UNITED STATES OF AMERICA
BEFORE
THE FEDERAL ENERGY REGULATORY COMMISSION

Carbon Pricing in FERC-Jurisdictional Organized Regional Wholesale Electric Energy Markets	)	Docket No. AD20-14-000

COMMENTS OF NRG ENERGY, INC.

NRG Energy, Inc. ("NRG") files these comments in support of the Request for Technical Conference or Workshop filed in the above-referenced docket ("Request"). NRG supports the petition's request that the Federal Energy Regulatory Commission ("Commission") hold a technical conference on carbon pricing.

NRG suggests that the Commission squarely aim any such technical conference at how state climate policies can be translated into wholesale pricing in the power sector, and whether they should be so reflected. Specifically, NRG recommends that the Commission organize the proceedings to discuss:

- The narrow, but technical wholesale market design issues that arise in the direct pricing of carbon by states;
- The more important discussion of how state policies that target carbon emissions but which are less direct can either
    - be translated into wholesale carbon pricing or;
    - be otherwise accommodated by a trade in environmental attributes associated with the Commission's jurisdictional markets

- In addition to presentations from stakeholders, state regulators should have an opportunity to dialogue directly with federal regulators about how an approach marked by cooperative federalism could exist in an interdependent marketplace where the mandates and policy goals of both federal and state sovereigns are respected and furthered.

I. State policies provide both direct and implied price signals about their jurisdictions' willingness to pay for decarbonization, and the Commission should consider how to incorporate this variety of state policymaking into the wholesale market.

Congress has not legislated a carbon price on any sector, including the power sector.[1] Nor does an interstate compact exist for the sake of effectuating a regional regulatory regime.[2] Instead, governmental action on carbon emissions has centered on the states. Some have posited that the Commission on its own authority might establish a carbon price in the name of the economically efficient regulation of wholesale power markets.[3] Whatever the merits of such an approach, it does not appear to have significant purchase among Commissioners, who have argued that the Commission may not adopt a "framework or targets *on its own*"[4] for carbon emissions and that "traditional environmental considerations are not within the zone of interests

[1] The Environmental Protection Agency has regulated carbon emissions by promulgating the Affordable Clean Energy ("ACE") rule, which provides guidelines for states with coal units to develop plans for potential heat rate improvements at each coal to reduce carbon emissions. 84 Fed. Reg. 32520 (July 8, 2019), codified at 40 C.F.R. Part 60.

[2] A *de facto* regional approach may be said to exist through RGGI or the Western Energy Imbalance Market. Yet these regional vehicles are the result of state laws establishing a cap on emissions, which are then rolled into a regional allowance cap or a price for EIM's imports into California.

[3] Matt Butner *et. al.*, "Carbon Pricing in Wholesale Electricity Markets: An Economic and Legal Guide," (March 2020), Institute for Policy Integrity, pp. 31-40. https://policyintegrity.org/files/publications/Carbon_Pricing_in_Wholesale_Electricity_Markets_Report.pdf

[4] Concurrence of Commissioner Bernard McNamee, P65 in *El Paso Nat. Gas Co., L.L.C.*, 169 FERC ¶ 61,133 (2019). Unlike for natural gas pipeline certifications, which were at issue in Commissioner McNamee's *El Paso* concurrence, in the power sector there is already a carbon-emissions framework, albeit often a patchwork and indirect one, in place for the power sector, which states have adopted and which directly affects the Commission's ratemaking responsibilities under the Federal Power Act.

that the Commission considers when acting pursuant to its ratemaking authority."[5] Absent action by any other jurisdiction to adopt carbon pricing, NRG agrees that the proper lens of inquiry in "consider[ing] state programs in wholesale markets" is to provide "a way of giving effect to states' exercise of their reserved authority."[6]

States have chosen whether to regulate carbon emissions—or not. Likewise, each state that has chosen to regulate carbon emissions also has decided whether or not to take direct aim at them through a tax on carbon emissions, or to take slightly less direct aim at them through a cap on emissions for one or more sectors, or to take a still less direct approach by mandating non-emitting resources' entry into the market through renewable portfolio standards and similar policies. Some states have adopted some combination of these approaches.

All of these states' policies, regardless of how direct or indirect, may be translated into a price on carbon for the purpose of wholesale pricing in the power sector. However, NRG suggests that in carbon pricing discussions these state policies present distinct issues that should naturally guide the structure of a technical conference's inquiry.

A. States that choose to price carbon directly have an automatic price effect on wholesale prices, but recent state decisionmaking on imports raises exotic, technical questions of market design

For those state policies that impose a more direct price on carbon, their translative effect on the wholesale power markets is often straightforward. A state that requires a generator within its border to pay a tax or to obtain an allowance to cover its carbon emissions will directly affect the price at which the generator offers its production for sale. Auctions or bilateral contracts for energy will naturally incorporate a carbon price effect into such a wholesale market's pricing

[5] Commissioner Rich Glick and Matthew Christiansen, "FERC and Climate Change," *Energy Law Journal* (Vol 40:1, 2019), pp. 32-33, citing *Grand Council of Crees v. FERC*, 198 F.3d 950, 956 (D.C. Cir. 2000).
[6] *Id.*, p. 33.

because the design of these markets is flexible enough to absorb them without further Commission action. In some circumstances, such as for market power mitigation, the Commission may need to take actions that specifies a proxy carbon price that may differ from the actual prevailing price of carbon emissions.[7] In general, these decisions do not rise to a level of complexity worthy of extensive treatment in a technical conference.

Pricing carbon in one state among many in a regional marketplace also results in consequences sometimes referred to as leakage, resource shuffling, or secondary dispatch. Cleaner sources of energy will tend to be more highly valued in states that impose a price on emissions versus those states that do not, while fossil generators in a state without regulation will obtain an advantage over similar technologies located in states that choose to regulate carbon emissions. These phenomena are often characterized as problems, but they may be a natural and even economically efficient result of a system with many state sovereigns. Recently, importing states have imposed their carbon-pricing regime on electricity imports as well as emissions that occur within their state boundaries.[8] If this approach's economic implications are to be translated into the wholesale power market in a manner that affects dispatch, more exotic changes to wholesale market design are needed. That is because a resource participating in a centralized energy auction will not itself know whether it will be dispatched for the sake of serving load into a carbon-regulating state, which would affect its offer price.

[7] *CAISO*, 141 FERC ¶ 61,237 (2012), P31.

[8] See, for example, California's policy of imposing carbon emissions regulations on imports through regulation of the "first jurisdictional deliverer." Statement of Michael Gibbs, California Air Resources Board, *Technical Conference on Environmental Regulations and Electric Reliability, Wholesale Markets, and Energy Infrastructure* (Feb. 25, 2015). https://www.ferc.gov/CalendarFiles/20150220110141-Gibbs,%20CA%20Air%20Resources%20Board.pdf

The Western Energy Imbalance Market (EIM) is to date the single example of a centralized power auction where the Commission has approved a design intended to reflect a state's policy of regulating the associated emissions of electricity imports.[9] EIM's present-day operations are limited to a real-time market, which incrementally affects the dispatch of resources already committed to serve load in the individual balancing authority areas that participate in EIM. As such, imports are possibly more easy to identify than they would be in a more highly integrated regional market. In that vein, both NYISO[10] and PJM[11] also have commissioned analyses to investigate potential leakage issues, and it is also a topic of conversation for EIM as it moves to a possible future as a day-ahead market.

These issues are complex, and worthy of discussion at a technical conference, because they ask the Commission to do something more than to passively allow generators obviously subject to a carbon price to reflect those costs in their offers, like any other cost.

B. *The most significant carbon pricing regimes are indirectly affected by states through Renewable Portfolio Standards and like policies, which like a more direct price the Commission should consider translating into its wholesale regulation*

The primary vehicles by which carbon emissions have priced in states, albeit indirectly, are renewable portfolio standards (RPS) and their progeny, including the more recent phenomenon of nuclear-specific subsidies. Twenty-nine states have adopted RPS.[12] Another five

[9] Resources in EIM are limited in the quantity they may offer to serve California loads to an amount that considers only what they incrementally have available beyond their commitment to serve a base schedule, even if the energy needed for the resource in real-time to serve native loads is lower than anticipated. *CAISO*, 165 FERC ¶ 61,050 (2018), PP 7, 12, 17.

[10] Newell et. al., "Pricing Carbon into NYISO's Wholesale Energy Market to Support New York's Decarbonization Goals," (2017), pp. 23-26. https://www.nyiso.com/documents/20142/2244202/2017-Brattle-NY-Carbon-Study.pdf/156a738d-e471-ccad-e146-07ac593ec0c3

[11] PJM, Carbon Pricing Senior Task Force, "Expanded Results of PJM Study of Carbon Pricing and Potential Leakage Mitigation Mechanisms," (March 27, 2020), https://pjm.com/-/media/committees-groups/task-forces/cpstf/2020/20200519/20200519-item-04a-pjm-study-results-de-md-nj-pa-scenario.ashx.

[12] Database of State Incentives for Renewables and Efficiency, North Carolina Clean Energy Technology Center. https://programs.dsireusa.org/system/program/maps

states have adopted nuclear-specific subsidies.[13] The Sierra Club estimated last summer that 91 million Americans "lived in a place that had committed to moving away from fossil fuels entirely and toward 100% clean electricity."[14]

Notably, the more recent nuclear-specific policies, which create a trade in a hitherto unknown commodity, zero emissions credits (ZECs), have consciously tied the value of these ZECs to a social cost of carbon, netted for the other revenues nuclear owners are expected to receive.[15] These policies are a style of carbon pricing, albeit a discriminatory one, limited to a single type of resource, in a single state, usually owned by a single corporation.

Even RPS that do not benchmark a state's willingness to pay for clean energy against the value of carbon-dioxide emissions reductions are nevertheless motivated by the imperative that state policymakers feel to take action against climate change. And the more long-established commodity, renewable energy credits (RECs), that those states have chosen as a compliance instrument for RPS can be rendered into an implied cost of the carbon reductions they obtain.[16]

If the Commission were to take steps to translate a state's more direct carbon pricing into the wholesale market, without taking additional steps to translate RPS and like policies' carbon-price regime, it would be tantamount to ignoring the whole ball game of state climate policy. The Commission should spend part of any technical conference exploring whether and how the

[13] Energy Information Administration, "Five states have implemented programs to assist nuclear power plants," (Oct. 7, 2019). https://www.eia.gov/todayinenergy/detail.php?id=41534
[14] Sierra Club, "The 100% clean energy movements keeps moving forward," (Aug. 2, 2019). https://www.sierraclub.org/articles/2019/08/100-clean-energy-movement-keeps-moving-forward
[15] Nuclear Energy Institute, "Zero-Emission Credits" (April 2018), pp. 3-4. http://www.lmpmarketdesign.com/papers/Hogan_EIM_092817.pdf
[16] The PJM Independent Market Monitor has completed this analysis previously, finding a wide range of implied carbon prices. *State of the Market Report for PJM: January through June 2018*. (Aug. 2018), p. 329. https://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2018/2018q2-som-pjm.pdf

implied carbon pricing of RPS and like policies may be illuminated and translated into the wholesale markets.

Carbon pricing in this way could have a handful of salutary effects. The Commission presumably would not unduly discriminate as it implemented carbon pricing, as numerous state policies do. If a state policy's willingness to pay for climate benefits came at a certain state-specified volume and ceiling price, the Commission could use the engine of competitive wholesale markets to obtain those volumes at a lower cost (or at greater volumes for the same cost) than a discriminatory state policy would, while accomplishing the state policy's aims.[17] Additionally, it would do so in a way that is compatible with the existing wholesale market structure that the Commission has approved.

C. *The Commission should consider speaking the states' policy language of RPS, instead of electing to 'translate' state policies into a wholesale carbon price, to accommodate a trade in environmental attributes that is not independent of certain markets the Commission regulates*

Conversely, rather than translate RPS and like policies to a carbon price, the Commission could choose to speak the states' language. It could do so by considering whether a Commission-facilitated regional trade in the environmental attributes of clean energy would be an appropriate way to accommodate states that wish to price carbon through paying cleaner energy resources, rather than taxing emitting ones. The Brattle Group, on behalf of NRG, has prepared an

[17] This concept is referred to by the Center for Policy Integrity as "harmonization theory," where an RTO uses its Section 205 authority to file a tariff that reflects the stringency of a state policy that indirectly targets emissions. The concept has been most developed in New York, where the state has caused to be created ZECs, allocated them to certain nuclear plants, and then made their purchase by loads mandatory. This policy's translation into a direct carbon price would cause the price of ZECs to fall to zero, in favor of a less discriminatory approach that nevertheless accomplishes the state's climate policy goals. Moreover, the adoption of such a carbon price does not pre-empt state policy; it merely becomes the economically binding force on decarbonization in the market. Butner *et. al.*, pp. 41-45.

extensive design proposal for such a market.[18] Such a step would accord with a recommendation that the PJM Independent Market Monitor has made since 2010, that "renewable energy credit markets based on state renewable portfolio standards be brought into PJM markets as they are an increasingly important component of the wholesale market."[19]

The REC and ZEC compliance instruments of these state policies both are denominated by energy production—specifically, one REC or ZEC for each megawatt-hour of production. Likewise, as noted above, many RPS and like policies consciously tie a state's willingness to pay to a value that uses energy and capacity prices as crucial inputs.[20] Meanwhile, the Commission has found that these REC sales do not occur "independent" of the market that the Commission bears responsibility for regulating, taking a different approach than the Commission took in circumstances where it disavowed jurisdiction over the sale of unbundled RECs.[21]

While the Commission has chosen to mitigate the value of those REC sales in the PJM capacity market, the Commission, using the same logic, instead could take an accommodative approach to facilitate a marketplace in environmental attributes of clean energy in quantities demanded by states, so long as that trade respected the Commission's foundational role of establishing rates (and practices directly affecting rates) that are just, reasonable, and not unduly discriminatory. Such an approach both fits within the aegis of a conversation on carbon pricing,

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

[19] *State of the Market Report for PJM: January through June 2019*, (Aug. 2019), p. 50. https://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2019/2019q2-som-pjm-sec1.pdf

[20] Where the price of RECs is settled on the open market, albeit in furtherance of obtaining a quantity necessary for compliance with a state RPS, the price will similarly result from the revenue that an eligible source of production will need net of the energy and capacity revenues it otherwise anticipates obtaining, constrained by the alternative compliance payment the state RPS specifies as a price ceiling for those requiring to buy RECs.

[21] *Calpine et. al. v. PJM Interconn.*, 171 FERC ¶ 61,035 (2020), P18.

and also more directly speaks the language that states are speaking when they adopt clean energy policies. It should be considered within the scope of the technical conference.

II. Conclusion

NRG appreciates the opportunity for comment, and respectfully requests that the Commission grant the Request and hold a technical conference to discuss the issues set forth herein.

Respectfully Submitted,

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