and should appropriately be housed in a Regional Transmission Operator ("RTO") tariff, subject to substantial state governance.

One avenue for New Jersey to take steps to move an FCEM concept into the PJM tariff is for the Board to issue a request for information to PJM, asking the RTO to provide information about the design features that would be necessary for them to act in the capacity as auctioneer of FCEM. The Board could then enter into a memorandum of understanding ("MOU"), potentially alongside other states interested in such a market, to work on the design details of FCEM, including those which closely depend upon the operating data of the PJM energy market. In addition, the RTO would be tasked with proposing a governance structure that allows a state to participate in the iterative design of FCEM over time and which includes a market design that dovetails FCEM to the existing regional capacity and energy markets.

In short, an initial stage of work would occur where New Jersey gathered information in a request for information. It would then proceed to an MOU phase (possibly with other states)

while the state(s) worked with PJM to achieve a design framework that was workable for both parties. Ultimately, the proposal would go to the PJM stakeholder process, with design details to be more fully explicated, and ultimately would be filed at FERC.

If PJM were to file an FCEM concept at FERC, payments from the FCEM should not be deemed 'state subsidies' subject to the MOPR under the December 2019 FERC Order pertaining to the PJM capacity market. To the extent that FERC accepts the FCEM rules, those rules and the associated payments would arguably be "federal subsidies" under the December 2019 Order, because "a FERC-filed tariff" has "the same legal force as a federal regulation . . . ."[44] and not classified as 'state-subsides' subject to MOPR.

FCEM can be substantially directed by states, but administered by PJM, and incorporated into the FERC-jurisdictional markets. Such an approach would be consistent with a cooperative federalism approach that is appropriate given the regional challenge at hand and the leadership on clean energy policies that is being exercised by state governments.

C. Carbon Pricing is a Useful Policy that Entails Potentially Greater Implementation Challenges than Does FCEM.

Question 2c of the Board Staff's notice asks whether "the State should consider adopting an energy market carbon dispatch price, in addition to RGGI, in lieu of an FRR approach." NRG supports such a move, but observes that a carbon price throughout New Jersey's energy economy would be most useful in ensuring that the electricity sector is not uniquely regulated when it comes to carbon emissions.

Carbon pricing provides a backstop to the complementary policy of CES, implemented through FCEM. To the degree there is uncertainty about a trade in CEACs working toward its

[44] *Central Iowa Power Co-op. v. Midwest Indep. Transmission Sys. Operator, Inc.*, 561 F.3d 904, 913 (8th Cir. 2009) (citations omitted). *See also Bryan v. BellSouth Commc'ns, Inc.*, 377 F.3d 424, 429 (4th Cir. 2004) ("[A] filed tariff carries the force of federal law.").

intended effect of pushing out of the market emitting units, a carbon pricing regime more directly targets those emissions. A carbon price indeed could be the sole instrument of public policy in this regard. In this case, New Jersey either would have to obtain broad regional agreement for it to be effective in controlling leakage—or rely on a mechanism that imputes an incremental carbon-emissions effect to imports.[45]

A recent report by the Center for Policy Integrity at New York University spells out the various bases that could lead to a carbon price's incorporation into the PJM energy marketplace.[46] Here, New Jersey could contemplate ensuring that its carbon price was reflected in the dispatch of energy to serve its load through the PJM market—or, of course, it could advocate for something more robust to apply throughout the region in its advocacy to FERC. The views that NRG offers in Section III.B on how FCEM could be implemented and overseen in a manner of cooperative federalism also apply to carbon pricing in the regional wholesale markets for electricity.

FCEM has one clear advantage over a carbon price. As a payment for clean energy rather than a tax to emit, it is designed to accommodate New Jersey's desire to acquire more clean energy—rather than potentially tax the emissions associated with generation located in other states, but which may be designated as imported into New Jersey. As such, FCEM

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[45] The Western Energy Imbalance Market is to date the single example of a centralized energy auction where a design exists intended to impose restrictions on carbon-emissions leakage and related effects. *CAISO*, 165 FERC ¶ 61,050 (2018), PP 7, 12, 17.

Meanwhile, PJM has explored the concept of border adjustments through scenario analysis, although no state or other entity has asked the RTO to take steps to impose this design on its market. PJM, Carbon Pricing Senior Task Force, "Expanded Results of PJM Study of Carbon Pricing and Potential Leakage Mitigation Mechanisms," (March 27, 2020), https://pjm.com/-/media/committees-groups/task-forces/cpstf/2020/20200519/20200519-item-04a-pjm-study-results-de-md-nj-pa-scenario.ashx.

[46] Matt Butner *et. al.*, *Carbon Pricing in Wholesale Electricity Markets: An Economic and Legal Guide* (March 25, 2020). https://policyintegrity.org/publications/detail/carbon-pricing-in-wholesale-electricity-markets.

promotes comity between jurisdictions to a greater extent than does a carbon price with effective border adjustments.

D. Pursuing an FRR Strategy Will Result in Perverse Consequences.

The BPU poses a series of questions regarding the viability of an FRR as an alternative to PJM's RPM to satisfy resource adequacy needs in New Jersey.[47] The FRR approach is unlikely to achieve the results suggested by the BPU and other stakeholders, and will inhibit rather than accelerate New Jersey's opportunity to meet its clean energy goals. There is no compelling reason for New Jersey's utilities to utilize an FRR alternative and the various negative consequences of electing such an option.

At the outset, it is important that the BPU and other stakeholders recall the intent of the FRR tool as part of PJM's resource adequacy approach. From its inception, the FRR was intended to be a mechanism for vertically integrated utilities who wished to maintain their monopoly service and limit said monopoly's exposure to PJM's efficient markets.[48] Reviewing the prices, renewable integration, and market innovation in regions that have relied on FRR bears out the negative consequences to consumers for choosing this path in New Jersey. For consumers concerned about their bottom-line economic impacts, observing the historic prices underlying regions that rely on FRR demonstrate no regions that have done better with FRR than the prevailing RPM market price. In most cases, the capacity costs associated with the FRR alternative are an order of magnitude greater than the prevailing RPM market price. For example, during the 2019/2020 Delivery Year, the relevant market-based price paid by New Jersey

[47] This section of NRG's comments is responsive to Topics 1 and 2 in the Board Staff's Request.
[48] Settlement Agreement and Explanatory Statement of Settling Parties Resolving All Issues in PJM Interconnection LLC at 42, Docket Nos. ER05-1410-000 and EL05-148-000 and -001.

customers for capacity was $115.83/MW-Day.[49] Contrast that with the price paid in Appalachian Power Company's FRR plan, an unconstrained region in Virginia. There, load serving entities pay $403.35/MW-Day, or nearly four times the prevailing RPM market rate.[50] These order-of-magnitude increases over the market-based rate are repeated throughout FRR plans in the PJM footprint. There is no compelling reason for New Jersey to burden its customers and industry with higher out-of-market electricity prices.

Some stakeholders may attempt to convince the BPU that if only the underlying procurement were different, the resulting FRR prices would be more competitive with RPM results. The BPU should reject such attempts to spin what will essentially turn resource adequacy into monopoly service. There are multiple harms to New Jersey consumers if the state were to effectively re-regulate resource adequacy through the state's utilities. For example, one can observe via the PJM interconnection queue that anticipated renewable investment in restructured and competitive states significantly outpaces the growth of the same investments in classic monopoly utility regions in PJM.[51] While these figures may reflect, in part, the status of legislative- or policy-driven renewable procurement, the simple fact is that regions with utility monopolies do not see commensurate investment in renewables.

In addition to the reduced expectations of independent clean energy resource investment, the adoption of FRR would likely inhibit further innovation. There are several success stories associated with PJM's RPM. For example, RPM maintained reliable supplies in the region as resources retired *en masse* due to various environmental and other compliance

[49] https://pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2019-2020/2019-2020-final-zonal-ucap-obligations-capacity-prices-ctr-credit-rates.ashx?la=en.
[50] https://pjm.com/-/media/markets-ops/settlements/frr-lse-capacity-rates/2019-capacity-formula-rate-summary.ashx?la=en.
[51]https://pjm.com/planning/services-requests/interconnection-queues.aspx.

obligations like New Jersey's High Energy Demand Day rule.[52]

RPM has also been successful in injecting new and innovative products like demand response and energy efficiency.[53] Importantly, these products have seen significantly greater growth in areas where competition exists.[54] Areas relying on the FRR have seen significantly reduced penetration of demand response resources. Based on these experiences, if New Jersey were to direct its utilities to take the FRR path, the state should also anticipate a reduction, not growth, in innovative products and services to meet the state's resource adequacy needs.

RPM plays a significant role to the benefit of New Jersey customers beyond the successes noted above. Significant private investment, whether in traditional generation resources, intermittent and renewable resources, or demand response resources are all accomplished on a year-to-year basis where the resource owner takes on the financial risks associated with project completion, day-to-day operations, and performance during emergency events. Competitive electric markets have successfully caused these risks to be borne by those in the best position to manage them—not captive ratepayers. Implementing the FRR will transfer these, and other, risks back onto consumers.

Finally, New Jersey should be extremely wary of re-creating the monopoly service model of electric generation through the implementation of the FRR. Given the size of the New Jersey market for resource adequacy, the transmission and other constraints that will limit overall competition, and the pivotal position of New Jersey's incumbent utilities and their generation

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[52] See 2015/2016 RPM Base Residual Auction Results. https://pjm.com/-/media/markets-ops/rpm/rpm-auction-info/20120518-2015-16-base-residual-auction-report.ashx?la=en NJ High Energy Demand Day rules went into effect May 1, 2015; EPA's Mercury and Air Toxics Standard (MATS) compliance was required in 2015. Despite these challenges, the BRA established a reserve margin of 20.2% for the PJM footprint, well in excess of the required reserve margin.

[53] https://pjm.com/~/media/markets-ops/dsr/2020-demand-response-activity-report.ashx at Figure 23.

[54] *Id.* at Figure 2.

affiliates, any attempt to advance the FRR alternative will require stringent affiliate transaction and market power mitigation rules. The relationship among these factors should be a leading indicator of the risks and pitfalls of the FRR alternative and further illuminate the underlying purpose of FRR to support a vertically integrated utility model and not the competitive market model that best serves New Jersey's customers. With superior alternatives available to the BPU, there is no reason to recreate the monopoly model that FRR would portend.

IV. Conclusion

The Board has a unique opportunity in this proceeding to mark itself as a thoughtful policy leader and for the reasons discussed herein should not pursue an FRR approach. Rather, NRG encourages the Board to seize the opportunity, and in the course of this proceeding channel its energy toward considering and ultimately adopting the following reforms:

- Transforming the Basic Generation Service model into a genuinely competitive retail market
- Adopting a 100% clean energy standard implemented through a Forward Clean Energy Market, a potent engine to ensure the policy's success.

NRG appreciates the opportunity to comment in the proceeding.

Respectfully Submitted,

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