17-2654-cv

UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT

COALITION FOR COMPETITIVE ELECTRICITY, DYNEGY INC., EASTERN GENERATION, LLC, ELECTRIC POWER SUPPLY ASSOCIATION, NRG ENERGY, INC., ROSETON GENERATING LLC, SELKIRK COGEN PARTNERS, L.P.,

Plaintiffs-Appellants,

v.

AUDREY ZIBELMAN, in her official capacity as Chair of the New York Public Service Commission, PATRICIA L. ACAMPORA, in her official capacity as Commissioner of the New York Public Service Commission, GREGG C. SAYRE, in his official capacity as Commissioner of the New York Public Service Commission, DIANE X. BURMAN, in her official capacity as Commissioner of the New York Public Service Commission,

Defendants-Appellees,

EXELON CORP., R.E. GINNA NUCLEAR POWER PLANT LLC, CONSTELLATION ENERGY NUCLEAR GROUP, LLC, NINE MILE POINT NUCLEAR STATION LLC,

Intervenor-Defendants-Appellees.

On appeal from the United States District Court
for the Southern District of New York

BRIEF OF THE INSTITUTE FOR POLICY INTEGRITY AT NEW YORK UNIVERSITY SCHOOL OF LAW AS *AMICUS CURIAE* IN SUPPORT OF DEFENDANTS-APPELLEES

Richard L. Revesz
Bethany A. Davis Noll
Avi Zevin (admitted in the District of Columbia)
INSTITUTE FOR POLICY INTEGRITY
139 MacDougal Street, Third Floor
New York, NY 10012
(212) 992-8932
Counsel for Amicus Curiae Institute for Policy Integrity

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INTEREST OF AMICUS CURIAE

Policy Integrity submits this brief as *amicus curiae* in support of Defendants-Appellees Commissioners of New York State's Public Service Commission ("Commission"). All parties have consented to the filing of this brief.

Policy Integrity is dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy, with a particular focus on natural resources, environmental, and economic issues. An area of special concern for Policy Integrity is the pricing of externalities in the promulgation of state and federal regulations. Our director, Professor Richard L. Revesz, has published more than eighty articles and books on environmental and administrative law, including several works that address pricing of externalities as well as the legal and economic principles that inform rational regulatory decisions.[3] In particular, Professor Revesz has published articles with Nobel Prize-winner Kenneth Arrow and other prominent economists on the Interagency Working Group's Social Cost of Carbon estimate, which plays an important role in this proceeding.[4]

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[3] *See Publications of Richard L. Revesz*, NYU School of Law (last visited Nov. 27, 2017). Where urls are available for citations they have been provided in the table of authorities.

[4] Richard Revesz & Kenneth Arrow, et al., *The Social Cost of Carbon: A Global Imperative*, 11 Rev. of Envtl. Econ. & Pol'y 172 (2017); Richard Revesz & Kenneth

Particularly relevant to this case, Policy Integrity participated extensively in the administrative proceedings before the Commission regarding the Clean Energy Standard at issue in this appeal. In those comments, Policy Integrity advocated for paying for the benefits of avoiding carbon emissions provided by compensating renewable and nuclear generators based on the actual value of avoiding those emissions.[5]

Policy Integrity has also filed *amicus curiae* briefs addressing the economic analysis of the impacts of carbon pollution. For example, Policy Integrity filed a brief in the U.S. Court of Appeals for the Tenth Circuit, addressing the federal Bureau of Land Management's analysis of the climate impact of federal leases. *See* Br. of the Institute for Policy Integrity as Amicus Curiae Supporting Petitioners-Appellants, *Wildearth Guardians v. U.S. Bureau of Land Mgmt.*, 870 F.3d 1222 (10th Cir. Sept. 15, 2017) (No. 15-8109). Policy Integrity also filed a brief supporting the U.S. Department of Energy's use of the Interagency Working Group's Social Cost of Carbon estimate to evaluate climate effects. Br. of the Institute for Policy Integrity as *Amicus Curiae* Supporting Respondent, *Zero Zone, Inc. v. Dep't of Energy*, 832 F.3d 654 (7th Cir. 2016) (No. 14-2147). Policy

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Arrow, et al., *Global Warming: Improve Economic Models of Climate Change*, 508 Nature 173 (2014).

[5] *See, e.g.*, Policy Integrity Comments on the Clean Energy Standard at 15-16 (Apr. 22, 2016).

Integrity's economic expertise and experience with the Clean Energy Standard and related regulatory initiatives gives it a unique perspective from which to evaluate plaintiffs' claims that the Commission's payments to nuclear generators are preempted.

SUMMARY OF ARGUMENT

In 2016, New York State's Public Service Commission finalized the Clean Energy Standard, an ambitious program with the goals of (1) increasing renewable generation to 50% of the market by the year 2030 and (2) ensuring that vital zero-emission generation does not leave the market during the time it takes to reach that goal. To serve the first goal, the Commission required utilities to purchase renewable energy credits ("RECs") to encourage more construction of renewable generation. To serve the second goal, the Commission established the Zero Emissions Credit ("ZEC") program to compensate certain nuclear power plants for avoiding carbon dioxide emissions.

In this appeal, plaintiffs have argued that the ZEC payments are preempted under the Federal Power Act, because those payments "disregard" Federal Energy Regulatory Commission ("FERC")-approved wholesale energy and capacity market rates. Br. Pls.-Appellants at 38, 49, ECF No. 6 ("Pls. Br."). But a detailed analysis of the Clean Energy Standard and the ZEC payment formula demonstrate that ZEC payments are designed to compensate nuclear generators for avoiding carbon

emissions—not to displace, replace, or disregard wholesale energy and capacity payments.

Each part of the ZEC formula shows that the Commission is compensating nuclear generators for avoiding carbon emissions and nothing more. The formula is based on the Interagency Working Group's estimate for the Social Cost of Carbon, the best available estimate for the external cost that a ton of additional carbon dioxide imposes on society. The formula adjusts the price down through a "forecast adjustment," when necessary to account for other programs that provide compensation for the value of avoided emissions and to ensure that the costs of the program remain in line with the program's benefits.

Contrary to plaintiffs' claim, the forecast adjustment does not improperly tie the ZEC price to wholesale market rates. Instead it allows the Commission to administratively set a price in a way that mimics other permissible state-sponsored environmental programs. Moreover, given that the Commission has not conditioned ZEC payments on wholesale market participation, the ZEC program does not raise the preemption concerns at issue in *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288 (2016). The Commission, therefore, should be permitted to take into account any rational inputs necessary to value accurately the benefit of avoiding emissions.

ARGUMENT

I. ZEC PAYMENTS ARE ONE PART OF A MULTI-PRONGED PROGRAM AIMED AT MEETING THE STATE'S ENVIRONMENTAL GOALS

Though plaintiffs and supporting amici focus exclusively on ZEC payments in this appeal, *see* Pls. Br. at 16-17; Br. of Energy Economists as *Amici Curiae* at 8-9, 15, ECF No. 71, the full context of the Clean Energy Standard is critical for an understanding of the Commission's actions. That context makes clear that ZEC payments are designed to push utilities to internalize the costs of carbon emissions, not to "set[] an interstate wholesale rate" in violation of "the FPA's division of authority between state and federal regulators." *Contra Hughes*, 136 S. Ct. at 1297.

In the Clean Energy Standard, the Commission adopted New York State's goal of reducing emissions by increasing the amount of renewable electricity consumed in the State to 50% by 2030. (Joint Appendix ("A")-86.) At the same time, the Commission recognized that certain categories of generators were already producing zero-emissions electricity, which helped to keep emissions down and helped increase fuel diversity. (*See* A-103.) In particular, the State's nuclear facilities currently avoid over fifteen million tons of carbon dioxide per year by producing electricity with zero emissions. (A-103.) The Commission found that certain nuclear plants were at risk of retiring and that the State was thus at risk of losing the benefits of those avoided emissions. The Clean Energy Standard thus had a second goal of

avoiding backsliding from current emissions levels during the time that the State implements the Clean Energy Standard's goal of reducing emissions 50% by the year 2030. (*See* A-228.)

The most economically efficient way to reach those goals would be to impose an economy-wide carbon tax on every emitter. Lawrence H. Goulder & Ian W. H. Parry, *Instrument Choice in Environmental Policy*, 2 Rev. Envtl. Econ. & Pol'y 152, 155-157 (2008). But because the Commission does not have authority to impose a tax on emitters beyond the power sector, an alternative option is to subsidize generators that avoid pollution in an amount directly related to the level of environmental benefit of reduced and avoided carbon emissions that they provide. (*Cf.* A-150–151.) That is exactly what the Clean Energy Standard does. In the Clean Energy Standard, the State chose to compensate generators for the value of avoiding carbon emissions, by setting three different compensation mechanisms for different categories of facilities, depending on the State's preference for, and the market realities of, each category.

First, the Clean Energy Standard provided support to new renewable generators by requiring utilities to purchase "Tier 1 Renewable Energy Credits" in an aggregate amount designed to facilitate achievement of the State's greenhouse

gas reduction goal and provide appropriate incentives to reduce carbon emissions.[6] (*See* A-86.) The prices of Tier 1 RECs are set by supply and demand through a state-administered competitive auction.[7] (*See* A-100–101.) RECs are also subject to price caps. (A-123.) Credit programs like the Tier 1 RECs allow states like New York, with deregulated markets, to harness competition and other market forces to create efficient pricing and spur production of cleaner generation. (*See* A-94–105.)

Second, the Commission explained that in the future it may implement a program to keep at-risk existing renewable generators open by requiring utilities to pay those facilities for "Tier 2 Maintenance" RECs. (A-101–102, 117, 200–201.) In 2015, at the time that the Clean Energy Standard was issued, the Commission determined that those payments were not necessary to keep existing renewable generators from closing. (A-101–102, 117, 200–201.) Recently however, in October 2017, the Staff of the Commission released a report providing recommendations on Tier 2 payments. *See* Staff Report Regarding Retention of Existing Baseline Resources under Tier 2 of the Renewable Energy Standard Program, Public Service Commission (Case 15-E-0302).

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[6] Each utility's individual obligation is based on an increasing percentage of its "load"—the amount of power that is used by the utility's customers. (A-98.)

[7] The New York State Energy Research and Development Authority run the auctions. *See REC and ZEC Purchases from NYSERDA,* https://www.nyserda.ny.gov/All-Programs/Programs/Clean-Energy-Standard/REC-and-ZEC-Purchasers (last visited Nov. 26, 2017).

Third, the Commission adopted the ZEC program to make out-of-market payments for retaining the benefits of avoided emissions provided by nuclear generators. (*See* A-103–104.) Prior to adopting the ZEC program, the Commission considered whether alternative approaches to making those payments could allow the State to meet its goals. For example, the Commission considered increasing the restrictions on emissions that are already in place through RGGI. But the Commission determined that increasing the stringency of the RGGI program was not feasible because "the RGGI price is not within the State's unilateral control." (A-217.) The Commission also analyzed the possibility of increasing renewable generation in the State to match any lost nuclear power but found that it would be "virtually impossible" to deploy the magnitude of resources necessary quickly enough to cover the potential loss of zero-emission nuclear power. (A-211.)

Ultimately, the Commission decided that, in order to guard against backsliding during the time it will take to increase renewable generation to meet the Clean Energy Standard, it was necessary to directly compensate certain nuclear facilities for the environmental benefit of avoiding carbon emissions provided by their zero-emission generation, up to a cap based on historic production. (*See* A-228–229, 254.) But the Commission repeatedly stated that the ZEC program would continue only so long as necessary to compensate existing nuclear generators for avoiding carbon emissions. (A-228, 254.) For example, the Commission stated

that the ZEC program will be "modified or eliminated" if "there is a national, NYISO, or other program instituted that pays for or internalizes the value of the zero-emissions attributes in a manner that adequately replicates the economics of the program." (A-228.)

The fact that ZEC payments are not the "first-best" option for addressing the external cost of carbon, does not mean that the Commission should not act, as the Energy Economists have argued. *See* Energy Economists Br. at 18–19, ECF No. 71. It simply means that the State must consider how best to achieve its objective of pricing avoided carbon emissions through a program that is within the Commission's authority. *See* Br. of Independent Economists as *Amicus Curiae* at 22–23, ECF No. 129. Through the RECs and ZECs in the Clean Energy Standard, the Commission has ensured that the market starts to reflect the cost of carbon emissions.

II. COMPENSATING GENERATORS FOR AVOIDED EMISSIONS THROUGH AN ADMINISTRATIVELY SET PRICE DOES NOT REPLACE THE WHOLESALE RATE

The ZEC formula consists of four steps that make clear that the program puts a price on avoided emissions rather than setting or disregarding energy or capacity rates, as plaintiffs argue. Pls. Br. at 3, 7, 49. *Cf. Hughes*, 136 S. Ct. at 1299 (rejecting Maryland's "contract for differences" because that program "disregards an interstate wholesale rate").

A. The ZEC Formula Begins with the Interagency Working Group's Social Cost of Carbon, the Best Available Estimate for the Cost that an Incremental Ton of Carbon Emissions Imposes on Society

The first factor in the ZEC formula—the Social Cost of Carbon—was developed by the Interagency Working Group, a group of twelve federal agencies, as a measure of the cost that a ton of carbon dioxide emissions imposes on society. The Interagency Working Group's Social Cost of Carbon estimate allows the Commission to put a price on the benefit that the nuclear plants provide by avoiding the external cost of carbon emissions.

External costs are the costs of an activity that are imposed on society and that are not borne by the party engaged in the activity. Paul Krugman & Robin Wells, *Microeconomics* 437 (2d ed. 2009). Those external costs could remain unabated unless the actors are forced to take the external cost into account—or internalize the externality. *Id.* at 438. To ensure that parties internalize the externality, a regulator can impose a tax in the amount of the external damage. *Id.* at 445. (*See also* A-234 (explaining that the "the value of avoided carbon emissions is most accurate if tied to the value of the avoided external damage").)

The Interagency Working Group's Social Cost of Carbon is the best estimate of this external damage of carbon emissions. The estimate is based on the three most cited, peer-reviewed models built to link external damages to each additional ton of

greenhouse gas emissions.[8] To develop the estimate, the Interagency Working Group ran the three models using inputs and assumptions drawn from the peer-reviewed literature to reflect the latest and best scientific and economic data.[9]

The Interagency Working Group first developed the estimate in 2010 and updated the estimate in 2013 and 2015, as well as one time after the Clean Energy Standard was issued, in 2016.[10] In 2016 and 2017, the National Academies of Sciences issued two reports that recommended future improvements to the methodology.[11] In response to those reports, Resources for the Future and the Climate Impact Lab are working on the next update.[12]

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[8] These models are DICE (the Dynamic Integrated Model of Climate and the Economy), FUND (the Climate Framework for Uncertainty, Negotiation, and Distribution), and PAGE (Policy Analysis of the Greenhouse Effect).

[9] *See* Interagency Working Group on Social Cost of Carbon, *Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866* (Revised July 2015); Interagency Working Group on Social Cost of Greenhouse Gases, *Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866* at 6–29 (2016) ("*2016 Technical Support Document*").

[10] *See 2016 Technical Support Document* at 6–29, *supra* n. 9.

[11] Nat'l Acad. Sci., Engineering & Med., *Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide* 3 (2017); Nat'l Acad. Sci., Engineering & Med., *Assessment of Approaches to Updating the Social Cost of Carbon: Phase 1 Report on a Near-Term Update* 1–2 (2016).

[12] *RFF's Social Cost of Carbon Initiative*, Resources for the Future, http://www.rff.org/research/collection/rffs-social-cost-carbon-initiative (last visited Nov. 24, 2017); *Social Cost of Carbon*, Climate Impact Lab, http://www.climateprospectus.org/research-area/social-cost/ (last visited Nov. 25, 2017).

The Interagency Working Group's estimate has been repeatedly endorsed by reviewers. In 2014, the U.S. Government Accountability Office reviewed the Interagency Working Group's methodology and concluded that it had followed a "consensus-based" approach, relied on peer-reviewed academic literature, disclosed relevant limitations, and adequately planned to incorporate new information through public comments and updated research. U.S. Gov't Accountability Off., GAO-14-663, *Regulatory Impact Analysis: Development of Social Cost of Carbon Estimates* 12–19 (2014). In 2016, the U.S. Court of Appeals for the Seventh Circuit held that relying on the Interagency Working Group's estimate was reasonable. *Zero Zone, Inc. v. Dep't of Energy*, 832 F.3d 654, 677-79 (7th Cir. 2016). And though the current Administration recently withdrew the Interagency Working Group's technical support documents,[13] experts continue to recommend that agencies rely on the Interagency Working Group's Social Cost of Carbon estimate as the best estimate for the external cost of greenhouse gases. *See* Richard Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 Science 655 (2017).

Given the extensive support for the Interagency Working Group's estimate of the Social Cost of Carbon, the Commission reasonably adopted the estimate as the best scientific and economic estimate of the value of the avoided external damage

[13] Exec. Order No. 13,783, 82 Fed. Reg. 16,093, 16,095–96 at § 5 (Mar. 31, 2017).

caused by increases in carbon emissions from generators that would replace retiring nuclear generation. (*See* A-215–218.) Basing ZEC prices primarily on the Interagency Working Group's Social Cost of Carbon estimate allows the State to put a rational price on the benefit that the nuclear generators provide by avoiding carbon emissions. It also demonstrates that the program is intended to ensure that plants are compensated by an amount commensurate to the carbon-reduction value they provide the State, separate and apart from any energy or capacity they provide the grid. (A-216–217.)

B. The Formula Subtracts the RGGI Price from the Social Cost of Carbon in Order to Account for the Amount that Is Already Internalized Through RGGI Allowances

The Commission next subtracts a forecasted baseline (2017–2019) price for RGGI "allowances" from the Interagency Working Group's Social Cost of Carbon estimate to account for "revenues received by the eligible facilities due to the RGGI program." (A-219–220, 257–258.) Under RGGI, member states have set a cap on emissions and created a number of "allowances" that, collectively, add up to the cap.[14] (A-105.) Those allowances are generally sold to power plants at auction and authorize a power plant to emit a ton of carbon dioxide. When the allowances become more limited, the price for each allowance goes up, requiring plants to either

[14] *See Regional Greenhouse Gas Initiative: Program Design*, https://www.rggi.org/design/ (last visited November 27, 2017).

pay more to emit or find ways to avoid or limit emissions. By requiring the purchase of allowances for each ton of emitted carbon dioxide, RGGI causes power producers to partially internalize the external costs of their emissions. Policy Integrity Comments on N.Y. State Dep't of Pub. Serv.'s Staff White Paper on Benefit-Cost Analysis in the Reforming Energy Vision Proceeding, Docket No. 392, at 18-19 (Aug. 21, 2015). But because RGGI prices are low compared to the Social Cost of Carbon, they would be insufficient to fully internalize the external damages caused by emissions. (*See* A-265.)[15]

The benefits that are not already internalized by power producers through the RGGI allowances are the additional social benefits of retaining emission-free generation. By subtracting the value of RGGI allowances expected through April 2019 from the Interagency Working Group's Social Cost of Carbon estimate, in the near-term the ZEC formula appropriately compensates nuclear generators only for the *additional* social benefit the generators provide when they avoid generation that would otherwise emit greenhouse gases. (*See* A-107.) If the Commission did not subtract the RGGI price, power plants would be over-compensated for the benefit of avoiding carbon emissions.

[15] *See also* Denise Grab & Burcin Unel, *New York's Clean Energy Standard Is a Key Step Toward Pricing Carbon Pollution Fairly*, Utility Dive (Aug. 18, 2016).

C. The Formula Converts the Cost of Carbon into the Value of Avoided Emissions in Order to Compensate Generators for the Actual Benefit Provided by Each Additional Megawatt-Hour of Generation

The Social Cost of Carbon and RGGI allowances are valued based on dollars *per ton of emissions*. But each megawatt-hour of generation that nuclear generation avoids does not emit a full ton of carbon dioxide. In order to obtain the value of avoided emissions provided by nuclear generators, the Commission must determine how much carbon is emitted for each megawatt-hour of generation that would replace nuclear generation. (A-220.) To do that, the Commission converts the dollar-per-ton values of the previous factors to a dollar-per-megawatt-hour value using the marginal emission rate of electric generation consumed in New York. (A-220–221.) The marginal emissions rate is "the emissions rates of the mix of resources that would be avoided by the preservation of zero-emissions attributes." (A-220.) The Commission used a marginal emissions rate of 0.53846 tons per megawatt-hour, which is the amount of carbon dioxide that is emitted by plants that are expected to be "on the margin" (the plants that would replace the electricity produced by nuclear units if these were taken off the market). (A-220.) In other words, plants that are on the margin are producing about half a ton of carbon dioxide for every megawatt-hour of electricity that is generated.

By multiplying the Social Cost of Carbon (minus near-term expected RGGI prices) with the emissions rate, the Commission was able to obtain an estimate of

the monetary value of emissions avoided by every megawatt-hour of emissions-free nuclear generation. Converting the cost figure in this way demonstrates that the ZEC program is intended to compensate nuclear generators for the economic value of avoided emissions, not to ensure they receive payment for energy or capacity different than the wholesale rates.

D. The Formula Adjusts the Price to Reflect the Possibility that the Cost of Carbon Could Be Internalized in the Future and Match the Program's Costs with the Benefits

To review the formula so far: For the first phase of the program, the amounts are $42.87 (Social Cost of Carbon (A-214–215)) minus $10.41 (the near-term expected RGGI price (A-219)), times 0.53846 (marginal emissions rate (A-220)). That formula yields a price of $17.48 per megawatt-hour for a ZEC. (A-214).

That ZEC formula will be adjusted in the future under two circumstances. First, beginning in 2023, the marginal emissions rate in the formula will be reduced to reflect any reduction in the marginal emissions rate that results from new renewable generation added to the market in the intervening years. (A-221.) When more renewable generation is added to the market, the marginal emissions rate goes down because generation that is "on the margin" will become cleaner. Reducing the marginal emissions rate in the formula reflects the fact that nuclear generation would be displacing generation that is less carbon intensive and, therefore, that nuclear generation will be avoiding fewer carbon emissions. (*See* A-221.) The lower

marginal emissions rate will appropriately lower the portion of the total cost of carbon that the Commission pays for the avoided emission.[16]

Second, the ZEC price will go down if forecasts for wholesale energy and capacity rates increase over their current level. Until April 2019, the price for a ZEC will remain at $17.48. (A-69.) The Commission determined that an average energy and capacity price forecast for that time period was $39 per megawatt-hour. (A-135, 222–223.) Starting in April 2019, in case that average forecasted energy and capacity price goes up, the Commission determined that the ZEC price should go down. The Commission made clear that adjusting in this way will "not establish energy or capacity prices." (A-222).

But the Commission found it reasonable to lower the ZEC payments if the forecasts go above the "reference price" of $39 per megawatt-hour, because that would reduce ZEC payments as other emission-reduction policies cause generators to further internalize the costs of carbon emissions. (A-219–220; *see also* A-228.) For example, NYISO recently announced that it is considering incorporating a carbon price into wholesale prices for energy generated inside New York State.[17] Such a carbon price would provide compensation through the wholesale markets to

[16] Because the Social Cost of Carbon increases over time, the net effect may not reduce the total ZEC price from the current level. (*See* A-266.)

[17] *See* Sam Newell, et al., The Brattle Group, *Pricing Carbon into NYISO's Wholesale Energy Market to Support New York's Decarbonization Goals* at v-viii (Aug. 10, 2017).

nuclear generators for providing zero-emissions generation. If that happens, this adjustment would allow the Commission to reduce the ZEC payments so as to avoid double payments.

In addition, the Commission determined that once forecasts go above $39 per megawatt-hour, additional ZEC payments would merely make the program more expensive without avoiding any additional carbon emissions. (*See* A-210; *see also* A-212 (consumer costs are reasonable because "the future ZEC prices can decline if market energy and capacity price forecasts go up; perhaps all the way to zero").) For both of these reasons, if forecasts go above the "reference price," that forecast will demonstrate that nuclear plants do not need additional payments to ensure that the State receives the value of their reduced carbon emissions—and the ZEC payments are rightly adjusted downward to reflect that fact. (A-208–209; *see also* A-220–221.)

Together, the inputs—Social Cost of Carbon, baseline RGGI price, conversion factor, and the adjustments—result in a ZEC formula that pays nuclear generators for the best estimate of avoiding carbon emissions, with that payment reduced when it is no longer needed to provide that environmental benefit. The formula demonstrates that the Commission simply sought to set a rational price for the avoided carbon emissions provided by zero-emissions nuclear generation, rather than to "dictate the amounts that generators receive in connection with their sales of electricity at wholesale." Pls. Br. at 40.

III. THE FORECAST ADJUSTMENT DOES NOT DEMONSTRATE THAT ZEC PAYMENTS ARE PREEMPTED

A. The Forecast Adjustment Allows the Commission to Administratively Set a Price that Mimics Other State-Sponsored Environmental Programs

Plaintiffs argue that "adjusting the subsidy inversely with changes in wholesale market rates" is impermissible under *Hughes*. *See* Pls. Br. at 38. But that adjustment, which is only one step in a complex formula that compensates generators for the environmental benefit they provide, allows the Commission to price ZECs in a way that is similar to other state-sponsored environmental programs, such as RECs. Plaintiffs assert RECs are not preempted. Pls. Br. at 40. It follows that the forecast adjustment does not render the ZEC program impermissible.

When making market decisions that affect the price for RECs, renewable energy developers rely on wholesale energy and capacity forecasts that are similar to the forecasts used in setting ZEC prices. (*See, e.g.*, A-210–211.) If renewable energy developers expect to earn high revenues from the wholesale markets, they will be willing to build new generation resources with a smaller subsidy amount and submit lower bids into the REC auctions. As a result, the REC price will be lower.

But if the wholesale rate forecasts are low and developers expect to earn low revenues from the wholesale markets, then renewable energy developers need higher REC prices to fund the development of their generation. When that happens, developers submit higher bids into REC auctions, and the resulting REC price will

be high. *See, e.g.*, N.Y. State Dep't of Pub. Serv., *Clean Energy Standard – Cost Study*, at 49 (April 8, 2016) ("[I]f energy prices are lower than initially forecast over a prolonged period of time, investors will likely lower their energy price expectations, and will thus start bidding new projects at a higher REC price than they would have done under the original price forecast."). It is only rational for the Commission to incorporate such future expectations into the ZEC pricing formula in this way, just as utilities do with RECs. And because RECs are not preempted, *see* Pls. Br. at 40, there is no reason to find that ZECs are preempted. *See also Rochester Gas & Elec. Corp. v. Pub. Serv. Comm'n of N.Y.*, 754 F.2d 99, 104 (2d Cir. 1985) (State may take "nonjurisdictional activity" into account when engaging in jurisdictional activity).

Plaintiffs attempt to distinguish RECs and ZECs on the ground that ZECs are priced administratively rather than through "supply and demand" as with RECs, *see* Pls. Br. at 41, but that distinction does not prove that ZECs replace wholesale market rates. There are many different ways to set a price for a state-sponsored environmental program, including by allowing the price to be set by market forces, putting a cap on the market price, or setting the price administratively.[18] And the State chose to set the ZEC price administratively because of specific concerns about

[18] *See* U.S. Envtl. Prot. Agency, *Tools of the Trade: A Guide to Designing and Operating a Cap and Trade Program for Pollution Control* at 2-2 to 2-5 (June 2003).

market power among nuclear generators, not because of any desire to replace the wholesale rates. (*See* A-215–217, 257.)

Market power arises when there is limited competition among suppliers and, as a result, suppliers can increase prices above competitive levels. Krugman & Wells, *supra*, at 358. Market power is especially prevalent when demand is "inelastic"—when buyers cannot cut back on their purchases in response to higher prices. *Id.* at 148. In the case of ZECs, there is no competition in the supply of ZECs because of the highly concentrated ownership of nuclear generators providing electricity to New York customers. (*See* A-144.) In addition, the demand for ZECs is perfectly inelastic because utilities are legally obligated to buy an amount of ZECs that depends on historic load levels and therefore cannot reduce their purchases in reaction to higher prices. (*See* A-98, 235.) In the absence of an administratively determined price, the market structure would make it possible for nuclear generators to take advantage of their market power and increase the price for ZECs above the value of the environmental benefit of the avoided emissions, thus reducing social welfare. (*See* A-214, n.89.) In order to avoid this possibility, the Commission reasonably chose to set the price administratively.

Though the Commission set the price administratively, the Commission repeatedly took care to emphasize that the price "does not establish" a wholesale energy rate for the purchase of energy or capacity from eligible resources. (A-135,

223.) Instead, the nuclear power plants at issue receive compensation for energy (and capacity) either through the wholesale markets or through some other means, *see* Br. Intervenors-Defs.-Appellees at 36-38, ECF No. 119 ("Intervenors Br.") and also receive a wholly separate ZEC payment for the environmental benefit of avoiding carbon emissions. (*See* A-216–217.) That design feature makes ZEC payments indistinguishable from RECs and demonstrates that ZECs are not preempted

B. *Hughes* Did Not Bar States from Considering Wholesale Rates When Setting Prices for Environmental Programs

Plaintiffs also argue that the ZEC program is preempted under *Hughes* because ZEC prices rise and fall with wholesale rates, Pls. Br. at 38, but that argument misses the point of *Hughes*. In *Hughes*, the Court made clear that Maryland's program to require facilities to provide revenue for a new Maryland generator through a "contract for differences," was invalid because the State conditioned "payment of funds on capacity clearing the auction." *Hughes*, 136 S. Ct. at 1299 ("So long as a State does not condition payment of funds on capacity clearing the auction, the State's program would not suffer from the fatal defect that renders Maryland's program unacceptable.").

The ZEC program does not violate *Hughes* because it does not contain this feature. As Defendants have shown, nuclear generators receiving ZECs can and do sell their power outside the context of the wholesale auctions. *See* Br. Defs.-Appellees at 36-37, ECF No. 118 ("PSC Br."); *see also* Intervenors Br. at 37–38.

And given that the Commission does not "condition payment of funds" through the ZEC program on participating in and clearing the wholesale auctions, *cf. Hughes*, 136 S. Ct. at 1299, any rise and fall in ZEC prices should be beside the point.

The fact that the State is lowering what it pays for an environmental attribute in line with separate and unrelated wholesale forecasts does not prove that the payments *replace* wholesale rates as Maryland's program did in *Hughes*. All it demonstrates is that the State is not willing to pay more than necessary for the environmental benefit of avoided carbon emissions provided by nuclear plants. As explained above, each element of the ZEC price, including the adjustment, was included in order to ensure that the State is paying for the value of avoided emissions and not more. See *supra* at 16-18. As such, there is no reason to find that the ZEC payments are impermissibly tied to wholesale market rates.

In any event, as the Commission and Intervenors have explained, the forecast adjustment does not tie the ZEC price to any wholesale rates in any direct and impermissible way. *See* Intervenor Br. at 45–46; PSC Br. at 39. As a preliminary matter, the forecast adjustment does not even apply to the first two years of the program. See *supra* at 17. Moreover, there is no adjustment at all so long as the combined energy and capacity price forecasts do not exceed $39. If forecasted prices for a specific two-year period are anywhere from $0 to $39, nuclear generators will receive ZECs priced at the Social Cost of Carbon (less the forecasted RGGI

allowance price). That the State is not willing to pay more than the value of the cost of carbon even if the market prices are forecasted to be low just reinforces the fact that this is a program created to pay these generators for avoiding carbon emissions and nothing more.

In addition, unlike the program at issue in *Hughes*, 136 S. Ct. at 1295, the Clean Energy Standard does not allow the Commission to reduce generators' wholesale energy or capacity rates. The forecast adjustment only reduces the value of the subsidy, not the compensation generators receive for energy or capacity.

And the forecast adjustment is not directly linked to the actual "FERC-approved market rates," Pls. Br. at 32, received by the nuclear plants. First, the adjustment is not set based on the location-based energy price that eligible nuclear plants receive if they sell into the wholesale auctions. Rather the forecast adjustment is based on different prices in a different region of the State, which does not contain any of the nuclear power plants that receive ZECs. (A-223–224.) Second, the forecast adjustment does not use *actual* energy prices or state-wide capacity prices. Rather, the forecast adjustment is based on price *forecasts* as determined by futures markets. Indeed, the differences between the prices used to determine the forecast adjustment and FERC-approved rates for the relevant region can be significant. (A-224.) Third, the adjustment is just an average of forecasts of specific energy or capacity prices over a two-year period for the energy price forecast and a one-year

period for the capacity price forecast. (*Compare* A-259–260 *with* A-50.) Fourth, the forecast adjustment is set once every two years, and does not change during those years—unlike wholesale energy rates set by the NYISO, which are calculated at five-minute intervals. (*Compare* A-259–260 *with* A-50). As a result of these differences, the amount of the adjustment does not rise or fall *with* the plants' market revenues, *cf.* Pls. Br. at 3, 32, 38, but rather only falls in relation to a separate and different price forecast index.

But, at bottom, even if the forecast adjustment was directly tied to actual wholesale rates (and it was not), the Commission would not be barred from lowering the ZEC payments in that way. The Commission properly set a price for the environmental benefit of avoided carbon emissions separate and apart from any FERC-approved wholesale rates and adjusted the price to ensure that generators are not overpayed for that benefit. Because of that structure, there is no reason to artificially limit the Commission's ability to consider relevant information for setting the price. Such a limit would not serve the goals of preemption. It would only hurt economic efficiency.

CONCLUSION

For the foregoing reasons, the Court should affirm.

DATED: November 27, 2017

Respectfully submitted,

/s/ Richard L. Revesz_____
Richard L. Revesz
Bethany Davis Noll
Avi Zevin (admitted in the District of Columbia)
INSTITUTE FOR POLICY INTEGRITY
139 MacDougal Street, Third Floor
New York, NY 10012
(212) 992-8932
richard.revesz@nyu.edu
Counsel for Amicus Curiae Institute for Policy Integrity

CERTIFICATE OF COMPLIANCE WITH RULE 32(a)(7)

Counsel hereby certifies that, in accordance with Federal Rule of Appellate Procedure 32(a)(7), the foregoing Brief contains 5925 words, as counted by counsel's word processing system, and this complies with the applicable word limit established by the Court.

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DATED: November 27, 2017

/s/ Richard L. Revesz
Richard L. Revesz
INSTITUTE FOR POLICY INTEGRITY
139 MacDougal Street, Third Floor
New York, NY 10012
(212) 992-8932
richard.revesz@nyu.edu
Counsel for Amicus Curiae
Institute for Policy Integrity