UNITED STATES OF AMERICA
BEFORE
THE FEDERAL ENERGY REGULATORY COMMISSION

Carbon Pricing in Organized Wholesale Electricity Markets	)	Docket No. AD20-14-000

COMMENTS OF NRG ENERGY, INC.
ON THE COMMISSION'S NOTICE OF PROPOSED POLICY STATEMENT

NRG Energy Inc. ("NRG") appreciates the opportunity to have participated in comments leading to the technical conference,[1] at the technical conference itself,[2] and now in reaction to the Commission's notice of proposed policy statement ("Statement"). As previously described in our earlier comments in this proceeding, NRG is a major competitive retailer and producer of electricity in the United States. NRG is a market participant in many of the independent system operators and regional transmission organizations ("ISO/RTOs") that are the subject of the Statement.

I. Introduction

Lacking a captive set of customers to whom we may charge our costs, NRG is unlike many of the public utilities the Commission regulates. We compete with our peers within wholesale and retail marketplaces that regulators have authorized, in those places where government has permitted competition to exist within the power sector. Our willingness to make investments

[1] Comments of NRG Energy, Inc. (May 14, 2020), (hereafter "NRG Initial Comments").
[2] Opening Statement of Travis Kavulla (filed Sept. 11, 2020, for delivery Sept. 30, 2020). *See also*: the transcript of the Sept. 30, 2020 technical conference (hereafter "Tr.").

through these markets depends significantly on the consistency of federal and state regulatory policy.

Simply put, there must be an avenue by which the wholesale power markets reflect the environmental externalities that are increasingly subject to regulation by states. Not identifying such pathways risks creating parallel universes—state policies for the procurement of clean energy on one hand, and on the other FERC markets for energy, ancillary services, and capacity at wholesale—that ultimately will have to be reconciled. Prudence often counsels regulatory abstention at the federal level as state policies organically develop over time. Yet, here it is obvious—indeed, the Commission has consumed much of its docket with—the significance of state policymaking on clean energy as it relates to the Commission's duties. The Commission should work diligently to resolve the disparity between the state and federal marketplaces before that disparity takes on ever larger proportions.

II. A policy statement would be useful in promoting good-faith stakeholder negotiations in RTO/ISO markets

The proposed policy statement would "encourage efforts to incorporate a state-determined carbon price in RTO/ISO markets."[3] Additionally, the Commission proposes to establish what can be thought of as a soft standard of review in light of "certain information and considerations" that are likely "germane" to any such tariff filing.[4] At the same time, the Commission recognizes that both its statutory ability to accept a proposal would have to be met, and the hard standard of review established within the Federal Power Act inevitably will have to be applied.[5] Taken

[3] Statement at 7.
[4] *Id.* at 13.
[5] *Id.* at 7.

together, this approach is an appropriate posture for the Commission to take in this particular situation.

The Commission does have one precedent where it has expressly incorporated a state-level carbon regulation into the design of a market that the Commission regulates.[6] Yet, the facts of the Commission's exercise of its jurisdiction in this single example are not easily extended to a carbon pricing proposal in a wholesale market like those of eastern ISO/RTOs.[7] Given the paucity of Commission action on these questions and the policymaking nature of both the decisions the Commission might make and the underlying state-level actions it would be working to reflect, it is reasonable for the Commission to provide guidance in a policy statement.

At least one of the impediments to any ISO/RTO's proposing a carbon pricing tariff revision in the first place is a perception that the Commission would not seriously entertain it. As the Commission can appreciate, both the public utilities responsible for filing tariffs, and the state policymakers and stakeholders whose support is often necessary to see these filings through the intra-ISO/RTO decision-making process, are reluctant to allocate significant attention and energy on a time-consuming and politically sensitive undertaking that is a probable dead end. Particularly as regards a discussion of carbon pricing, the Commission can encourage open-minded and good-faith procedures within the ISO/RTO stakeholder processes if it signals that those procedures are not merely posture—but actually may result in the adoption of a tariff revision.

[6] *Id.* at 6, citing *Cal. Indep. Sys. Operator Corp.*, 153 ¶ FERC 61,087.
[7] Tr. at 237:4-238:7 (Kavulla).

III. The Commission should clarify that 'carbon pricing' is not the exclusive route to incorporating state climate policies within ISOs/RTOs, and should encourage the development of a regional trade in clean energy attributes

As the Commission notes at the outset of its Statement, describing the background of state-level policymaking on decarbonization, states have elected policies that *do not price carbon directly* in furtherance of their climate policies in the power sector.[8] Instead of pricing emissions, states usually have chosen to create a requirement to purchase (and a consequent trade in) compliance certificates ("credits") associated with the attributes of clean energy. These policies take the form of Renewable Portfolio Standards ("RPS") and their successor, Clean Electricity Standards ("CES"). The resulting trade in compliance-based credits amounted to $4.4 billion in revenue from 2014-2018 in PJM according to the independent market monitor, while the RGGI carbon-allowance market (of which PJM is a part) amounted only to $1.4 billion in the same period.[9]

Like many others, NRG believes an economywide, nationwide price on carbon emissions is the most efficient approach to reduce carbon emissions. While it falls short of these economywide and nationwide ambitions, the Commission nevertheless is correct in its encouragement to reflect state-adopted "carbon pricing" in its wholesale markets. But if the Commission does *only* this, while states continue to create law for the decarbonization of the power sector in the form of CES-type policies, the federal and state governments will not be speaking the same language. As NRG noted in its initial comments in this docket, the

[8] "Thirteen states…have adopted clean energy or renewable portfolio standards of 50% or greater." Statement at 2, fn 3.
[9] *Compare* Comments of Joseph Bowring, PJM Independent Market Monitor, at 5, with RGGI Allowance Prices and Volumes, available at: https://www.rggi.org/auctions/auction-results/prices-volumes

Commission is at risk of "ignoring the whole ball game of state climate policy" if it takes action *only* with respect to what the Statement calls "carbon pricing."[10]

Notably, since the Commission held its technical conference and issued the Statement, the New England States Committee on Electricity (NESCOE) issued a letter to the ISO-New England Board of Directors making plain that these states regard carbon pricing within the ISO as a non-starter. "Simply, NESCOE does not agree that ISO-NE should pursue the administration of a new, incremental carbon price."[11] Instead, the New England states asked ISO-NE to "prioritize" an approach that creates a regional market around a trade in clean energy.[12] The Commission should ensure that its Statement does not become a dead letter before it is even final.

The Commission should be cognizant that it already has found itself in a position where any application of carbon pricing it might undertake will fall short of the economist's ideal. First, whatever the Commission does, it is not going to be an economywide carbon pricing regime that allows trade-offs between different parts of the energy economy, which is among the main advantages of carbon pricing as a policy tool. Second, the Commission's proposed statement itself takes a step outside a narrowly defined "carbon pricing" approach, because it defines "carbon pricing" not just as literal carbon-pricing actions by states, but as including measures that only "indirectly" price carbon, such as "quantity-based" limitations on emissions by states.[13] This distinction is not merely semantic. The latest research demonstrates that such an indirect approach degrades the price signal that results from direct carbon-pricing approaches, as the

[10] NRG Initial Comments at 6.
[11] Letter of NESCOE Managers to ISO New England Board of Directors (Nov. 2, 2020). Available at: http://nescoe.com/wp-content/uploads/2020/11/ISOBoD_MarketAnalysis_2Nov2020.pdf
[12] *Id.*
[13] Statement at 2.

Commission has heard in this proceeding.[14] Finally, the Statement appropriately recognizes that aggressive RPS/CES policies *are* "laws or regulations that require the substantial or complete decarbonization."[15] In other words, as NRG has previously noted, such policies are yet another manner (and frequently not so different than other approaches) of indirectly pricing carbon emissions.[16]

All told, the "carbon pricing" the Commission is contemplating is not the consummation of a theoretical ideal; it is a practical concession to the reality of state policy, which can improve these policies' efficiency through federal markets. Anyways, this is the appropriate paradigm of the Commission's regulatory action vis-à-vis environmental policy. As Commissioner Glick, co-writing with Matthew Christiansen in *Energy Law Journal*, notes, "traditional environmental considerations are not within the zone of interests that the Commission considers when acting pursuant to its ratemaking authority."[17] They contend that the Commission's role, when it "considers state programs in wholesale markets" should be as "a way of giving effect to states' exercise of their reserved authority."[18] Commissioner Chatterjee echoed this in making his remarks supporting the issuance of the Statement, noting that the Commission's action was about "incorporating **state**-determined carbon prices into [RTOs'] rules" (emphasis original).[19] Meanwhile, it is squarely up to the Commission, in considering whether and how to interact with

[14] Comments of Frank Wolak, Stanford University, at 3-4.
[15] *Id*.
[16] NRG Initial Comments at 5.
[17] 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). Available at: https://www.eba-net.org/assets/1/6/%5BGlick_and_Christiansen%5D%5BFinal%5D.pdf
[18] *Id.*, p. 33.
[19] "Remarks of Chairman Neil Chatterjee on FERC Proposed Policy Statement on State-Determined Carbon Pricing in Wholesale Markets," (Oct. 15,2020). Available at: https://www.ferc.gov/news-events/news/remarks-chairman-neil-chatterjee-ferc-proposed-policy-statement-state-determined

these state policies, to apply the law to ensure that Commission-jurisdictional markets result in rates and practices that are just, reasonable, and not unduly discriminatory.

The Commission can best give effect to federal and state law by promoting a regional trade within RTO/ISO markets for clean energy credits associated with CES compliance. While RPS/CES policies are sometimes castigated as "subsidies," new research illuminates how on a cost-per-ton basis, a well-designed regional CES can rival the economic efficiency of a regional carbon price.[20] Specifically, E3 evaluated generation costs and emissions metrics across various scenarios for PJM in 2030 and 2050. The E3 report concludes that *either* a regional CES or a carbon price are capable of eradicating about one-third of PJM system emissions by 2030 at a cost of $3.60 per ton of emissions, and obtaining a reduction of about two-thirds of system emissions by 2050 at an average cost per ton of $22.60 per ton of emissions.[21] This compares to an approach where states individually enact RPS/CES policies in the absence of a regionally coordinated market, which results in additional annual costs of $3.2 billion in 2030 and $12.6 billion in 2050.[22]

Finally, a regional CES likely can better respect the differing prerogatives of states in this field of policy than can carbon pricing. As one ISO executive noted at the Commission's technical conference, the "uniformity of the carbon price across the full ISO/RTO footprint is critical to prevent internal leakage, which could otherwise be a very significant concern and really undermine the entire objective of carbon pricing."[23] NRG discusses leakage more fully in

[20] Hull, Olson, et. al., "Least-Cost Carbon Reduction Policies in PJM," Energy + Environmental Economics, (October 2020), (hereafter "E3 Report"), pp. 10-12. Available at: https://epsa.org/wp-content/uploads/2020/10/E3-Least_Cost_Carbon_Reduction_Policies_in_PJM-FINAL.pdf
[21] *Id.*, p. 38.
[22] *Id.*
[23] Tr. at 162:9-13 (White).

the Section IV-C of these comments; suffice it here to conclude that a uniform carbon price in an ISO/RTO openly conflicts with the Commission's assurance that one state "could select a price of zero" even while implementing a non-zero carbon price determined by other states.[24] Inevitably, if the Commission implements carbon pricing in an ISO/RTO where not all states agree on a uniform price, it will end up in the role of "refereeing between the states rather than simply holding up a mirror to reflect state policies."[25] By contrast, CES does not depend on uniformity in the price (or quantity) that states in an ISO/RTO are willing to pay for (or buy of) clean energy. In this way, a regional CES likely respects state prerogatives more than a carbon-pricing policy does, at least in those ISO/RTOs where multiple states are present and where they have a propensity to disagree.

IV. The Commission should revise the 'information and considerations' it proposes for evaluation of ISO/RTO carbon-pricing proposals

The Commission identifies five sets of "information and considerations the Commission should take into account" when evaluating an ISO/RTO carbon-pricing proposal. As NRG discusses above, it is sensible to establish this soft standard of review in advance, given the relative novelty and the policymaking nature of this question. The Commission invites commentators to make submissions on "whether different or additional considerations may be or must be taken into account."[26]

NRG proposes three additional considerations the Commission should take into account, and proposes specific revisions to another the Commission already has identified. For ease of

[24] Statement at 11.
[25] Tr. at 203:9-10 (Kavulla).
[26] Statement at 13.

reference, the Appendix to these comments includes a red-line that NRG proposes the Commission to adopt in a final version of the Statement.

A. The Commission should consider whether an ISO/RTO proposal would be likely to achieve the level of carbon reductions contemplated by a state's climate policies for the power sector

Numerous participants at the technical conference noted that the merit of a carbon-pricing policy is that it does the work of decarbonization more efficiently, which other policies that are less directly tailored to emissions accomplish only less efficiently. But an important corollary to this is that in practice carbon pricing often does "far too little to drive the states' longer-term decarbonization objectives."[27] The level at which to set a carbon price so that it is effective in doing the work of decarbonization is "the elephant in the room," Prof. Bill Hogan noted at the technical conference.[28] "If the carbon price is too low then it doesn't meet the efficiency objectives, and doesn't internalize the impact of the climate."[29]

The premise of the Commission's action in this matter is that carbon-pricing proposals could "if properly designed and implemented, significantly improve the efficiency of [ISOs/RTOs]."[30] But as Dr. Matt White of ISO-NE noted, "Nothing changes if the carbon price stays too low, and it would be a lost opportunity."[31] The Commission should clarify that it will look skeptically at a carbon-pricing policy if it is insufficient as a price signal to do most of the work on decarbonization that state policies contemplate. If carbon pricing is not the primary vehicle to reduce carbon emissions, those who might be interested in investing based on a carbon price signal will be less willing to do so. The commission should ensure in the first instance that

[27] Tr. at 190:12-13 (White).
[28] Tr. at 189:5-6 (Hogan).
[29] Tr. at 189:6-8 (Hogan).
[30] Statement at 12.
[31] Tr. at 190:15-16.

carbon pricing is not a mere sideshow that is, from the outset, eclipsed by other, more lucrative state policies.

Specifically, the Commission should expect an ISO/RTO to file information that quantifies the interaction between the proposed carbon-pricing policy and other, less-efficient policies. A viable carbon-pricing proposal should be expected to substantially reduce the cost of those less-efficient policies, effectively replacing them and channeling one or more states' decarbonization requirements through the price on carbon.

Furthermore, from a consumer perspective, an ISO/RTO should be expected to describe whether there are elements of other state policies, such as long-term contracts that may incorporate payments for clean energy or carbon emissions avoidance, that will not be minimized through the adoption of carbon pricing. For example, if a state has required long-term contracts for the sale of renewable energy credits, the addition of a carbon price that drives a higher energy price could result in a double payment from consumers for substantially the same environmental benefit of the resources under such long-term contracts. ISO/RTO proposals should contemplate remedies for this kind of eventuality.

B. The Commission should evaluate the carbon pricing proposal's likely effects on otherwise cost-effective electrification

If the cost of carbon emissions is internalized only in certain power markets, it may make electrification of transportation or heating less likely because the price of electricity will reflect the cost of carbon emissions even while the price of fossil fuels for other applications may not. The Commission should expect ISOs/RTOs to evaluate the effects of carbon-pricing proposals on the prospect of electrification of transportation and heating in particular, to understand whether pricing carbon in only one sector of the wider energy system has perverse consequences.

C. *The Commission should ensure that any leakage controls are transparent, easily calculable, and likely to be consistent in their application over a number of years*

The importance of "leakage" cannot be understated, and should be prominent in the Commission's consideration of any carbon-pricing proposal. That is because the Commission's involvement in modifying wholesale markets to accommodate state-level carbon pricing probably is necessary only because of leakage concerns.

For example, if all states in a particular market adopted the *same* carbon price, the Commission's intervention would seem redundant, because the cost of the tax or the estimated cost of buying allowances would be reflected in the generator offers in an ISO/RTO's existing market design. Just like any other cost, it would automatically be reflected in the market clearing price. For the same reasons, if a state was merely content to regulate generators within its borders, then the Commission's intervention would seem unnecessary. So, too, if federal or state air regulators require control technologies for carbon or other emissions to be installed at electric generating units, this manner of indirectly pricing emissions does not require any modification in the Commission's wholesale market design. The price effects of that environmental regulation naturally will flow through in retirement or new investment decisions that affect the overall supply-and-demand balance in energy markets, and in offers into the forward capacity markets for those ISOs/RTOs that have them.

It is only when states require controls for leakage, or wish to ensure that generators dispatched elsewhere in a wholesale market are reflecting a "sink" state's carbon regulations, that the Commission would be in a position where it would need to act to effectuate a state's law. As NRG observed in our initial comments, this raises "exotic, technical questions of market

design."[32] This is not to say leakage controls are unimportant. On the contrary, the E3 Report demonstrates that the Regional Greenhouse Gas Initiative may be *increasing* emissions, even while imposing costs on consumers, in the PJM region.[33] An effective leakage control could remedy this counterintuitive result, albeit not without adding complexity to the marketplace.

The leakage control adopted in the Western United States to accommodate the difference between California's and other states' approach to carbon regulation is not easily translated to the design of eastern ISOs/RTOs.[34] As discussed in Section III, a uniform carbon price is the most straightforward (and perhaps only) way to remedy leakage, at least in the eastern ISOs/RTOs. But this entails its own set of consequences. A uniform carbon price would doubtless appear to a state that chose not to price carbon as "an extraterritorial regulation of its power generators" by other states.[35] A system of transfer payments could be devised to allow consumers of a state that chose not to price carbon to be held harmless,[36] although a uniform carbon price nevertheless would affect the dispatch of fossil generators in that state, presumably contrary to its intentions in having decided *not* to price carbon. Additionally, it is unclear how willing "blue states will be to pay a transfer payment to red states that have not enacted a carbon price."[37] As described in Section III, there is a point at which, in the absence of consensus by states in a given region, carbon pricing loses both its political and economic efficiency.

If a carbon-pricing proposal does incorporate a leakage control, the Commission should evaluate it by asking whether it is transparent, easily calculable, and likely to be consistent for a

[32] NRG Initial Comments at 3.
[33] E3 Report, pp. 9-10.
[34] Tr. at 237:3-238:7 (Kavulla).
[35] Opening Statement of Travis Kavulla at 3.
[36] Comments of Joseph Bowring (Sept. 30, 2020) at 4.
[37] Tr. at 238:13-15 (Kavulla).

number of years. If a leakage control were highly sensitive to resource retirements or additions, the configuration of those states that chose to price carbon, and the level at which states chose to price carbon, it could render non-transparent an otherwise straightforward price on carbon in the market.

D. The Commission should ensure that governance of a carbon-pricing tariff incorporates state-level representation

As described in the foregoing three subsections, whether or not the Commission approves an ISO/RTO carbon-pricing proposal should depend on a factual inquiry about the level of the price, the price's interrelationship with other policies and with other sectors of the energy system, and a leakage control whose mechanics are associated with the underlying carbon price. All of which is to say that as the carbon price changes as a result of state-level decisionmaking, so should the ISO/RTO market mechanism to incorporate it. Certain state-level changes may take a once-reasonable tariff and make it unreasonable, or turn a once-inviable proposal into a reasonable tariff, consistent with the discussion above in Section IV-A. This suggests that these important details be codified within an ISO/RTO tariff, allowing significant changes to occur through the Commission's transparent and well-established tariff revision process.

At the same time, since states are the primary policy drivers of the policies in question, it is appropriate they should have a special role as it pertains to tariff revisions associated with carbon pricing. NRG offered several concepts around a cooperative federalism approach, which may be a starting point for this consideration.[38] In any case, realizing the closely interrelated nature of the Commission's and states' work on this point, the Commission should include governance that incorporates state voices with this process as one of its considerations.

[38] Tr. at 244:19-247:9 (Kavulla). *See also*: Opening Statement of Travis Kavulla at 3.

V. Conclusion

NRG urges the Commission to make clear that carbon pricing is not the exclusive means by which state-level climate policies might be incorporated into the ISO/RTO markets. While leaving the details for another occasion, the Commission should make clear it is also open-minded on proposals to form a regional market for a trade in clean energy attributes.

Additionally, the Commission should incorporate several revisions to the information and considerations it has identified in its Statement that would, if adopted, likely improve the quality of carbon-pricing proposals the Commission were to receive.

NRG appreciates the Commission's attention to this important matter.

Respectfully Submitted,

/s/ Travis Kavulla

Travis Kavulla
Vice President, Regulatory Affairs
NRG Energy, Inc.
804 Carnegie Center
Princeton, NJ 08540

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Appendix

Proposed Revisions to information and considerations germane to an ISO/RTO's Sec. 205 filing for carbon pricing

a. Is the FPA Sec. 205 proposal reasonably likely to achieve the level of carbon reductions contemplated by policies adopted by states in the RTO/ISO footprint that affect the electric-power sector? What are the interactions between the carbon price and other state policies targeting clean energy and emissions in the electric-power sector? Will the adoption of the proposal substantially reduce the cost of those policies?

b. How, if at all, do the relevant market design considerations change depending on the manner in which the state or states determine the carbon price (e.g., price-based or quantity-based methods)? How will that price be updated?

~~b~~c. How does the FPA section 205 proposal ensure price transparency and enhance price formation?

~~c~~d. How will the carbon price or prices be reflected in LMP?

~~d~~e. How will the incorporation of the state-determined carbon price into the RTO/ISO market affect dispatch? Will the state-determined carbon price affect how the RTO/ISO co-optimizes energy and ancillary services? Are any reforms to the co-optimization rules necessary in light of the state-determined carbon price?

~~e~~f. Does the proposal result in economic or environmental leakage? How does the proposal address any such leakage? If a leakage control is proposed, is it transparent, easily calculable, and likely to be consistent for a number of years?

g. What is the likely effect of the carbon price's incorporation into the RTO/ISO market on otherwise cost-effective electrification of transportation and heating?

h. Does the proposal provide for Commission oversight before major changes occur with respect to the stringency or design parameters of the carbon price? Does the proposal provide for state-level representation in the governance of that part of the RTO/ISO tariff related to carbon price?