

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

PJM Interconnection, L.L.C.

)
)
)

Docket No. ER21-2582

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

Pursuant to the Federal Energy Regulatory Commission’s (FERC or the Commission) July 30, 2021 Combined Notice of Filings #1, the Institute for Policy Integrity at NYU School of Law (Policy Integrity)¹ respectfully submits these comments in the above-captioned proceeding. On July 30, 2021, PJM Interconnection, L.L.C. (PJM) filed, under Federal Power Act Section 205,² proposed revisions to the Reliability Pricing Model (RPM) rules in the PJM Open Access Transmission Tariff.³ Specifically, PJM requested the Commission accept its proposal to change the rules for application of the minimum offer price rule (MOPR). Under the “Focused MOPR,” PJM would revise the current rules to “focus[] on prohibiting and mitigating the exercise of buyer-side market power”⁴ and by applying the MOPR to resources receiving state support only if that state support is provided “in exchange for the sale of a FERC-jurisdictional product conditioned on clearing in any RPM Auction.”⁵

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

¹ These comments do not reflect the views of NYU School of Law, if any.

² 16 U.S.C. § 824d.

³ Revisions to Application of Minimum Offer Price Rule, Docket No. ER21-2582 (filed July 30, 2021) [hereinafter PJM Filing].

⁴ *Id.* at 1.

⁵ *Id.* at 25.

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.⁶ Policy Integrity also submitted comments in the administrative proceedings regarding the Resource Adequacy in Wholesale Markets,⁷ and both the Expanded MOPR in PJM and the Buyer-Side Mitigation rules in NYISO,⁸ and participated in Independent System Operator and Regional Transmission Organization (ISO/RTO) meetings and state proceedings on the subject.⁹

PJM’s proposed reform reaches the right result given current circumstances and should therefore be accepted by the Commission. Importantly, the Focused MOPR removes the artificial barrier to entry that the Commission’s 2019 Expanded MOPR created. The proposal ensures that receipt of the welfare-enhancing, generation-based state payments that exist today does not cause a resource to be subjected to the MOPR. PJM’s filing appropriately recognizes that state externality payments may be “economic and welfare-enhancing” and can be “successful in ensuring the differentiated value between carbon-emitting and carbon-free resources is

⁶ 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].

⁷ Comments of the Institute for Policy Integrity at New York University School of Law, *Modernizing Electricity Market Design*, Docket No. AD21-10 (Apr. 26, 2021) [hereinafter Resource Adequacy Comments].

⁸ 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 Capacity Repricing 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 Expanded MOPR Initial Comments]; Reply 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 (Nov. 6, 2018) [hereinafter Expanded MOPR 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).

⁹ E.g., Feedback of the Institute for Policy Integrity at New York University School of Law on Buyer-Side Mitigation Reform Considerations (June 17, 2021) (providing feedback to NYISO on potential reform); Comments of the Institute for Policy Integrity on Resource Adequacy Alternatives, Docket No. EO20030203 (N.J. Bd. of Pub. Utils. May 20, 2020).

recognized.”¹⁰ The proposal also correctly decouples the tariff’s treatment of state payments and true buyer-side market power, recognizing that even where state policies “have the ancillary effect of lowering market prices, there is no reason to suspect that they represent an exercise of buyer-side market power.”¹¹

Significantly, PJM’s proposal to remove the artificial barrier to entry created by the Expanded MOPR is just and reasonable—it improves the efficiency of market outcomes, will not harm resource adequacy, does not inappropriately shift state policy preferences and costs onto other states, and protects consumers from inefficient double payments. The Expanded MOPR’s indiscriminate treatment of state policies as inefficient and uneconomic is both legally inappropriate and economically unsound. Dr. Peter Cramton’s analysis, submitted by PJM in support of its proposal, fits well with what Policy Integrity’s research has already concluded: generation-based payments from states to correct unaddressed negative externalities in electricity markets are unlikely to lead to price suppression in the capacity market.¹² Both analyses undermine the justifications provided for the Expanded MOPR.

The Focused MOPR, which recognizes the efficiency of current state policies while still adding protection from monopsony power, provides a just and reasonable path forward. By creating a level playing field for all resources and properly applying economic fundamentals, the Focused MOPR enhances the efficiency of market outcomes. The Commission should therefore accept the tariff reform proposal as just and reasonable and not unduly discriminatory or preferential.

¹⁰ PJM Filing, Dr. Walter Graf Aff. ¶¶ 16–17 [hereinafter Graf Aff.].

¹¹ *Id.* ¶ 17.

¹² See *Role of Externalities and Subsidies Paper*, *supra* note 6; see also Resource Adequacy Comments, *supra* note 7, at 7–9; accord PJM Filing, Peter Cramton Aff. ¶ 59 (finding MOPR has little impact on capacity prices) [hereinafter Cramton Aff.].

Table of Contents

I.	Economic Fundamentals of Market Efficiency and Competitive Pricing.....	4
A.	Perfectly Competitive Market Are Efficient and Achieve an Equilibrium Price at the Social Marginal Cost	5
B.	Market Failures Exist and Require Regulatory Intervention to Achieve Efficiency.....	7
C.	Economically Rational Bidding Behavior in Capacity Markets Accounts for the Interaction with the Energy Market and Seeks to Recover Missing Money in the Energy Market, Not Necessarily the Marginal Cost of Capacity	10
II.	PJM’s Proposal Reaches the Correct Result Given the Nature of Current State Policies and Payments.....	12
A.	PJM’s Proposal Ensures that Resources that Receive Welfare-Enhancing, Generation-Based Externality Payments from States Are Not Mitigated	12
B.	PJM’s Proposal Correctly Decouples Treatment of State Policies and True Buyer-Side Market Power.....	13
III.	Removing Artificial Barriers to Entry, like the Expanded MOPR, Is Just and Reasonable.....	15
A.	The Expanded MOPR’s Indiscriminate Treatment of State Policies as Inefficient Is Unjust and Unreasonable.....	15
B.	The Commission’s Theory for How State Payments Affect Capacity Markets Was Incorrect.....	16
C.	Removing Artificial Barriers to Entry in the Capacity Market for Resources that Receive State Payments Will Not Threaten Resource Adequacy	18
D.	Removing Artificial Barriers to Entry in the Capacity Market for Resources that Receive State Support Does Not Inappropriately Shift Costs Among States.....	19
E.	Removing Artificial Barriers to Entry in the Capacity Market for Resources that Receive State Support Protects Consumers from Inefficient Double Payments	21

I. Economic Fundamentals of Market Efficiency and Competitive Pricing

PJM’s filing reflects the proper interpretation of fundamental economic principles of market efficiency and competitive pricing. The reforms proposed bring the RPM outcomes closer to those of an efficient market. By recognizing the welfare-enhancing nature of the generation-based externality payments that exist today and eliminating artificial barriers to entry for resources that receive such payments, PJM’s reforms will improve the efficiency of market outcomes. Before discussing why the Commission should approve PJM’s Focused MOPR, it is necessary to provide a review of the principles behind economic efficiency and competitive markets, which should be used to evaluate whether acceptance of the tariff provisions would

meet the Commission’s statutory mandate. These fundamental economic principles support the justness and reasonableness of PJM’s filing.

In recent history, the Commission has embraced market-based solutions aimed at promoting economic efficiency and increasing competition, including by using market-based rates for electricity sales, as its primary means of ensuring just and reasonable rates.¹³ The change in regulatory paradigm from cost-of-service to market competition is grounded in the fundamental principle of economic theory that perfectly competitive markets are efficient.¹⁴ Where FERC can ensure that wholesale markets imitate the basic characteristics of perfectly competitive markets, then the realized market prices also imitate perfectly competitive market prices and are efficient.¹⁵

A. Perfectly Competitive Market Are Efficient and Achieve an Equilibrium Price at the Social Marginal Cost

An efficient market is one where “all the opportunities to make people better off without making other people worse off have been exploited.”¹⁶ If all of those transactions occur, then the total welfare of consumers and producers—the social welfare—is maximized.¹⁷ When such efficiency is achieved in a market, all resources in that market are allocated to their most productive use.¹⁸

Where markets are “perfectly competitive,” they are usually efficient. Perfectly competitive markets have two features: (1) many sellers that can compete to sell their identical

¹³ Bethany A. Davis Noll & Burcin Unel, *Markets, Externalities, and the Federal Power Act: The Federal Energy Regulatory Commission’s Authority to Price Carbon Dioxide Emissions*, 27 N.Y.U. ENV’T L. J. 1, 20–22 (2019).

¹⁴ *Id.* at 22.

¹⁵ *Id.*

¹⁶ *Id.* at 15 (quoting PAUL KRUGMAN & ROBIN WELLS, MICROECONOMICS 15 (2d ed. 2009)).

¹⁷ *Id.* (citing KRUGMAN & WELLS, *supra* note 16, at 14–15, 111, among other sources).

¹⁸ *Id.* (citing ROBERT S. PINDYCK & DANIEL L. RUBINFELD, MICROECONOMICS 597 (7th ed. 2009)).

goods to many buyers; and (2) free entry and exit of firms.¹⁹ Where a market meets these criteria, there is a single market clearing price that is determined where the supply curve for the product intersects the demand curve—in other words, where supply equals demand.²⁰ This is the equilibrium price.²¹ Where there is perfect competition, that equilibrium price equals the social marginal cost and market prices are a signal for efficient allocation of society’s resources.²²

The marginal cost is the additional cost of producing one more unit of a particular good or service, and accounts for the cost of inputs necessary for production, as well as the opportunity cost of capital, because sellers will consider both in their decision.²³ At a perfectly competitive equilibrium, where demand equals supply, the marginal cost equals marginal benefit, and social welfare is maximized; producing any more or less would reduce the net social welfare.²⁴ That is, in a perfectly competitive market, the private marginal cost equals the social marginal cost. In the electricity context, additional generation would continue to increase social welfare until the marginal benefit of one more megawatt-hour of electricity equals its marginal cost; at this point social welfare would be maximized.²⁵

At market equilibrium, all firms that choose to stay in the market will be selling their goods at the marginal cost of production and will be making normal economic profits (that is, incoming revenue is more than outgoing expenditures and there is a return on investment just

¹⁹ *Id.* (citing PINDYCK & RUBINFELD, *supra* note 18, at 272).

²⁰ *Id.* at 16 (citing PINDYCK & RUBINFELD, *supra* note 18, at 272).

²¹ *Id.*

²² *Id.* at 5 (citing PINDYCK & RUBINFELD, *supra* note 18, at 611–13), 16–17 (first citing KRUGMAN & WELLS, *supra* note 16, at 231, 235–36; then citing STEVEN STOFT, POWER SYSTEM ECONOMICS: DESIGNING MARKETS FOR ELECTRICITY 57 (2002)).

²³ *Id.* at 16–17 (citing KRUGMAN & WELLS, *supra* note 16, at 230–31, 235–36; then citing STOFT, *supra* note 22, at 57; and then citing PINDYCK & RUBINFELD, *supra* note 18, at 222, 283).

²⁴ *Id.* at 17 (citing KRUGMAN & WELLS, *supra* note 16, at 106–13).

²⁵ *Id.*

high enough to be considered worth investing in the firm, and no more).²⁶ The price at this perfectly competitive equilibrium serves as a signal of the value of the good to society and works to drive efficient resource allocation.²⁷ In electricity markets, if such prices can be achieved, then both dispatch and investments would be economically efficient.²⁸ With the right price signals, wholesale markets will incentivize the entry of new generation when it is economical to do so, and the exit of existing generation when it is uneconomical.²⁹

B. Market Failures Exist and Require Regulatory Intervention to Achieve Efficiency

However, perfectly competitive markets, and thus efficient, markets rarely exist. Most markets, including electricity markets are marred by “market failures.”³⁰ When there are market failures—including market power, asymmetric information, public goods, and externalities—prices no longer reflect the social marginal cost and the resulting allocation of resources in the economy is no longer efficient.³¹ The private marginal cost of suppliers no longer equals the social marginal cost. Such circumstances demand regulatory intervention because where FERC is relying on economic efficiency and competition to ensure just and reasonable rates, a wholesale market with market failures would undermine that goal.³² The Commission has repeatedly done just that, recognizing that each type of the above mentioned market failures

²⁶ *Id.* at 17–18 (citing PINDYCK & RUBINFELD, *supra* note 18, at 294, 296–97).

²⁷ *Id.* at 18 (citing PINDYCK & RUBINFELD, *supra* note 18, at 611).

²⁸ *Id.* (citing STOFT, *supra* note 22, at 54).

²⁹ *Id.*

³⁰ *Id.* at 5 (citing PINDYCK & RUBINFELD, *supra* note 18, at 611–13).

³¹ *Id.* (citing PINDYCK & RUBINFELD, *supra* note 18, at 611–13).

³² *Id.* at 5–6 .

exists in its wholesale energy markets and addressing them under its authority to ensure just and reasonable rates.³³

Addressing externalities associated with carbon dioxide emissions is no different than addressing any other type of externality (like transmission congestion) or other market failure. An externality is the unaccounted-for cost or benefit imposed on third parties by a market transaction not borne by the parties engaged in the transaction.³⁴ Because these costs or benefits are not incurred directly by the parties making market decisions, the resulting price of the good does not reflect its true social value, which leads to a market outcome that is socially inefficient.³⁵

In order to achieve economic efficiency in the presence of negative externalities, those externalities need to be fully “internalized”—that is, the parties to the market transaction must bear the external costs.³⁶ Prices “must reflect all the (marginal) costs of production and consumption—not only those borne directly by the transacting parties but also those that may be foisted on outsiders.”³⁷ Once the costs are internalized and prices reflect them, parties will enter into a different, welfare maximizing transaction.³⁸ Internalization can be accomplished through a tax in the amount of the external damage *or* a subsidy in the amount of the external benefit.³⁹

The Commission has previously addressed externalities in an effort to promote economic efficiency. The prime example being FERC’s approval of Locational Marginal Pricing (LMP),

³³ *Id.* at 6, 26–41 (describing instances where FERC has used its authority to ensure just and reasonable rates to intervene to address market power, asymmetric information, public goods, and externalities).

³⁴ *Id.* at 38–39 (citing KRUGMAN & WELLS, *supra* note 16, at 437).

³⁵ *Id.* at 39 (citing PINDYCK & RUBINFELD, *supra* note 18, at 315–16, 645).

³⁶ *Id.* (KRUGMAN & WELLS, *supra* note 16, at 438; and then citing ALFRED E. KAHN, THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTES 69 (1988)).

³⁷ *Id.* (citing KAHN, *supra* note 36, at 69).

³⁸ *Id.*

³⁹ *Id.* (citing KRUGMAN & WELLS, *supra* note 16, at 442–44, 450).

which considers transmission congestion and losses.⁴⁰ Given that the transmission network is a limited capacity resource, increased demand by one customer at times when the network is close to capacity might mean another customer cannot be served.⁴¹ If these customers do not pay for the congestion costs that their increased demand creates, then the amount of electricity they demand may be higher than the socially efficient level, leading to a higher-than-socially-efficient level of congestion.⁴² LMP is used to address this externality and ensure that energy prices reflect the true cost of delivering electricity to a particular location, including the opportunity costs related to the physical limits of the transmission system and the cost of generating electricity.⁴³ LMP increases to reflect the constraints of the transmission system.⁴⁴ This provides a price signal that incentivizes market participants to avoid congestion-causing transactions by internalizing congestion costs.⁴⁵

Carbon dioxide emissions associated with generation likewise represent an externality that must be internalized to ensure that prices reflect true social marginal cost. The external cost of carbon dioxide emissions is directly tied to the social marginal cost of production and, therefore, directly affects the reasonableness of the price for each megawatt-hour of electricity that is generated.⁴⁶ When emitting generators are not required to reflect the cost to society of their emissions in their bids, the resulting market price will be lower than the social marginal cost of producing electricity.⁴⁷ Socially optimal economic regulation cannot be achieved without

⁴⁰ *Id.* at 40.

⁴¹ *Id.* at 39–40

⁴² *Id.* at 40.

⁴³ *Id.*

⁴⁴ *Id.* (citing FED. ENERGY REG. COMM’N, ENERGY PRIMER: A HANDBOOK OF ENERGY MARKET BASICS 60 (2015); and then citing Joel B. Eisen, *FERC’s Expansive Authority to Transform the Electricity Grid*, 49 U.C. DAVIS L. REV. 1783, 1828 (2016)).

⁴⁵ *Id.* at 41.

⁴⁶ *Id.* at 7.

⁴⁷ *Id.* at 42.

consideration of the external costs of carbon dioxide emissions.⁴⁸ Such consideration can occur in wholesale markets through a carbon price for emitting generators or, if that is not possible, through corrective payments for clean attributes of clean resources. A carbon price for emitters brings the price closer to the social marginal cost, while corrective payments for clean resources bring market outcomes closer to those that would occur at the equilibrium when externalities are internalized.

In sum, competitive pricing and efficient outcomes occur where sellers offer their product into the market at the social marginal cost of production. However, for markets to reach an equilibrium price that nears social marginal cost or to produce the outcomes that occur at that price, regulators must consider and address externalities, including carbon dioxide emissions.

C. Economically Rational Bidding Behavior in Capacity Markets Accounts for the Interaction with the Energy Market and Seeks to Recover Missing Money in the Energy Market, Not Necessarily the Marginal Cost of Capacity

The above discussion of social marginal cost and efficient outcomes holds true for PJM's energy market. However, that is not the case for the capacity market, which is not, by itself, an end market. Rather, the primary goal of PJM's capacity market is to ensure resource adequacy by solving the "missing money" problem, that is, to compensate for money not earned (but is necessary for resource adequacy and thus left "missing") in the energy market. As such, the concept of marginal cost pricing applies differently to the capacity market. The price in the capacity market is not expected to be the marginal cost of capacity, but rather will be based on the missing money.

⁴⁸ *Id.* at 9.

As Policy Integrity and numerous other commenters and panelists explained in the Commission’s proceedings on resource adequacy,⁴⁹ 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.⁵⁰ The capacity market supplements that revenue to solve the missing money problem and ensure sufficient capacity is built to satisfy demand at all times, ensuring resource adequacy.⁵¹ Therefore, revenues that should be provided in the capacity market depend on revenues in the energy market.⁵² Because of the interaction with the energy market, a capacity market equilibrium analysis must take that interaction into account and look at other markets.

Economically rational bidding behavior in capacity markets likewise depends on revenues earned or expected to be earned in the energy market. In capacity markets, a generator has an incentive to bid at a level that would allow it to recover its missing money, but no more and no less. If a generator bids higher than this level, it risks not clearing in the market. If it bids lower than this level, it would not be able to recover its costs, even if it clears.

However, this bid level is not necessarily “at cost” of capacity. One clear example is that inframarginal units in the energy market receive revenues from the energy market above their marginal cost of generation. Therefore, they earn enough revenue to both cover the variable cost of their generation and some of their capital costs. As a result, they need to earn less than their full capacity costs in the capacity market. In other words, the price in the capacity market, unlike other types of markets, is not necessarily expected to be “the marginal cost” of capacity. Rather,

⁴⁹ *Modernizing Electricity Market Design: Resource Adequacy in the Evolving Electricity Sector*, Docket No. AD21-10.

⁵⁰ Resource Adequacy Comments, *supra* note 7, at 4.

⁵¹ *Id.*

⁵² *Id.*

bidding decisions reflect the missing money and thus account for (and change in response to) energy market revenues.

II. PJM’s Proposal Reaches the Correct Result Given the Nature of Current State Policies and Payments

PJM’s proposal reaches the correct result given current circumstances. By ensuring that a resource can accept payment from state programs and policies for its environmental and other clean attributes—which are non-FERC jurisdictional products—without fear of having its offer mitigated, the proposal allows market correcting payments to enhance the efficiency of market outcomes. It therefore reaches the correct result, which is to accommodate regulatory interventions that address negative externalities. The proposal also correctly separates treatment of resources receiving state policies and resources exercising true buyer-side market power. Conflation of these two issues has led to confusion and inappropriately broad rules that lacked grounding in rigorous economic analysis. A just and reasonable rule recognizes that the potential for an uneconomic state payment is a different problem, and requires a different solution, to the potential for exercise of buyer-side market power. PJM’s proposal does just that and should be accepted.

A. PJM’s Proposal Ensures that Resources that Receive Welfare-Enhancing, Generation-Based Externality Payments from States Are Not Mitigated

As Policy Integrity has previously commented, welfare-enhancing, generation-based payments by states for the environmental and other clean attributes of resources help internalize an externality in the market—carbon dioxide emissions. By correcting the market’s current failure to internalize the damage that results from emissions of air pollution, well-designed state payments can improve the efficiency of market outcomes.⁵³ That is what most of the policies at

⁵³ CAPACITY MARKETS AND EXTERNALITIES REPORT, *supra* note 6, at 6.

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.⁵⁴

PJM’s filing in support of its tariff reforms recognizes the market correcting nature of such policies and therefore brings about the correct result given the structure of existing state policies.⁵⁵ Unlike the problematic payments in *Hughes*, which provided payments on per-megawatt basis, state payments today are generation-based—they are provided on a per-MWh basis. Such policies compensate generators for attributes associated with their generation of energy in order to address the pollution externality. These efficiency enhancing payments do not warrant mitigation. By recognizing the welfare implications of state policies and removing MOPR application, PJM’s filing provides for just and reasonable rates. As such, the Commission should accept the proposal.

B. PJM’s Proposal Correctly Decouples Treatment of State Policies and True Buyer-Side Market Power

Additionally, PJM’s proposal takes the important step of decoupling treatment of state policies and true buyer-side market power, recognizing that receipt of state payments does not indicate ability to exert buyer-side market power. Receiving payment for a renewable energy credit or other revenue does not indicate, one way or the other, whether a resource can exert market power in capacity markets. Yet, where true buyer-side market power or other market distorting behavior does occur, such uneconomic conduct should not be ignored, and the Commission must act to protect its markets. By recognizing the difference between potential market distortions associated with inefficient state payments and true buyer-side market power—and removing an artificial barrier that assumes all state payments are uneconomic—PJM’s

⁵⁴ *Id.*

⁵⁵ PJM Filing, *supra* note 3, at 8–10.

proposal enhances the efficiency of the market while protecting competition and ensuring just and reasonable rates.

Current state policies are not exercises of buyer-side market power. Buyer-side market power enables buyers to purchase a good at a price below its marginal value as determined by the demand curve for the product.⁵⁶ Buyer-side market power increase the surplus buyers get, while creating a deadweight loss to society. The key point here is that exercise 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.”⁵⁷ By changing its behavior in the market, a buyer can affect the market price, and lower its average expenditure.

Externality payments, however, do not necessarily reduce capacity prices, as discussed *infra* Section III, and thus do not reduce the capacity costs to the consumers. States support non-emitting resources not because the payments reduce the average private cost of capacity procurement, but because of the externalities associated with air pollution and climate change.⁵⁸ 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.

A just and reasonable market rule recognizes that receipt of state payments is not indicative of ability to exercise market power. That is, the MOPR should not be indiscriminately applied to all state policies under the assumption that they are inefficient, market distorting, or

⁵⁶ ROBERT S. PINDYCK ET AL., MICROECONOMICS 364–68 (6th ed. 2005).

⁵⁷ Mariano Ventosa et al., *Power System Economics*, in REGULATION OF THE POWER SECTOR 47, 101 (Ignacio J. Pérez-Arriaga ed., 2013).

⁵⁸ *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 dioxide emissions).

necessarily exercises of market power. It also recognizes that the potential for inefficient state policies and uneconomic buyer-side market power are different economic problems that cannot be conflated. By decoupling how it reviews the efficiency of state policies and potential exercises of true buyer-side market power, PJM's proposal removes an artificial barrier to entry and enhances the efficiency of market outcomes.

III. Removing Artificial Barriers to Entry, like the Expanded MOPR, Is Just and Reasonable

Finally, PJM's proposal is just and reasonable because it removes the artificial barrier to entry in the capacity market that the Expanded MOPR created. As has been argued in numerous filings related to PJM's MOPR,⁵⁹ a market rule that undermines market correcting policies and reduces market efficiency, like the Expanded MOPR, is unjust and unreasonable. The Expanded MOPR broadly assumed that all state payments are uneconomic based on a flawed premise that capacity markets will inefficiently decrease in response to state policies. Yet, this theory has been previously challenged by Policy Integrity's research, and has now been further undercut by Dr. Cramton's modeling and analysis submitted as part of PJM's filing. Eliminating the Expanded MOPR and accepting PJM's Focused MOPR will not harm resource adequacy, does not inappropriately shift costs of one state's policies to another, and perhaps most significantly, protects consumers from inefficient double payments.

A. The Expanded MOPR's Indiscriminate Treatment of State Policies as Inefficient Is Unjust and Unreasonable

The Expanded MOPR is premised on the flawed assumption that all state policy payments are inefficient and market distorting (and exercises of buyer-side market power). Putting aside that receipt of state payments is not indicative of the ability to assert market power,

⁵⁹ See generally Capacity Repricing Comments, *supra* note 8; Expanded MOPR Initial Comments, *supra* note 8; Expanded MOPR Reply Comments, *supra* note 8; Resource Adequacy Comments, *supra* note 7.

the assumption that state payments reduce the efficiency of the market stands in stark contrast to basic economic principles, described above.

Well-designed externality payments are welfare-enhancing. Existing state policies are legally valid and, based on current estimates of the social cost of greenhouse gases and other public health impacts, improve efficiency. Because FERC-jurisdictional markets lead to inefficiently high greenhouse gas emissions and local pollutions, current state payments for environmental attributes tend to correct the inefficiencies that exist in the markets. Until the Commission prices environmental externalities, state payments that move the market toward the economically efficient outcome are necessary and should not be mitigated.

A market rule that does the opposite, and assumes *all* state policies are inefficient and should be mitigated actually distorts the market, is unjust and unreasonable, and must be eliminated. The Expanded MOPR, which does just that, does not ensure that only economic resources participate in the market. Instead, it harms competition by creating an artificial barrier to entry in the capacity market for resources that may be economic when viewed through the proper economic framework. As Dr. Graf explains, “Rather than restoring the competitive outcome, [the Expanded MOPR] distorts market outcomes away from competitive outcomes that would prevail if the externalities were priced directly in the markets.”⁶⁰

B. The Commission’s Theory for How State Payments Affect Capacity Markets Was Incorrect

As explained in detail in Policy Integrity’s Resource Adequacy comments,⁶¹ the Commission’s theory for how state payments can impact capacity market payments is incorrect because it disregards the nature of the payments at issue and ignores the interaction between the

⁶⁰ Graf Aff., *supra* note 10, ¶ 16.

⁶¹ Resource Adequacy Comments, *supra* note 7, at 7–9.

capacity market and energy market. State generation-based payments do not simply or solely cause state-supported generators to reduce their capacity market offers, thereby lowering the clearing price or lowering the supply curve. Because these payments are made on a per-MWh basis (rather than a per-MW basis), they primarily affect energy market offers and clearing prices and can only indirectly impact capacity market prices. That is, while a per-MW subsidy might shift the supply curve in the capacity to the right potentially causing the alleged affect, the effect of generation-based payments on the capacity supply curve is much more nuanced because of the interaction between the energy market and capacity market.

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 assumed in approving the Expanded MOPR, 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, Policy Integrity 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.⁶² 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.⁶³

This conclusion, that state payments are unlikely to change capacity market prices, is in line with Dr. Cramton’s findings that the Expanded MOPR and Focused MOPR will result in similar capacity prices.⁶⁴ Like Policy Integrity’s research, Dr. Cramton’s modeling appropriately considers the interaction between the energy market and capacity market, rather than crafting a theory on an isolated capacity market.⁶⁵ The Expanded MOPR was based on an assumed price-suppressive relationship between state policies and capacity markets that was never actually demonstrated. Properly scrutinizing existing policies and the interaction of the markets suggests that state policies likely will not decrease capacity prices and that sweeping mitigation of resources based solely on receipt of state payments is not economically defensible. As Dr. Cramton explicitly finds, “[t]here is no evidence of ‘price suppression’ with a narrow MOPR.”⁶⁶ PJM’s proposal reflects this understanding.

C. Removing Artificial Barriers to Entry in the Capacity Market for Resources that Receive State Payments Will Not Threaten Resource Adequacy

Dr. Cramton’s analysis demonstrates what Policy Integrity has previously argued: eliminating the Expanded MOPR and allowing resources receiving current state payments will

⁶² *Role of Externalities and Subsidies Paper*, *supra* note 6, at 23–24, 27. Notably, this working paper was completed after the Expanded MOPR proceedings concluded and was not part of the record. Along with Dr. Cramton’s work, the working paper provides new evidence that can help justify a change in policy. Dr. Cramton’s analysis and the working paper’s conclusions undermine PJM and FERC’s previous understanding of how state policies affect the capacity market and the theory of market harm that has been the basis for mitigation under the Expanded MOPR and previous rules.

⁶³ *Id.* at 24.

⁶⁴ Cramton Aff., *supra* note 12, ¶ 59.

⁶⁵ See Peter Cramton et al, *Electricity Market in Transition: A Multi-Decade Micro-Model of Entry and Exit in Advanced Wholesale Markets* 42-47 (2021).

⁶⁶ Cramton Aff., *supra* note 12, ¶ 59.

not have an adverse impact on resource adequacy or reliability of the capacity market.⁶⁷ Dr. Cramton concludes that “a broad MOPR is not needed to preserve the long-term reliability of service to load.”⁶⁸ As such, PJM recognizes that “if the Expanded MOPR is not needed to ensure reliability, and if it does not produce notable efficiency or cost savings relative to PJM’s proposed, more targeted MOPR, there is little if any justification for the need to continue the adverse consequences of the Expanded MOPR.”⁶⁹ The artificial barrier to entry the Expanded MOPR erected is not needed and should be removed.

The capacity market is designed to achieve resource adequacy and reliability regardless of the resource mix. Upon eliminating the Expanded MOPR, the capacity market will continue to meet these goals so long as the demand curve and capacity credits are set correctly. With properly specified demand and supply parameters, scarce capacity will cause capacity prices to increase, incentivizing entry. All else equal, 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, accepting PJM’s proposal and eliminating the Expanded MOPR will not present a challenge for resource adequacy.

D. Removing Artificial Barriers to Entry in the Capacity Market for Resources that Receive State Support Does Not Inappropriately Shift Costs Among States

In recent proceedings, it has been argued that by allowing resources that receive state payments to go unmitigated, FERC would be allowing the policy preferences, and costs thereof,

⁶⁷ See *id.* ¶ 63; Resource Adequacy Comments, *supra* note 7, at 9–11.

⁶⁸ Cramton Aff., *supra* note 12, ¶ 63.

⁶⁹ PJM Filing, *supra* note 3, at 17–18.

to be shifted to states with other preferences.⁷⁰ However, this concern 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.⁷¹ Some states also face water pollution problems due to water contamination caused by unlined ash ponds in other states.⁷² 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. In joining an interstate market, states accept that they cannot be wholly insulated from the legally valid and efficient policies of other states. To the extent these cost shifts occur within the proper functioning of organized wholesale markets,

Furthermore, if there is any effect of state policies on other states it is not necessarily an increase in costs. In multi-state ISOs and RTOs, consumers could see *reduced* energy costs as a result of the state policies providing payment for environmental attributes. PJM recognizes this fact in its filing, noting that “state subsidies only lower total costs for consumers in other states.”⁷³ At the initial Technical Conference on Resource Adequacy, panelist Abe Silverman contended that, in purchasing clean resources, New Jersey was “going to be decreasing prices for a lot of consumers.”⁷⁴ State consumer advocates in states without decarbonization goals or

⁷⁰ See, e.g., Notice Inviting Post-Technical Conference Comments, *Modernizing Electricity Market Design*, Docket No. AD21-10 (Apr. 5, 2021) (Question 21).

⁷¹ 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).

⁷² See, e.g., ENV’T INTEGRITY PROJ., COAL’S POISONOUS LEGACY: GROUNDWATER CONTAMINATED BY COAL ASH ACROSS THE U.S. 9 (2019).

⁷³ PJM Filing, *supra* note 3, at 10.

⁷⁴ Technical Conference Transcript at 266–67, *Modernizing Electricity Market Design*, Docket No. AD21-10 (Mar. 23, 2021) (further noting that “I don’t think we need to worry that we’re somehow promoting revenue inadequacy, or otherwise you know shifting costs from state to state, because as long as the cost of the subsidies is borne by the individual states, that’s not a concern”).

policy-related payments have likewise asserted as much. At the Commission’s Technical Conference on Resource Adequacy in ISO-NE, the Consumer Advocate for the State of New Hampshire explained that, while New Hampshire is the only state in ISO-NE without mandatory decarbonization goals, he did not oppose elimination of the Expanded MOPR because it brought price *benefits* to New Hampshire ratepayers.⁷⁵

In sum, if there is a shift of costs between states by removing the artificial barrier to entry created by the Expanded MOPR, it is not an *inappropriate* shift, given that cost shifts are a natural part of participating in an interstate market. And, if there is an effect, it is not necessarily a shift of costs—state policies may reduce energy prices for consumers.

E. Removing Artificial Barriers to Entry in the Capacity Market for Resources that Receive State Support Protects Consumers from Inefficient Double Payments

Lastly, removing the artificial barrier to entry that the Expanded MOPR created will prevent consumers from inefficiently paying twice for capacity. Today’s state payments are, based on current estimates of the social cost of greenhouse gases and other public health impacts, efficiency enhancing. A market rule that requires consumers to pay twice for capacity resources, once through higher prices in the capacity markets paid to units that are not required to ensure system reliability and a second time through externality payments made pursuant to state programs, is not just and reasonable.⁷⁶ By eliminating the barrier to entry created by the Expanded MOPR, PJM’s proposal prevents consumers from paying such inefficient double payments.

⁷⁵ Technical Conference Transcript at 198–199, *Modernizing Electricity Market Design*, Docket No. AD21-10 (May 25, 2021) (Remarks of Donald M. Kreis, Consumer Advocate, State of New Hampshire).

⁷⁶ Expanded MOPR Initial Comments, *supra* note 8, at 13.

In previous orders, the Commission has cursorily rejected arguments that it had to consider or worry about such double payments, even where evidence was presented that the Expanded MOPR could impose billions of dollars of costs on consumers for redundant capacity.⁷⁷ While federal court decisions have concluded that allowing consumers to “pay twice” could be just and reasonable,⁷⁸ those decisions neither found that allowing double payment would *always* lead to a just and reasonable outcome nor relieved the Commission of its obligation to adequately respond to arguments that requiring consumers to pay twice is unjust and unreasonable under the circumstances. The Commission is required to balance the interests of investors and consumers.⁷⁹ In assessing whether a market rule is just and reasonable, the Commission must ensure that increased costs to consumers are justified, and adequately respond to arguments to the contrary.⁸⁰

A market rule that inefficiently requires consumers to pay twice by procuring unnecessary capacity is not just and reasonable. As Dr. Cramton’s analysis demonstrates, the Expanded MOPR overprocures capacity that does not provide reliability benefits. This confirms arguments that Policy Integrity⁸¹ and other commenters⁸² have previously made and that the Commission has previously disregarded. The increased consumers costs are not justified by a

⁷⁷ Order Rejecting Proposed Tariff Revisions, Granting in Part and Denying in Part Complaint, and Institute Proceedings Under Section 206 of the Federal Power Act, *Calpine Corp. v. PJM Interconnection, L.L.C.*, 163 FERC 61,236, at P 69 (June 29, 2018) [hereinafter June 2018 Order]; Order Establishing Just and Reasonable Rate, *Calpine Corp. v. PJM Interconnection, L.L.C.*, 169 FERC 61,239, at P 41 (Dec. 19, 2019) [hereinafter December 2019 Order]; Order on Rehearing and Clarification, *Calpine Corp. v. PJM Interconnection, L.L.C.*, 171 FERC 61,035, at PP 140–41 (Apr. 16, 2020) [hereinafter April 2020 Order].

⁷⁸ See, e.g., *N.J. Bd. of Pub. Utils. v. Fed. Energy Reg. Comm’n*, 744 F.3d 74, 97 (3d Cir. 2014); *Conn. Dept. of Pub. Util. Control v. Fed. Energy Reg. Comm’n*, 569 F.3d 477, 481 (D.C. Cir. 2009)

⁷⁹ *Hope Nat. Gas Co. v. Fed. Power Comm’n*, 320 U.S. 591, 603 (1944).

⁸⁰ See *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29 (1983).

⁸¹ Expanded MOPR Initial Comments, *supra* note 8, at 13.

⁸² See April 2020 Order, at P 134 n.330 (listing parties arguing that the Commission “erred by not considering the cost impacts of the replacement rate or appropriately balancing consumer and investor interests, as well as the risks of over-mitigation”).

rate that sends “orderly entry and exit” signals, as FERC has contended.⁸³ Rather, the Expanded MOPR creates an artificial barrier to entry for certain resources and fails to send proper entry and exit signals to the market, and will lead to overprocurement. PJM’s proposal eliminates that barrier and helps to prevent inefficient double payments, leading to a more efficient market.

Respectfully submitted,

/s/ Sarah Ladin

Sarah Ladin
Attorney
Institute for Policy Integrity at
NYU School of Law
139 MacDougal Street, 3rd 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, 3rd Fl.
New York, NY 10012
burcin.unel@nyu.edu

Dated: August 20, 2021

⁸³ June 2018 Order, at P 69; December 2019 Order, at P 41; April 2020 Order, at P 140–41.

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 20th day of August 2021.

Respectfully Submitted,

/s/ Sarah Ladin

Sarah Ladin

Attorney

Institute for Policy Integrity at

NYU School of Law

139 MacDougal Street, 3rd Fl.

New York, NY 10012

sarah.ladin@nyu.edu