

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**Modernizing Electricity Market Design:** ) **Docket No. AD21-10-000**  
**Resource Adequacy in the Evolving Electricity** )  
**Sector** )

**COMMENTS OF THE INSTITUTE FOR POLICY  
INTEGRITY AT NEW YORK UNIVERSITY SCHOOL OF LAW**

Pursuant to the Federal Energy Regulatory Commission’s (Commission or FERC) April 5, 2021 Notice Inviting Post-Technical Conference Comments (Notice),<sup>1</sup> the Institute for Policy Integrity at NYU School of Law (Policy Integrity)<sup>2</sup> respectfully submits these comments in the above-captioned proceeding.

Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy. Policy Integrity staff recently published a report on wholesale market design options for resource adequacy in a decarbonized electricity sector and have published several other reports and papers on wholesale market design.<sup>3</sup> Policy Integrity also submitted comments in the administrative proceedings regarding the Expanded Minimum Offer Price Rule (MOPR) in PJM and the Buyer-Side Mitigation Rules in NYISO,<sup>4</sup> and participated in

---

<sup>1</sup> Notice Inviting Post-Technical Conference Comments, *Modernizing Electricity Market Design*, Docket No. AD21-10 (Apr. 5, 2021).

<sup>2</sup> These comments do not reflect the views of NYU School of Law, if any.

<sup>3</sup> E.g., SYLWIA BIALEK ET AL., INST. FOR POL’Y INTEGRITY, RESOURCE ADEQUACY IN A DECARBONIZED FUTURE (2021) [hereinafter RESOURCE ADEQUACY REPORT]; Sylwia Bialek & Burcin Unel, *Efficiency in Wholesale Electricity Markets: On the Role of Externalities and Subsidies* (CESifo Working Paper No. 8673, 2020) [hereinafter *Role of Externalities and Subsidies Paper*]; SYLWIA BIALEK & BURCIN UNEL, INST. FOR POL’Y INTEGRITY, CAPACITY MARKETS AND EXTERNALITIES: AVOIDING UNNECESSARY AND PROBLEMATIC REFORMS (2018) [hereinafter CAPACITY MARKETS AND EXTERNALITIES REPORT].

<sup>4</sup> Comments of the Institute for Policy Integrity at New York University School of Law, *Calpine Corp. v. PJM Interconnection, L.L.C.*, Docket No. ER18-1314 (May 7, 2018) [hereinafter 205 Comments]; Comments of the Institute for Policy Integrity at New York University School of Law, *Calpine Corp. v. PJM Interconnection, L.L.C.*, Docket Nos. EL16-49 & EL18-178 (Oct. 2, 2018) [hereinafter 206 Initial Comments]; Reply Comments of the

Independent System Operator (ISO) and Regional Transmission Organization (RTO) meetings and state proceedings on the subject.<sup>5</sup>

Policy Integrity agrees with the many panelists who expressed support for eliminating PJM's Expanded MOPR quickly. As Policy Integrity has explained in earlier comments in multiple proceedings, well-designed state payments aimed at reducing externalities improve the economic efficiency of markets.<sup>6</sup> Applying the Expanded MOPR indiscriminately to all state payments impedes market efficiency and thereby renders market outcomes unjust and unreasonable. The Commission is therefore obliged to overturn its previous adoption of the Expanded MOPR.

While eliminating the Expanded MOPR is an urgent next step, there is a need for further reform in all of the wholesale power markets regulated by the Commission. As the resource mix evolves in the face of federal and state climate policies, enhancements in the energy and ancillary services markets and other incremental reforms to capacity markets can ensure that FERC-regulated markets are just and reasonable and not unduly discriminatory or preferential.

In these comments, Policy Integrity addresses the questions the Commission posed in the Notice while drawing attention to reforms the Commission should undertake. Specifically, we offer the following comments:

- The goal of wholesale capacity markets is to ensure resource adequacy by solving the missing money problem.
- The Expanded MOPR should be eliminated because it is not just and reasonable; doing so will not threaten resource adequacy.

---

Institute for Policy Integrity at New York University School of Law, *Calpine Corp. v. PJM Interconnection, L.L.C.*, Docket Nos. EL16-49 & EL18-178 (Nov. 6, 2018) [hereinafter 206 Reply Comments]; Comments of the Institute for Policy Integrity at New York University School of Law, *Cricket Valley Energy Ctr. L.L.C. v. N.Y. Indep. Sys. Operator, Inc.*, Docket No. EL21-7 (Nov. 18, 2020).

<sup>5</sup> *E.g.*, Comments of the Institute for Policy Integrity on Resource Adequacy Alternatives, Docket No. EO20030203 (N.J. Bd. of Pub. Utils. May 20, 2020).

<sup>6</sup> *See infra* Section II.

- FERC should be concerned about whether the markets are sending correct *exit* signals to uneconomic resources; without such signals, markets will tend to overprocure.
- FERC should implement incremental design changes to the capacity market, beyond just eliminating the Expanded MOPR. Such changes should include using appropriate demand curves, encouraging demand flexibility, updating capacity products and crediting, and updating performance penalties and rewards.
- FERC should make improvements in the energy and ancillary services markets.
- Buyer-side market power, whenever it exists, should be mitigated using a Targeted MOPR.
- FERC should focus on being a neutral market operator in the context of a rapidly changing energy sector.

## Table of Contents

I.	The Goal of the Capacity Market Is to Ensure Resource Adequacy by Solving the Missing Money Problem.....	4
II.	The Expanded MOPR Is Not Just and Reasonable and Its Elimination Will Not Threaten Resource Adequacy.....	5
A.	Applying the Expanded MOPR to Externality Payments Is Not Just and Reasonable .....	6
B.	The Commission Has Not Demonstrated that Its Theory of Market Harm Is Supported by Economic Theory .....	7
i.	FERC Ignored the Nature of the State Policies and the Interaction of Energy and Capacity Markets.....	7
ii.	Just Because Prices Are Lower Does Not Necessarily Mean They Are Inefficiently Suppressed .....	9
C.	Externality Payments Do Not Threaten Resource Adequacy.....	9
III.	FERC Should Implement Further Reforms After Eliminating the Expanded MOPR.....	12
A.	FERC Should Implement Incremental Design Changes to the Capacity Market.....	12
B.	FERC Should Also Consider Energy and Ancillary Service Market Improvements.....	18
IV.	The Commission Should Mitigate Actual Buyer-Side Market Power with a Targeted MOPR .....	20
A.	A Targeted MOPR and the Expanded MOPR Are Different Policy Tools with Different Purposes and Consequences .....	20
B.	The Commission Should Use a Targeted MOPR to Mitigate Buyer-Side Market Power .....	22
V.	FERC Should Be a Neutral Market Regulator.....	23

**I. The Goal of the Capacity Market Is to Ensure Resource Adequacy by Solving the Missing Money Problem**

In Question 1, the Commission asks whether, in light of the evolving resource mix and changes to state policies, the purpose and goals of wholesale capacity markets should evolve. The primary goal of a capacity market is, and should remain, ensuring resource adequacy when revenues from the regional energy market are insufficient to do so. Energy market prices may not reflect the full societal value of investment in generation and may thereby cause too little revenue to flow to generators to ensure a reliable electric supply. Energy market price caps, for example, tend to cause energy prices to understate the value of reliable energy to consumers during peak-demand hours.<sup>7</sup> Capacity markets, by solving the resulting “missing money” problem, can ensure sufficient capacity is built to satisfy demand at all times and thus ensure resource adequacy.<sup>8</sup>

A capacity market is not always necessary to ensure resource adequacy, however. Capacity markets are necessary as a *supplementary* revenue mechanism only when the elements of the energy market design create a missing money problem, preventing the energy market alone from ensuring resource adequacy. Thus, while capacity remuneration through capacity markets can restore the money left missing by energy markets, the capacity market is not, by itself, an end market. FERC should take this role of capacity markets into account when determining whether and how to adopt reforms.

While resources make entry and exit decisions based on the sum of future energy, capacity, ancillary services and other revenues, capacity markets also play a discrete role in sending signals about the value of additional capacity. All else equal, if the available capacity in

---

<sup>7</sup> CAPACITY MARKETS AND EXTERNALITIES REPORT, *supra* note 3, at 5.

<sup>8</sup> *Id.*

the market is low, the capacity market price will be high, signaling to generators to enter. If the available capacity in the market is high, the capacity market price will be low, signaling uneconomic generators to exit.

It is important to note that the role of capacity markets in ensuring resource adequacy in an efficient manner is as much about orderly exit of resources that are no longer economic as it is about sufficient entry. Thus, in providing signals to ensure resource adequacy, the capacity market should not be used to mute or distort signals for generators to *exit* the market. In other words, it is also important for the capacity market design to allow low prices when capacity is superfluous and retirements are necessary, in addition to producing high enough prices for sufficient entry when capacity resources are scarce.

## **II. The Expanded MOPR Is Not Just and Reasonable and Its Elimination Will Not Threaten Resource Adequacy**

The Commission seeks comment on whether elimination of the Expanded MOPR is compatible with its duty to ensure just and reasonable rates and resource adequacy. Yet, it is the retention of the Expanded MOPR that would render the capacity market unjust and unreasonable because it seeks to undermine externality payments that help enhance market efficiency. The Commission has never provided sufficient evidence for its theory that state payments cause uneconomic price suppression. In fact, economic theory suggests that generation-based payments might lead to capacity market price increases.

Furthermore, FERC has never demonstrated that the Expanded MOPR is necessary to ensure resource adequacy. Because of the design of the capacity markets, elimination of the Expanded MOPR will not threaten resource adequacy. Keeping the rule would, however, lead to unjust and unreasonable rates because it would lead to overprocurement.

### **A. Applying the Expanded MOPR to Externality Payments Is Not Just and Reasonable**

To begin, application of the Expanded MOPR to resources receiving externality payments was not just and reasonable in the first place.<sup>9</sup> As Policy Integrity explained in its earlier comments, well-designed externality payments help enhance market efficiency and improve social welfare when there is an uninternalized externality in the market. Market rules that undermine the corrective features of such payments distort the economic efficiency of markets, rendering the market unjust and unreasonable.<sup>10</sup>

A key principle of economics is that competitive markets maximize social welfare. However, market failures, such as externalities or market power, can impede a market's ability to maximize welfare.<sup>11</sup> Negative externalities, like carbon-dioxide emissions, prevent markets from achieving economically efficient outcomes, requiring regulatory intervention.<sup>12</sup> Well-designed externality payments help correct such failures.<sup>13</sup> State policies that are directly constructed to reduce externalities correct the market's failure to internalize the damages that result from emissions of air pollution and improve market efficiency.<sup>14</sup> That is what most of the policies at issue are designed to accomplish—the payments aim to bring the revenue that resources receive closer to what they would have gotten if external costs of pollution were taken into account.<sup>15</sup> A market rule that undermines such policies and reduces market efficiency,<sup>16</sup> such as the Expanded MOPR, is unjust and unreasonable.

---

<sup>9</sup> See 205 Comments, *supra* note 4, at 18-20; 206 Initial Comments, *supra* note 4, at 7-12.

<sup>10</sup> See 205 Comments, *supra* note 4, at 18-20; 206 Initial Comments, *supra* note 4, at 7-12.

<sup>11</sup> CAPACITY MARKETS AND EXTERNALITIES REPORT, *supra* note 3, at 6.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> 206 Initial Comments, *supra* note 4, at 9.

<sup>16</sup> *Id.* at 10.

## **B. The Commission Has Not Demonstrated that Its Theory of Market Harm Is Supported by Economic Theory**

FERC has never sufficiently demonstrated the existence of a market harm requiring a remedy like the Expanded MOPR. The Expanded MOPR is premised on a theory of inefficient capacity market price suppression.<sup>17</sup> As we previously explained, the Commission’s “faulty premise” that capacity market prices will inefficiently decrease in response to state policies ignores the nature of the state policies, the interaction between energy and capacity markets, and the welfare implications of externality payments.<sup>18</sup> When these concepts are taken into account, economic theory suggests that well-designed externality payments help increase the efficiency of markets and do not warrant mitigation.

### **i. FERC Ignored the Nature of the State Policies and the Interaction of Energy and Capacity Markets**

It is important to note that the state policies that are currently in question, unlike a contract-for-differences, are generation-based payments provided on a MWh-basis.<sup>19</sup> Those policies will therefore have a distinct effect on capacity markets as compared to a contract-for-differences subsidy that directly replaces the capacity market rate.<sup>20</sup> While a per-MW subsidy would shift the supply curve in the capacity market to the right, the effect of generation-based payments on the capacity supply curve is much more nuanced.

---

<sup>17</sup> See Order Rejecting Proposed Tariff Revisions, Granting in Part and Denying in Part Complaint, and Instituting Proceedings Under Section 206 of the Federal Power Act, 163 FERC ¶ 61,236, PP 149-50, 154-56 (2018).

<sup>18</sup> See 205 Comments, *supra* note 4, at 1 (critiquing PJM’s proposal and analysis on which FERC relied for the Expanded MOPR).

<sup>19</sup> *Id.* at 15.

<sup>20</sup> In previous comments, Policy Integrity noted that PJM’s initial simplified analysis for its proposed mitigation mechanisms assessed the impact of a state policy using a contract-for-differences to support its theory of inefficient price suppression. Given the distinguishable nature and impact of such policies, analysis of how a per-MW subsidy would affect capacity market prices should not have been treated as evidence of the impacts generation-based payments would have. *See id.* at 30-31.

The direct effect of generation-based payments is to lower energy market prices. As a result, resources that participate in wholesale energy markets earn less revenue in those markets, facing the prospect of an increase in the amount of “missing money” they have to recover through capacity markets. Resources may, therefore, at least in the short term, increase their capacity market offers. In other words, rather than unequivocally decreasing the capacity market prices as the Commission assumes, the generation-based payments may change the slope of the capacity supply curve, with the parts of the new curve lying above the old one, depending on how the changes in energy prices spurred by payments affect various resources. This change in the slope of the capacity supply curve could also be consistent with generation-based payments *raising* the clearing price in the capacity market in the *short term*.

In a recent working paper, we showed, using a simple theoretical model, that externality payments would alter *long-run* capacity market prices only when provided to the energy market resource that is the marginal resource during the peak demand time.<sup>21</sup> However, when externality payments are paid to *infra*-marginal renewable resources, as is the case currently, those payments are unlikely to affect equilibrium capacity market prices.<sup>22</sup>

It follows that a policy like the Expanded MOPR, which indiscriminately mitigates any subsidy without taking into account its welfare effect, will harm the economic efficiency of wholesale electricity markets.<sup>23</sup> FERC assumed a price-suppressive relationship between state policies and capacity markets that no one had actually demonstrated, and, on that basis, adopted the Expanded MOPR. Properly scrutinizing the policies at issue and the interaction of energy and

---

<sup>21</sup> *Role of Externalities and Subsidies Paper*, *supra* note 3, at 23-24, 27.

<sup>22</sup> *Id.* at 24.

<sup>23</sup> *Id.* at 5.

capacity markets would have led FERC to recognize that state policies likely would not decrease capacity prices or that well-designed externality payments improve market efficiency, undercutting the basis for the Expanded MOPR's sweeping mitigation.

**ii. Just Because Prices Are Lower Does Not Necessarily Mean They Are Inefficiently Suppressed**

The Commission's theory of market harm did not distinguish between efficiently low prices and inefficient price suppression. Even if FERC were able to show that prices have declined, the mere fact of lower prices would not render the prices "inefficiently suppressed" or the rate unjust and unreasonable.<sup>24</sup> The justness and reasonableness of a rate depends on its social welfare implications. By making externality payments, state policies help correct a market failure that allows generators to harm citizens by emitting air pollutants, including carbon dioxide, for free. The exit of polluting generators from the market as a result of lower revenue can therefore be beneficial from an economic efficiency perspective if the resource mix evolves toward the mix that would be considered economically efficient when externalities are taken into account. While it would be more efficient to have a carbon price in the energy market, externality payments likewise can guide the generation mix in the socially optimal direction. So, lower capacity market prices, even when they lead to the exit of certain resources, are not necessarily a socially inefficient outcome. Low prices can also be just and reasonable, if they accurately reflect underlying market conditions.

**C. Externality Payments Do Not Threaten Resource Adequacy**

Question 17 asks whether removing the Expanded MOPR will have adverse impacts on resource adequacy. Allowing externality payments to go unmitigated will not threaten resource

---

<sup>24</sup> See 205 Comments, *supra* note 4, at 31-32.

adequacy goals.<sup>25</sup> If the Expanded MOPR is eliminated the capacity market will continue to ensure resource adequacy so long as the demand curve and capacity credits are set correctly. With properly specified demand and supply parameters, scarce capacity will cause prices to increase, incentivizing entry. If there is abundant capacity, prices will decrease, incentivizing exit. Capacity markets, by design, will ensure that enough capacity is present to meet the highest demand in a given period and thereby ensure resource adequacy. So long as the parameters are specified correctly, an outcome with low prices and inadequate capacity cannot be sustained in the long term. In other words, eliminating the Expanded MOPR will not present a challenge for resource adequacy.

That externality payments do not threaten resource adequacy is also evidenced by the observed capacity market outcomes at the time FERC approved the Expanded MOPR. PJM and the Commission concluded that state policies were causing price suppression that would threaten resource adequacy, yet at the time other policies had already existed that altered the wholesale market by lowering revenue that resources needed from the capacity market without causing an existential threat to the market. As Policy Integrity and others argued, capacity markets had co-existed with other out-of-market payments for years and yet electricity markets continued to function well,<sup>26</sup> even leading to procurement of capacity above reserve margins.<sup>27</sup> These payments, including coal ash sales, steam heat sales, voluntary market RECs, emission allowances, and fossil-fuel subsidies, all provide revenue outside of FERC-jurisdictional markets and could have the same potential effect on capacity market bidding behavior as state policies

---

<sup>25</sup> *Id.* at 34-35.

<sup>26</sup> *Id.* at 34.

<sup>27</sup> CAPACITY MARKETS AND EXTERNALITIES REPORT, *supra* note 3, at 19.

like RPS and ZEC programs.<sup>28</sup> Even though such policies existed at the time, and could have the same impact on the market that the Commission theorized, they had not threatened resource adequacy in the region. The Expanded MOPR was not needed to ensure resource adequacy then and its elimination will not threaten it now.

#### **D. Retaining the Expanded MOPR Would Cause Unjust and Unreasonable Overprocurement**

Question 4 asks whether the Expanded MOPR will result in overprocurement of capacity and what the implications of that result would be. In considering capacity market design goals and reforms to meet those goals, the Commission must consider how markets signal exit to uneconomic resources, not just how markets incentivize new entry. The capacity market should not be used to mute or distort signals for generators to *exit* the market. The Expanded MOPR will dull the price signals for exit by sustaining relatively high prices even when there is sufficient capacity in the market. Keeping the Expanded MOPR would therefore be unjust and unreasonable.

At least some of the highly polluting resources that would be retired under an efficient market design (i.e., one that fully internalizes pollution damages) stay online when the market ignores externalities. Externality payments thus aim to send appropriate retirement signals to those polluting resources. But the Expanded MOPR mutes those signals again, leading those resources to remain online. The Expanded MOPR also excludes resources that are already being built and could contribute to regional resource adequacy needs from capacity market participation. If those resources are not counted even when they can provide capacity, the market will clear other additional resources, leading to an overbuild of capacity and unnecessary

---

<sup>28</sup> 206 Comments, *supra* note 4, at 27-33.

capacity costs. Furthermore, such inefficiently high generation capacity would lead to price suppression in the energy market.

### **III. FERC Should Implement Further Reforms After Eliminating the Expanded MOPR**

Elimination of the Expanded MOPR should not be the only reform the Commission undertakes as a result of the Technical Conference. A durable mechanism for resource adequacy that does not hinder (and even harmonizes with) state and federal decarbonization goals requires further market design changes. Along with Expanded MOPR elimination, the Commission should implement incremental design changes to capacity markets that can ensure they are producing optimal results instead of drastic reform options like fixed resource requirement alternatives. Additionally, FERC should improve price formation in the energy and ancillary services markets to better inform resources' activities and market participation decisions.

#### **A. FERC Should Implement Incremental Design Changes to the Capacity Market**

Questions 9, 10, and 22 ask whether, beyond elimination of the Expanded MOPR, other rule changes are needed, potentially over the long term. Elimination of the Expanded MOPR is a necessary first step in reforming capacity markets to ensure efficient outcomes, but it is not sufficient. Therefore, the Commission should not stop there and should make incremental market design changes to improve the market in light of the evolving resource mix.<sup>29</sup> These reforms would respond to ways that capacity markets can inefficiently favor some resources over others and, when implemented, would help to avoid or mitigate that discrimination.

Additionally, in response to Question 5, these reforms may help reduce calls for capacity market alternatives by states that have been dissatisfied with the capacity market's design and

---

<sup>29</sup> See generally RESOURCE ADEQUACY REPORT, *supra* note 3.

outcomes for a variety of reasons, not just because of the Expanded MOPR. With these reforms, states may be less likely to worry that they will have to decide between exercising their rights over the resource mix and relying on centralized markets to achieve resource adequacy in a cost-effective manner. Ensuring that these features—state authority over the resource mix and centralized capacity markets—are compatible will therefore alleviate pressure on states to adopt alternative resource adequacy mechanisms. In addition, by making these changes, inefficient barriers that bias the market toward fossil-fuel-fired generators will be removed. As a result, the market will serve its purpose to ensure resource adequacy at least cost, while allowing states to more efficiently meet their decarbonization goals.

**Use Appropriate Demand Curves.** The Commission can avoid overprocurement and disproportionate allocation of revenues to capacity markets by ensuring the use of proper demand curve design. We highlight two of the most important aspects of getting the capacity demand curve right. First, FERC must select an appropriate reference technology.<sup>30</sup> RTOs/ISOs continue to use a combustion turbine gas resource as the reference technology, yet this may not be appropriate where combustion turbine gas plants have higher costs than the resources that are actually entering the market.<sup>31</sup> Using combustion turbine gas plants as the reference point can lead to a Net CONE value that is too high, which can in turn incentivize entry and retention of unnecessary resources.<sup>32</sup> Second, FERC must also ensure that the shape of the demand curve is sloped to reflect the social marginal value of each increment of capacity.<sup>33</sup> In other words, the

---

<sup>30</sup> *Id.* at 36.

<sup>31</sup> See generally *PJM Interconnection, L.L.C.*, 171 FERC ¶ 61,040 (2020) (Glick, Comm’r, dissenting).

<sup>32</sup> *Id.* at P 5 (Glick, Comm’r, dissenting).

<sup>33</sup> RESOURCE ADEQUACY REPORT, *supra* note 3, at 36.

Commission must take care to ensure the demand curve reflects the social value from the contribution of each additional unit of capacity to reliability.

**Encourage Demand Flexibility.** The Commission should ensure that market constructs encourage flexibility of electricity demand. Predictions of peak demand that are used to construct the capacity demand curve must account for the impact of energy prices on energy demand levels.<sup>34</sup> This will then encourage price-responsive demand, averting overprocurement in the capacity market.

**Update Capacity Crediting.** As the grid modernizes and new resources come online, RTOs/ISOs must conduct a thorough review of the administrative rules governing how resources are accounted for in capacity markets. Current capacity markets tend to mis-value renewables' and storage resources' capacity contributions because credit methodologies and operational requirements are based on conventional resources' operational profiles. As such, capacity market crediting does a poor job of accounting for the variable nature of renewables and the energy-limited nature of batteries and demand response.<sup>35</sup> To avoid mis-valuing renewables in ways that allocate less capacity revenue to wind and solar resources than would be economically efficient and potentially result in overbuilding non-renewable capacity, capacity-crediting methodologies need to be reformed.<sup>36</sup> Likewise, operational requirements that effectively exclude many valuable ways that batteries might participate in markets must be eliminated.<sup>37</sup>

Capacity credits for renewables, and all other resources, need to account for how renewables change the probability of capacity scarcity and how reliable they are in preventing

---

<sup>34</sup> *Id.*

<sup>35</sup> *Id.* at 37.

<sup>36</sup> *Id.* at 30.

<sup>37</sup> *Id.* at 31.

outages.<sup>38</sup> Given the variability and seasonality of renewables, these resources may change the probability of outages outside traditional peak-demand times. Instead, analyzing the peak times for net-demand, which takes into account both consumer demand and the generation profiles of renewable resources, will be necessary. Those analyses will also need to explicitly account for challenges associated with quick ramping.<sup>39</sup>

Particularly important is the need to apply a uniform capacity-credit methodology across all resources that can account for the operational profiles of each technology.<sup>40</sup> While some RTOs/ISOs already use (and others have begun the much-needed process of adopting) the Effective Load Carrying Capability approach for determining credits for renewables and storage, allowing fossil-fuel-fired generators to continue using the current credit methodology creates bias.<sup>41</sup> New resources may change the probability of outages outside of historical summer peak demand times, and if fossil-fuel-fired resources' outage and maintenance patterns during those seasons rely on historic peak-demand assumptions, their capacity contributions during the rest of the year as currently calculated may be overstated. That is, if fossil-fuel-fired resources have planned their patterns of being offline based on a summer peak and have not planned for a potentially different peak net-demand, they may not be available during actual scarcity conditions as often as they are assumed to be under the current methodology. If fossil-fuel-fired

---

<sup>38</sup> *Id.* at 37.

<sup>39</sup> For a discussion around resource adequacy and ramping, see CAL. INDEP. SYS. OPERATOR, FLEXIBLE RESOURCE ADEQUACY CRITERIA AND MUST OFFER OBLIGATION – PHASE 2: SECOND REVISED FLEXIBLE CAPACITY FRAMEWORK (Apr. 27, 2018), <https://perma.cc/38JK-6XV6> (providing compensation to capacity that offers a higher ability for ramping)

<sup>40</sup> *Id.*

<sup>41</sup> While ELCC constitutes a methodological improvement over the traditional capacity-credit methodologies it will need to be further modified over time. For instance, the current methodology does not account for transmission-related factors. However, in the future with high geographical correlations in the available generation and the resulting changes in network congestion and curtailment, transmission will play an important role in establishing how a resource contributes towards network reliability.

resources are assumed to be available for dispatch more often than they will actually be when needed, they will be overcompensated relative to resources valued using the new methodology.

**Update Capacity Product Definitions.** RTOs/ISOs should also consider changes to their capacity products given the seasonal nature of resources. Long, seasonally uniform capacity obligations lead to at least some renewable generation (and gas resources) being undervalued and unused by capacity markets while other forms of annual capacity are overprocured. Such inefficient designs must be changed.<sup>42</sup>

RTOs/ISOs might consider altering their capacity products by using seasonal obligation periods and running monthly auctions, like NYISO, in order to properly account for the seasonal and diurnal nature of renewables. Long obligation periods can mute signals about the differing value of capacity due to the seasonality of load.<sup>43</sup> As the seasonal variations in load will likely increase with the electrification of heating and transport, it is becoming even more important to take such variation into account when designing the obligation periods in capacity markets. Similarly, thinking about the variability of external weather conditions, especially the increasing frequency of extreme weather events, is important in designing capacity products.

Introducing shorter obligation periods can increase efficiency in the market where, for example, generation seasonality and load seasonality align closely and generators can save costs

---

<sup>42</sup> RESOURCE ADEQUACY REPORT, *supra* note 3, at 32; Sylwia Bialek & Burcin Unel, *Will You Be There for Me the Whole Time? On the Importance of Obligation Periods in Design of Capacity Markets*, 32 ELEC. J. 21, 22-23 (2019); Comments of the Institute for Policy Integrity at New York University School of Law, *Old Dominion Elec. Coop. v. PJM Interconnection, L.L.C.*, Docket Nos. EL17-32 & EL17-36 (July 12, 2018).

<sup>43</sup> Bialek & Unel, *supra* note 42, at 25-26.

by mothballing.<sup>44</sup> RTOs/ISOs could also improve aggregation rules and remove barriers to matching that would make markets with annual products more efficient.<sup>45</sup>

**Update Performance Penalties and Rewards.** Penalties for non-performance should be calibrated to enhance resources' incentives to be available when their generation would be most valuable to society. Non-performance penalties should therefore approximate the revenue loss that a resource would experience for failing to perform in an energy-only market with accurate scarcity pricing because energy prices in that setting, by design, reflect the social value of generation.<sup>46</sup>

This penalty level would, in principle, be technology-neutral. Such neutrality is particularly important given that mis-specifying penalties will have a greater impact on renewables than on other resources.<sup>47</sup> While all resources face consequences for failing to perform, because renewables have more uncertain generation capabilities and therefore are more likely to miss their performance commitments, too high penalties will affect them to a greater degree. Likewise, a penalty that is too low would inappropriately favor renewables for this same reason.<sup>48</sup> Therefore, RTOs/ISOs must undertake a review of their performance penalties (and rewards) to ensure they are providing incentives for resources to predict their future availability accurately and to offer the correct fraction of their nameplate capacity at auction.

---

<sup>44</sup> *Id.* at 26.

<sup>45</sup> *Id.* at 23-24.

<sup>46</sup> RESOURCE ADEQUACY REPORT, *supra* note 3, at 32-33.

<sup>47</sup> *Id.* at 33.

<sup>48</sup> *Id.*

## **B. FERC Should Also Consider Energy and Ancillary Service Market Improvements**

Capacity markets can have different effects on different resource types. They have an inherently asymmetric risk effect, reducing risk more for resources with lower fixed costs and higher operating costs (i.e., gas generators) than for high fixed cost, low operating costs resources (i.e., renewables).<sup>49</sup> Even more problematic issues for renewables stem from the fact that capacity market design elements have to be administratively determined and, therefore, might be (and have been) designed in ways that disadvantage renewables.<sup>50</sup> Some of these problems can be fixed with the incremental reforms proposed above. However, the Commission can also reduce the effect of such biases by reducing the overall role the capacity market plays in sending price signals. FERC can achieve this by looking beyond capacity market reform and working to improve energy market price formation.

Question 20 asks whether FERC should make changes to the energy and ancillary services markets. Energy markets are the primary markets that enable the provision of reliable energy at a given time and location. The spatial and temporal granularity of energy market prices means that energy markets are best suited to signal generators, and consumers, about the social value of generation in a given location at a given time.<sup>51</sup> That is, energy market prices continually change and so reflect the true value of generation. Capacity prices, by contrast, are very coarse, and thus the signal capacity markets send cannot induce the optimal investment and generation schedule.

---

<sup>49</sup> *Id.* at 29; Jacob Mays et al., *Asymmetric Risk and Fuel Neutrality in Electricity Capacity Markets*, 4 NATURE ENERGY 948 (2019).

<sup>50</sup> *See supra* Section III.A.

<sup>51</sup> Without pollution pricing, that signal will be distorted, however, as it will not reflect the social damages from emissions.

By improving energy market price formation, for instance by raising energy price caps and expanding existing scarcity pricing elements (with emphasis on reserve procurement), energy markets can send stronger investment signals about the type and the location of generation capacity needed.<sup>52</sup> Allowing energy prices to rise with consumer valuation will cause the energy market to provide a higher fraction of market revenues and thus play a relatively larger role in resources' decisionmaking.<sup>53</sup> This is important because energy markets avoid many of the biases of capacity markets. By allowing energy market revenue to play a larger role, FERC can avoid to a greater degree capacity markets' tendency to mis-specify capacity credit and apply coarse capacity product definitions.<sup>54</sup> By improving energy market price formation, market operators and regulators can lessen the role that capacity markets play, moderating the impacts of biased or inaccurate market design elements.

Additionally, the Commission should consider the use of a carbon price in its energy markets. As discussed in Section II.A., market outcomes are not efficient when market transactions fail to take into account the cost of damage they cause to third parties through a negative externality, such as carbon-dioxide pollution emitted by fossil-fuel-fired generators. A carbon price in the energy market, by incorporating the external costs of carbon emissions into the RTO's dispatch decisions, would help harmonize market outcomes with state policy goals, reducing conflicts and the amount of the subsidies that need to be paid out-of-market.<sup>55</sup> A carbon

---

<sup>52</sup> RESOURCE ADEQUACY REPORT, *supra* note 3, at 35.

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> MATT BUTNER ET AL, INST. FOR POL'Y INTEGRITY, CARBON PRICING IN WHOLESALE ELECTRICITY MARKETS: AN ECONOMIC AND LEGAL GUIDE 1 (2020); 206 Reply Comments, *supra* note 4, at 8-9.

price would be more economically efficient and provide greater emissions reductions than many climate policies, and would prevent discussions around tools like the Expanded MOPR.<sup>56</sup>

#### **IV. The Commission Should Mitigate Actual Buyer-Side Market Power with a Targeted MOPR**

Market power, like any market failure, should be addressed by the Commission to ensure markets produce economically efficient outcomes. FERC should, therefore, mitigate actual buyer-side market power using a Targeted MOPR. However, the Expanded MOPR was not intended to address buyer-side market power<sup>57</sup>—it is a different policy tool that should not be compared with a Targeted MOPR. Furthermore, while the Commission ought to use a Targeted MOPR to address buyer-side market power, state policies that make efficiency-enhancing payments to avoid generation externalities when markets fail to address them are not exercises of market power and therefore should not be subjected to a Targeted MOPR.

##### **A. A Targeted MOPR and the Expanded MOPR Are Different Policy Tools with Different Purposes and Consequences**

The Expanded MOPR and a Targeted MOPR have distinct purposes and consequences. The Commission should not, therefore, frame the discussion of these two rules as if they are comparable.

The Targeted MOPR, as described in the Notice, is designed to address only buyer-side market power. It would only apply where there is potential for or evidence of market power from actual buyers.<sup>58</sup> Buyer-side market power, similar to seller-side market power, is a market failure

---

<sup>56</sup> 206 Reply Comments, *supra* note 4, at 18-19.

<sup>57</sup> Order on Rehearing and Clarification, 171 FERC ¶ 61,035, P 45 (2020) (“[T]he expanded MOPR does not focus on buyer-side market power mitigation.”).

<sup>58</sup> For example, the 2006 MOPR mitigated an offer only if the bid was “(1) sizeable enough to depress capacity market clearing prices by more than 20 or 30 percent (depending on resource) or by more than \$25/MWh, and (2) was offered by an entity that purchased more capacity than it sold.” See Bethany A. Davis Noll & Burcin Unel, *Markets, Externalities, and the Federal Power Act: the Federal Energy Regulatory Commission’s Authority to Price*

that leads to inefficient market prices. Therefore, a rule aimed at mitigating market power, whether on the seller's side or the buyer's side, is based on the legitimate exercise of the Commission's authority to protect the market from uncompetitive practices, a "concern at the heart of the Commission's responsibility to ensure that wholesale rates are just and reasonable."<sup>59</sup>

The Expanded MOPR is similar in name only. As has been said throughout the proceedings, the Expanded MOPR's purpose is distinct; it represented a fundamental shift and is unrelated to buyer-side market power.<sup>60</sup> Rather, the Expanded MOPR's purpose is to mitigate the supposed effect of all state policies, including externality payments, regardless of market power.

Their consequences are drastically different as well. A Targeted MOPR would affect a limited number of resources that have the economic incentive and ability to inefficiently suppress market prices and take advantage of the system for their own benefit. The Expanded MOPR, on the other hand, would prevent participation by broad swaths of the resource mix, particularly renewables and advanced technologies, and has jurisdictional implications that cannot be ignored.

Whether the existence of a Targeted MOPR is just and reasonable is a completely separate question from whether the existence (or elimination) of an Expanded MOPR is just and reasonable—the two rules are not substitutes, in goal or in effect. However, to the extent that what the Commission really asks is whether it would be just and reasonable to return to the pre-

---

*Carbon Dioxide Emissions*, 27 N.Y.U. ENV'T L.J. 1, 32 (2019) (citing the court's description of PJM's rule in *N.J. Bd. of Pub. Utils v. Fed. Energy Reg. Comm'n*, 744 F.3d 74, 85 (3d Cir. 2014)).

<sup>59</sup> Order Establishing a Just and Reasonable Rate, 169 FERC ¶ 61,239, P 14 (2019) (Glick, Comm'r, dissenting).

<sup>60</sup> *Id.* at P 16 (Glick, Comm'r, dissenting) (describing the Expanded MOPR as a "fundamental shift in the Commission's focus"); Order on Rehearing and Clarification, 171 FERC ¶ 61,035, P 45 (2020) ("[T]he expanded MOPR does not focus on buyer-side market power mitigation.").

Expanded MOPR landscape in which the Commission did not inappropriately mitigate resources receiving externality payments and instead used its minimum offer price rules to address only actual instances of buyer-side market power, then the answer is a resounding yes.

### **B. The Commission Should Use a Targeted MOPR to Mitigate Buyer-Side Market Power**

Questions 8, 12, and 13 all address the appropriate application of a Targeted MOPR.

Market power, to the extent it exists, should be mitigated whether it is on the buyer-side or on the seller-side. If a buyer has market power, it has the ability to affect the price of a good.<sup>61</sup> This power allows the buyer “to purchase a good for less than the price that would prevail in a competitive market.”<sup>62</sup> That is, exercise of buyer-side market power enables the buyer to buy a good at a price below its marginal value as determined by the demand curve for the product.<sup>63</sup> In that way, buyer-side market power increases the surplus buyers get, while creating a deadweight loss to society, analogous to the effects of seller-side market power.

The key point here is that exercising buyer-side market power leads to lower average private costs for the buyer. Market power exists when actors can affect prices for “their own benefit.”<sup>64</sup> By changing its behavior in the market, a buyer can affect the market price, and lower its average expenditure.<sup>65</sup>

But, as we argue above, externality payments such as RECs do not necessarily reduce capacity prices and thus do not reduce the capacity costs to the consumers. States support non-

---

<sup>61</sup> ROBERT S. PINDYCK ET AL., MICROECONOMICS 364 (6th ed., 2005).

<sup>62</sup> *Id.*

<sup>63</sup> *Id.* at 364-68.

<sup>64</sup> Mariano Ventosa et al., *Power System Economics*, in REGULATION OF THE POWER SECTOR 47, 101 (Ignacio J. Pérez-Arriaga ed., 2013).

<sup>65</sup> The Notice outlines the clearest example of this behavior. See Notice Inviting Post-Technical Conference Comments at 3-4 n.2, *Modernizing Electricity Market Design*, Docket No. AD21-10 (Apr. 5, 2021).

emitting resources not because the payments reduce the average private cost of procurement, but because of the externalities associated with air pollution and climate change.<sup>66</sup> That is, states do not exercise buyer-side market power to manipulate market prices to create an in-market benefit; they make payments to avoid generation externalities when markets fail to address them.

While most state externality payments are likely to be welfare enhancing and therefore would not require mitigation by the Commission, there may be some inefficient state subsidies that should be addressed. If the Commission is worried about a narrower set of actions that might be welfare reducing, such as subsidies obtained by pure rent-seeking behavior of generators, there are objective tests that could be used to distinguish between policies that result in economically efficient low prices and those that cause inefficient price suppression.<sup>67</sup> As we have explained in previous comments, FERC should intervene only where market actors are incentivized to act in a manner that would lead to economically inefficient prices.<sup>68</sup> But, if the Commission is determined to use a MOPR to address state policies, it should, at a minimum, institute one of the objective tests laid out in Policy Integrity's earlier comments in the 206 proceeding.<sup>69</sup>

## V. FERC Should Be a Neutral Market Regulator

Question 21 asks about the Commission's proper role in balancing state policies and preventing state policy preferences—and the costs thereof—from being shifted to another state

---

<sup>66</sup> See, e.g., N.Y. DEP'T OF PUB. SERVS., CLEAN ENERGY STANDARD WHITE PAPER COST STUDY 5-6 (2016) (finding that meeting New York's clean energy targets would provide net positive benefits of \$1.8 billion by 2023 from lowering carbon emissions).

<sup>67</sup> 206 Reply Comments, *supra* note 4, at 19-25.

<sup>68</sup> *Id.* at 13-16.

<sup>69</sup> Among other options, the Commission could include an assumed carbon price in calculating its MOPR price floors, such that non-emitting resources would be assumed to receive higher energy market revenues under a carbon price, thereby reducing the net CONE or net ACR value and the price floor, and vice versa for emitting generators. Under such circumstances, the price floor would only be binding if the resource received subsidies that were inefficiently high. *Id.* at 20-21.

with different preferences. But such a question ignores the fact that state policies already have (and will always have) cross-border impacts because states are in the same market. In an interstate energy market, the policy preferences of states already affect each other—downwind states face the economic burdens of air pollution from upwind states, for instance.<sup>70</sup> Some states also face water pollution problems due to water contamination caused by unlined ash ponds in other states.<sup>71</sup> Likewise, the effects of local tax credits, minimum wage laws and a variety of other policies, unrelated to climate or the environment, are felt across state lines. Yet, so long as the wholesale rate reflects the social marginal cost, and is just and reasonable, FERC should not take action. Only when the market outcomes are inefficient due to a market failure should the Commission intervene. As made clear by Policy Integrity’s research, that is not currently the outcome of most state policies.<sup>72</sup> When ensuring that wholesale rates are just and reasonable, the Commission should treat efficiency-enhancing state policies that determine the generation mix, such as externality payments, as part of the landscape in which the wholesale market functions. FERC should not treat these policies as a problem that needs to be addressed.

Question 19 similarly asks about FERC’s role in protecting non-preferred resources from risk that might be created by state policies. However, again, it is not the Commission’s job to make markets less risky for certain resources. As the resource mix evolves, due to state policies and other factors, risk profiles for resources will change. This may impact the availability and cost of financing. But, if the market is designed correctly and there is a need for resources, the

---

<sup>70</sup> See Revised Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS--Final Rule 343 tbl. VIII.6 (Mar. 15, 2021), <https://perma.cc/3BHK-G6JH> (tabulating net benefits of restrictions on sources of air pollution that passes to downwind states).

<sup>71</sup> See, e.g., ENV’T INTEGRITY PROJECT, COAL’S POISONOUS LEGACY: GROUNDWATER CONTAMINATED BY COAL ASH ACROSS THE U.S. 9 (2019).

<sup>72</sup> CAPACITY MARKETS AND EXTERNALITIES REPORT, *supra* note 3; *Role of Externalities and Subsidies Paper*, *supra* note 3.

market will account for that risk and reward resources accordingly. FERC should not adjust market parameters to protect certain resources from risk; it should allow the market to work.

FERC’s role is to be a technology-neutral regulator and to ensure that RTOs and ISOs are being technology-neutral market operators. This is the role that FERC should focus on. The Commission asked in the Conference Agenda whether RTOs/ISOs can “play a role in helping states achieve their diverse policy goals through a centralized resource procurement.”<sup>73</sup> The answer is yes, but simply by ensuring a technology-neutral capacity and energy market. By playing its most fundamental role as a neutral economic regulator, FERC can ensure a level playing for all resources.

Respectfully submitted,

/s/ Sylwia Bialek  
Sylwia Bialek, Ph.D.  
Economist  
Institute for Policy Integrity at  
NYU School of Law  
139 MacDougal Street, 3<sup>rd</sup> Fl.  
New York, NY 10012  
sylwia.bialek@nyu.edu

/s/ Justin Gundlach  
Justin Gundlach  
Senior Attorney  
Institute for Policy Integrity at  
NYU School of Law  
139 MacDougal Street, 3<sup>rd</sup> Fl.  
New York, NY 10012  
justin.gundlach@nyu.edu

/s/ Sarah Ladin  
Sarah Ladin  
Attorney  
Institute for Policy Integrity at  
NYU School of Law  
139 MacDougal Street, 3<sup>rd</sup> Fl.  
New York, NY 10012  
sarah.ladin@nyu.edu

/s/ Burcin Unel  
Burcin Unel, Ph.D.  
Energy Policy Director  
Institute for Policy Integrity at  
NYU School of Law  
139 MacDougal Street, 3<sup>rd</sup> Fl.  
New York, NY 10012  
burcin.unel@nyu.edu

Dated: April 26, 2021

---

<sup>73</sup> Supplemental Notice of Technical Conference on Resource Adequacy in the Evolving Electricity Sector at 3, *Modernizing Electricity Market Design*, Docket No. AD21-10 (Mar. 16, 2020).

**CERTIFICATE OF SERVICE**

In accordance with Rule 2010 of the Commission's Rules of Practice and Procedure, I hereby certify that I have this day served by electronic mail a copy of the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 26 day of April 2021.

Respectfully Submitted,

/s/ Sarah Ladin

Sarah Ladin

Attorney

Institute for Policy Integrity at

NYU School of Law

139 MacDougal Street, 3<sup>rd</sup> Fl.

New York, NY 10012

sarah.ladin@nyu.edu