STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard	**Case 15-E-0302**
In the Matter of Carbon Pricing in New York Wholesale Markets	**Matter 17-01821**

STATEMENT OF AMERICAN WIND ENERGY ASSOCIATION AND ALLIANCE FOR CLEAN ENERGY NEW YORK IN OPPOSITION TO PETITION OF MULTIPLE INTERVENORS AND INDEPENDENT POWER PRODUCERS OF NEW YORK, INC.

AND

PETITION OF AMERICAN WIND ENERGY ASSOCIATION AND ALLIANCE FOR CLEAN ENERGY NEW YORK FOR AN ORDER MODIFYING THE CLEAN ENERGY STANDARD TIER 1 PROCUREMENT PROCESS

This pleading, respectfully submitted by the American Wind Energy Association (AWEA) and the Alliance for Clean Energy New York (ACE NY), addresses two related subjects.

First, AWEA/ACE-NY explain their opposition to the petition filed by the Independent Power Producers of New York, Inc. (IPPNY) and Multiple Intervenors (MI) in the above-captioned proceedings on July 9, 2018.

Second, AWEA/ACE-NY petition the Commission to direct future Tier 1 REC procurements to include REC pricing that is indexed against wholesale market prices. Indexed REC prices will result in lower and less volatile costs to consumers. Taking this step will also obviate the "double payment" concern raised by the IPPNY/MI petition.

I. Summary

a. A Carbon Price Will Not Provide a "Double Payment" to REC Contract Holders

ACE-NY and AWEA strongly support the implementation of a carbon price in the New York Independent System Operator (NYISO) wholesale market for electricity. But even the most fervent supporters of the NYISO carbon price proposal recognize that is not enough to meet State goals by itself. It is not enough to meet the State's carbon reduction goals or renewable energy goals; and it is not enough to achieve the State's goal of making its homegrown clean energy industry a national and global leader. Perhaps for these reasons, the Commission nor the NYISO

has never suggested that the Renewable Energy Standard (RES) should be replaced by a carbon price. Rather, the two policies are complementary and well-suited to operate in parallel.

The IPPNY/MI petition mischaracterizes the proposed carbon price mechanism and RES program as duplicative. They argue that, to the extent a carbon price increases wholesale energy prices, those additional revenues would constitute "double payments" for REC contract holders. The argument ignores the history of the Renewable Portfolio Standard (RPS) and RES programs, over which Commission has explained repeatedly that these programs serve multiple policy objectives. Those objectives include economic benefits to the state from the development of an in-state renewable energy industry, reduced dependence on imported fuels and reduced exposure to fuel price volatility, and a wide range of environmental benefits, of which carbon abatement is only one. A carbon price does not compensate generators for these other values, is not being considered as a replacement for the RES, and does not justify undermining the commitments the State has made to renewable generators through the RPS and RES programs.

The IPPNY/MI petition speaks only to future REC procurements.[1] But, in the months since IPPNY/MI filed its petition, others have extended the "double payment" rationale to argue for clawing back revenues from renewable generators that hold existing REC contracts as well. Those who argue for a clawback from existing REC contract holders ignore the competitive process through which existing REC contracts were awarded and priced. The Commission designed the RPS and RES programs so that renewable generators would take the risk of NYISO energy and capacity market price volatility. Renewable generators priced their REC bids with a range of future energy and capacity prices in mind, which included the potential upside of more stringent carbon mitigation policies. Had the renewable generators known they would be forced to give up the carbon component of their energy market revenues, they would have surely priced their REC bids higher than they did. But, at the time they priced their bids, REC contract holders were not required to disgorge any component of their market revenues attributable to then-current carbon mitigation policies such as the Regional Greenhouse Gas Initiative (RGGI), and were never given any reason to believe they would have to do so for future programs either.

A clawback of revenues from existing REC contract holders would do little for ratepayers,[2] but *would cause significant damage to the state's renewable energy industry*. Some making this argument appear to assume that doing so will leave renewable generators held harmless. That is incorrect. Many REC contract holders have entered agreements to hedge energy prices. If REC revenues were clawed back, these renewable generators will be made significantly worse off than under the status quo with no carbon price. For the same reason, renewable energy projects that are now in development and seeking financing may be frustrated by the lack of a market for hedging agreements that meet their needs.

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[1] IPPNY/MI Petition at 7 & n.23.

[2] On behalf of NYISO, the Brattle Group calculated the total costs of the carbon pricing initiative as amounting to only 0.28 cents per kWh in the program's first year and declining thereafter. The Brattle Group modeled a policy that would claw back the carbon component of energy prices from all holders of REC contracts executed in 2018 and before and found customer savings of only $0.4/MWh (¢0.04/kWh). The Brattle Group, Sam Newell et al., Analysis of a New York Carbon Charge (Updated) at 27 (Nov. 28, 2018). In an oral presentation on December 3, 2018, Mr. Newell described this estimate as an "upper bound."

b. The Commission Should Authorize Indexed RECs in Future Tier 1 Procurements

The Commission can resolve the "double payment" issue raised by IPPNY/MI by directing future Tier 1 Procurements to employ a procurement mechanism under which REC prices net against a composite index of NYISO prices (Index REC), in the manner recently authorized for offshore wind renewable energy credits (ORECs).[3] Switching to an Index REC procurement mechanism would address the "double payment" concern because any increase in NYISO energy prices that results from a carbon price will reduce the value of the Index REC by a commensurate amount.

In addition, by providing a hedge against market volatility – and the regulatory uncertainty surrounding the carbon price initiative itself – the Index REC would lower the financing costs for renewable generators, and therefore lead to lower REC procurement costs, and also lower and less volatile prices for consumers.

II. Background

a. IPPNY/MI's Petition

On July 9, IPPNY/MI filed a petition with the Commission arguing that "if carbon pricing is implemented, certain suppliers would be compensated twice – once via Commission orders involving long-term CES REC contracts . . . and a second time via wholesale LBMPs reflecting a carbon adder."[4] The petition was not prescriptive in its request for relief, requesting only that the Commission "take action to protect New York consumers, and the relative competitiveness of the State's wholesale electricity markets, by, *inter alia*, eliminating, or at least minimizing, the possibility of double-payments in the event that carbon pricing is implemented by the NYISO sometime in the future."[5] The petition was clear, however, that it only requested relief with respect to contracts that result from future procurements and not existing contracts.[6]

b. NYISO Position

On July 16, 2018, NYISO issued a statement that proposed to incorporate within its proposed carbon pricing mechanism a special charge on renewable generators that receive revenue from the sale of RECs. The proposal would have applied to REC contracts with the New York State Energy Research and Development Authority (NYSERDA) executed before 2020 and for so long as those contracts remain in effect. Under the proposal, while all other generators would

[3] *See* Case 18-E-0071, *Order Establishing Offshore Wind Standard and Framework for Phase 1 Procurement* (July 12, 2018) (hereinafter "Offshore Wind Order"). The Commission defined the "Index OREC" as "Adjustable OREC prices that net periodically against a reference price expressed in a market index." *Id*. at 34.

[4] IPPNY/MI Petition at 10.

[5] *Id*.

[6] *Id*. at 7 & n.23.

receive the locational based marginal price (LBMP) as they do now, NYISO would have selectively deducted the carbon price component (LBMPc)[7] from amounts paid to REC contract holders.

On December 3, 2018, NYISO stated that it was "no longer recommending that the proposal include a mechanism for charging resources with pre-existing REC contracts the LBMPc."[8] NYISO explained the rationale for its decision as follows:

- REC payments are not solely linked to carbon abatement or avoidance.
  - REC payments consider multiple state policy objectives.
  - REC payments are intended to support renewable resources under all future uncertainties including fuel cost and environmental regulations.
  - Withholding the LBMPc from resources with pre-existing RECs without establishing that RECs were designed solely for carbon abatement would unfairly target one set of resources within the NYCA, which is contrary to NYISO's mission to operate open, fair and non-discriminatory competitive markets.
- Carbon Pricing's primary focus is on internalizing the cost of carbon emissions within the wholesale market.
- The proposal would create unintended consequences including:
  - Increasing the uncertainty in the value (and potentially the cost) of RECs going forward; and
  - Making it difficult to structure bank financing due to creating a disconnect between the wholesale market price and the wholesale market payment to the resource.[9]

III. Statement of Opposition to IPPNY/MI's Petition

a. There Is No "Double Payment" Because RECs Compensate More Than Carbon Abatement

The IPPNY/MI petition is based on the idea that allowing the same resource to receive a REC payment and the carbon component of LBMP represents a "double payment." This argument would have force if the RPS and RES were programs solely devoted to carbon abatement for which the NYISO carbon price was a replacement. But these programs were never solely about carbon

[7] The carbon price component of LBMP is calculated as the product of the social cost of carbon (less the Regional Greenhouse Gas Initiative (RGGI) allowance price) and the real-time zonal marginal emissions rate.

[8] NYISO, *Carbon Pricing: Treatment of Existing REC Contracts Proposal Update* (Dec. 3, 2008) at 3, available at https://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg_ipptf/meeting_materials/2018-12-03/20181203%20Carbon%20Pricing%20-%20NY%20REC%20Resources%20vFinal.pdf.

[9] *Id*. at 4.

abatement, and the Commission has never suggested that the RES program would cease to benefit the State even after a carbon price is in place.

The RPS and RES programs have aimed to pursue "a combination of environmental, economic, and security objectives."[10] Among the most prominent of those objectives was to reduce New York's dependence on "imported"[11] fuels. In justifying the goals of renewable energy procurement, the Commission emphasized "increased fuel diversity and energy security,"[12] and the demonstrable "macroeconomic benefits" of "making the State less vulnerable to volatile prices while increasing an economically stable source of domestic energy."[13] The Commission has explained that the "history of oil and natural gas price shocks and supply disruptions clearly demonstrates the value in having a diversified energy mix without heavy reliance on one particular fuel source."[14]

The Commission has also justified the RPS and RES based on the economic benefits to the State. In its seminal 2004 RPS Order, the Commission cited the "potential for economic development as a result of growing industries that typically tap into indigenous resources and invest in local and regional economies."[15] The Commission also observed that "[m]anufacturing of renewable energy equipment, procurement of fuels such as biomass, and construction and operation of generating facilities will create direct and indirect jobs, purchases of local products, which add revenues to local economies, and additional tax payments."[16]

In 2013, the Commission imposed a rule that required RPS resources to be located in New York. In doing so, the Commission explained the importance that economic benefits to the State have always held in the RPS program, and cited with approval an earlier study that calculated the economic benefits to New York from in-state wind farms as equivalent to $10/MWh.[17] Other

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[10] *See* Case 03-E-0188, Order Modifying Renewable Portfolio Standard Program Eligibility Requirements at 15 (May 22, 2013) (2013 RPS Order).

[11] Case 03-E-0188, Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, Order Regarding Retail Renewable Portfolio Standard at 1 (Sept. 24, 2004) (2004 RPS Order).

[12] *Id*. at 3.

[13] Case 03-E-0188, Order Establishing New RPS Goal and Resolving Main Tier Issues at 8 (Jan. 8, 2010) (January 2010 RPS Order).

[14] *Id*. at 12; *see also* Case 15-E-0302, Order Adopting a Clean Energy Standard at 76 (Aug. 1, 2016) (2016 CES Order) (warning that to weaken the ambition of the standard "would leave consumers vulnerable to an over-dependency on natural gas").

[15] 2004 RPS Order at 3.

[16] *Id*. at 10.

[17] 2013 RPS Order at 26 – 27; *see also* Case 03-E-0188, *Order Authorizing Customer-Sited Tier Program Through 2015* (April 2, 2010) at 7 ("The ultimate policy objective is to support creation of renewable industries that are self-supportive based on market demand and market forces instead of relying primarily upon ratepayer and taxpayer assistance to survive. However, such markets are not expected to be at a mature state for some time, and during this maturation process New York will be in competition, both domestically and internationally, to attract investment in a new, clean, high tech economy.").

analyses found even greater economic benefits to the State. In a pleading submitted to the Commission in December 2012, NYSERDA stated that after "rigorous reviews of the economic benefits documentation reports of 18 contract facilities . . . direct spending in New York will likely . . . average approximately $24 per MWh, for every MWh produced over the 20 year period."[18]

The emphasis on economic benefits is evident not only in the Commission's description of RPS and RES program objectives, but also in the selection criteria and programmatic requirements. In evaluating bid proposals, NYSERDA places significant weight on economic benefits. Bidders are encouraged to develop projects with maximal economic benefits to the State and are required to demonstrate the realization of those benefits to avoid penalty payments.

Environmental benefits have also been a central objective of the RPS and RES programs. But when it has identified the environmental benefits of the programs, the Commission has consistently pointed not only to carbon dioxide reductions, but also to reductions in NO_x, SO_x, and particulate matter.[19] In its 2016 Order establishing the Clean Energy Standard, the Commission explained:

> Increasing the contribution of renewable generation to meet the 50 by 30 mandate will not only reduce carbon emissions, but will reduce nitrogen oxides, sulfur dioxide, and particulate matter emissions as well by thousands of tons per year. Increased use of renewable energy sources leads to improved air quality and societal benefits from reduced health impacts and increased employee productivity. For example, as air quality improves, state health care expenditures for treatment of asthma, acute bronchitis, and respiratory conditions may be reduced. Reduced exposure to fine particulates may avoid other health problems such as increased morbidity and exacerbation of respiratory and cardiovascular ailments.[20]

Having relied on renewable energy procurements for years to meet a "a combination of environmental, economic, and security objectives," it would be unreasonable now to treat those non-carbon objectives as though they are no longer of value to the State.

b. Existing REC Contract Holders Took the Downside Risk of NYISO Energy Prices and Should Not Be Denied the Upside After the Fact

The Commission designed the RPS and RES programs around the procurement of unbundled, fixed-price RECs through competitive solicitations. This policy design placed the risk of energy and capacity market price swings on the renewable generators. For many developers

[18] Case 03-E-0188, NYSERDA, Petition for Modification of RPS Main Tier Program at 3 (Dec. 14, 2012); *see also* KEMA, Inc., New York Main Tier RPS: Impact & Process Evaluation (March 2009).

[19] *See, e.g.*, 2004 RPS Order at 10; January 2010 RPS Order at 8 & 13.

[20] 2016 CES Order at 3.

and operators of renewable energy facilities, whether REC contract holders or not, this downside risk materialized when declining natural gas prices pushed down NYISO energy market prices.[21]

If REC bidders had known they would be denied the upside of a carbon price, they would have bid higher REC prices. In modeling future market revenues over the life of their 20-year contract terms, renewable generators expected that state or federal carbon mitigation policies could provide an upside for zero-carbon resources. Indeed, the expectation that carbon mitigation policies would impact the market was more than speculation. New York State has participated in RGGI for more than a decade, including numerous efforts to increase its stringency. Likewise, two NYSERDA solicitations were conducted during the period when the Environmental Protection Agency's Clean Power Plan had been proposed and not yet stayed by the Supreme Court.

In light of these programs, the competitive nature of the REC procurements, and the prospect of more stringent carbon mitigation policies in the future, bidders had every reason to build carbon price scenarios into their expectations of future revenues. Yet at no point were New York's renewable generators given notice that they would be forced to forego any portion of their market revenues in the event that carbon mitigation policies increased market prices. To the contrary, REC contract holders were always allowed to retain the benefit of RGGI carbon pricing along with their REC revenues without any suggestion that they were receiving a "double payment." Given that precedent, it is inconceivable that bidders would have expected to be treated any differently under a future carbon mitigation policy such as a carbon price implemented by NYISO.

There is no precedent in New York – or any state we are aware of – for carbon pricing to be used as grounds for taking back the economic benefits of contracts a state has already signed. Doing so now would not only harm the REC contract holders, but could also undermine future state programs. Participants in future programs will recognize the State's willingness to go back on its commitments, and may question whether the program benefits on offer are vulnerable to a similar clawback. Some market participants may choose to focus their resources in other states, or may demand a risk premium for doing business in a state that has demonstrated a willingness to go back on its commitments.

c. Clawing Back Carbon Revenues Would Make REC Contract Holders Worse Off than under the Status Quo

If the carbon component of wholesale energy prices is clawed back from renewable generators with existing REC contracts, those generators will likely be worse off than if there were no carbon price at all. This would be true even if the size of the clawback is capped at the REC price received by each generator, as NYISO had previously proposed. One reason why is that many renewable generators in New York have entered into fixed-for-floating price swaps to hedge

[21] *See* NYISO, 2018 Power Trends at 28 (showing a significant and correlated drop in average annual wholesale electric prices and average annual natural gas costs between 2008 and 2017).

market risk and enable project financing.[22] In a fixed-for-floating price swap, the renewable generator pays its financial counterparty the LBMP for every MWh generated and the financial counterparty pays the renewable generator an agreed-to price per MWh. Because the LBMP settles with the carbon component included, the renewable generator would pay its counterparty a price that includes the carbon component, but would have the carbon component deducted from its own market revenues. Because these generators struck their hedging deals based on anticipated market prices that did not include the full carbon price, they will be made substantially worse off than under the status quo.

The damage will not be confined to renewable projects that are already operational, but will also reach projects currently in development. Project financing can be difficult to obtain without an energy price hedge, and affordable hedges are already difficult to arrange in the New York market. Renewable generators may not be able to obtain effective hedge agreements if there is a policy to claw back the carbon component of wholesale energy prices. That is because renewable generators will no longer find it useful to hedge against LBMP or a hub price. Rather, they will need a hedge against the price they actually receive: LBMP minus the carbon component. But financial counterparties, of which there are already relatively few in New York offering hedge products to renewable energy generators, are unlikely to offer a product for which there would be such a small and illiquid market. Such hedge agreement are therefore likely to come at significantly higher cost, if they are available at all. A policy to claw back the carbon component of wholesale energy prices, therefore, would put at risk the State's effort to meet its renewable energy goals.

Unhedged REC contract holders will also be worse off, although to a lesser extent, because of what NYISO's lead consultant on the carbon pricing initiative, the Brattle Group, refers to as the "dynamic effects" of carbon pricing. The Brattle Group has explained that, as LBMPs rise because of the carbon price, customers will see greater incentives to pursue energy efficiency and conservation.[23] Indeed, ensuring that consumers respond to negative externalities embedded in fossil fuels is a well-understood objective of carbon pricing. But as consumers reduce consumption, the reduced load will exert downward pressure on NYISO energy and capacity market prices. The result is that, when the carbon component is clawed back, REC contract holders will end up with lower market revenues than they would have had there been no carbon price at all.

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[22] *See* Calpine, NYISO Carbon Pricing, Considerations for the Carbon "Clawback" Proposal Presentation to IPPTF (Oct. 22, 2018) *available at* https://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg_ipptf/meeting_materials/2018-10-22/NYISO%20Carbon%20Pricing_REC%20Clawback%20Final%20Sent.pdf.

[23] *See* The Brattle Group, Sam Newell et al., *Analysis of a New York Carbon Charge (Updated)* (Oct. 12, 2018) at 14, 22 – 23.

d. Clawing Back Carbon Revenues Would Incentivize Inefficient Bidding and Add Uncertainty to Pairing Renewables with Storage

A fundamental principle of well-designed markets is that the marginal revenue received by sellers should equate to the marginal social cost of production. A policy that claws back the carbon component of wholesale energy prices departs from that principle and would, therefore, incentivize inefficient bidding. Under a claw back policy, REC contract holders would not receive the market clearing price, but instead will receive the market-clearing price minus the carbon component. As a consequence, inefficiencies will arise because certain resources will have an incentive to dispatch during hours when revenue to them is greatest, which may not be the same hours as when the market price is highest. Many renewable resources are not dispatchable and therefore may not encounter this issue. But others, such as biomass, biogas, hydropower, fuel cells,[24] and wind or solar paired with battery storage[25] are dispatchable and may have fuel or charging constraints that lead them to be selective in which hours they dispatch. For example, a renewable resource paired with a battery should receive a market signal to dispatch more often when an inefficient oil-fired unit is on the margin than when a less-carbon intensive resource is on the margin. Under a clawback policy, it would not receive that market signal – a result that would be economically inefficient and would work at cross-purposes to the "Clean Peak" goals in New York's Energy Storage Roadmap.[26]

For the same reason, any policy that claws back the carbon component of wholesale energy prices would distort the incentive to retrofit existing renewable resources to include storage. The business case for energy storage depends significantly on intra-day price differentials. Because the carbon component of LBMP is likely to be higher on average in the high-price hours (when combustion turbines and oil-fired units are on the margin) and lower in the low-price hours (when renewables, nuclear, and combined cycle units are on the margin), a clawback of the carbon component would artificially mute the price signal, and therefore undermine the business case for adding storage to existing resources.

IV. The Commission Should Authorize Procurement of Tier 1 RECs through Indexed Pricing

a. Indexing REC Prices in Future Tier 1 Procurements Will Obviate the Dispute Over "Double Payments"

ACE-NY and AWEA respectfully request that the Commission authorize and direct the use of Index RECs in future Tier 1 procurements using a substantially similar structure to the Index

[24] As of December 31, 2017, there were 11 biogas, 2 biomass, 5 fuel cell, and 33 hydroelectric projects operating or in development under active RPS and RES contracts. *See* NYSERDA, *New York State Clean Energy Standard Results of Renewable Energy Standard and Renewable Portfolio Standard Solicitation for Long-Term Contracts through December 31, 2017, Final Report March 2018*.

[25] NYSERDA's website states that one selected wind project in the 2017 solicitation is paired with storage, and that three projects selected in the 2018 solicitation include renewables paired with storage.

[26] Case 18-E-0130, *New York State Energy Storage Roadmap* (June 21, 2018) at 62 – 65.

OREC authorized by the Commission in its Offshore Wind Order. Prior to the Offshore Wind Order, the Commission had considered adding price hedges in two earlier orders. In each case the Commission acknowledged the potential value of doing so, but deferred the issue on the grounds that the time was not right to change the REC procurement process. [27]

Now is the right time to take this step. Indexing REC prices to market prices would be a good idea even if no carbon price were on the table. Authorizing Index RECs is an even better idea now, however, because it will defuse the dispute at the heart of the IPPNY/MI petition. Even those who believe that carbon values and REC values are "double payments" must concede that an Index REC procurement mechanism resolves the concern. Under an Index REC procurement mechanism, when the carbon price causes wholesale energy prices to rise, the value of the REC would go down, on average, by a commensurate amount. The result is that the carbon component of the wholesale energy price and the REC value are offsetting and could not possibly be considered duplicative, even if they compensated entirely the same attributes.

b. Index RECs Will Result in Lower and Less Volatile Costs to Consumers

An Index REC procurement mechanism will lower the cost of financing renewable energy projects. Under the status quo fixed price REC structure investors, banks and other entities that provide financing to renewable developers perceive a risk arising from the inherent unpredictability of wholesale energy and capacity market prices. The presence of market risk leads investors and financial institutions to insist upon greater returns to their debt and equity, driving up project revenue requirements. Hedging agreements can mitigate the risk partially, but they come at a cost that burdens project economics. Unavoidably, the market risk inherent in the fixed price REC structure is priced into developers' REC bids, leading to higher costs to New York ratepayers.

The Index REC structure provides a hedge against market volatility and therefore can result in a lower cost of capital and savings for ratepayers. The Commission embraced this logic in the Offshore Wind Order by requiring bidders to include an Index OREC bid. The Commission's decision in the Offshore Wind Order drew upon the NYSERDA's Offshore Wind Policy Options Paper,[28] which studied intensively the cost profiles of several alternative procurement mechanisms. The estimated cost savings of using an Index OREC compared to a fixed price OREC were stark. NYSERDA estimated an incremental program cost of $1.2 billion for a fixed OREC, compared to $0.3 billion for the Index OREC – a savings of more than 75%[29]

[27] *See* Case 03-E-0188, Order Resolving Main Tier Issues at 21 (Apr. 2, 2010) ("[A]n attempt to introduce a hedge into the RPS program should be tabled at this time. If circumstances change and/or the results of future solicitations indicate an increased need for a hedge to be provided by the program, we can consider it at that time."); Order Authorizing Modifications to the Main Tier Solicitation Contract Term at 14 (July 2, 2014) (acknowledging that "a CfD may be more attractive to some developers and also provide a hedge that could protect rate-payers from volatile energy prices" but deferring action to the REV proceeding to avoid delay to the 2014 Main Tier solicitation.).

[28] Case 18-E-0071, NYSERDA, Offshore Wind Policy Options Paper (Jan. 29, 2018)

[29] The estimated incremental bill impact of the Index OREC was 0.18% compared to 0.76% for the fixed REC – a savings of 76.3%. *Id*. at 40.

The importance of hedging market risk is no less important for onshore projects. In 2015 NYSERDA published *Large-Scale Renewable Energy Development in New York: Options and Assessment*[30] (LSR Options Paper). The LSR Options Paper explained why fixed price RECs are more expensive:

> A fixed price REC contract does not offer any energy revenue certainty to project investors, which is the largest part of the market value and revenue expectations for these projects. This has several implications that likely increase costs for customers. . . . Moreover, the additional risks associated with REC-only contracts may make financing of projects more difficult and costly than where projects have bundled energy and REC contracts. Further, the substantial amount of market price risk that the developer assumes, even with a 20-year fixed price REC contract, likely results in bidders adding a substantial risk premium in their bids.[31]

NYSERDA analyzed the cost savings that would come from lowering the risk premium in REC bids. NYSERDA estimated that, without the Production Tax Credit, a wind project receiving fixed price RECs would need, on a levelized cost of electricity basis, a premium over market prices of $32.78/MWh, compared to a fully hedged[32] project, which would require a premium of $21.42/MWh.[33] This represents a 53% increase in the amount of public support required to realize the project and a substantial cost to ratepayers if a fixed REC continues to be used versus a fully-hedged project.

The risk mitigation benefits of an Index REC structure will be even more valuable in light of the uncertainty surrounding the carbon price proposal itself. Most immediately, when renewable developers submit bids for the 2019 Tier 1 solicitation in the Summer of 2019, they may still not know with certainty whether the carbon price initiative is moving forward at the NYISO and the Commission. And, even if that uncertainty is resolved, it will remain uncertain whether the Federal Energy Regulatory Commission (FERC) will approve the changes to the NYISO tariff and whether the federal courts would uphold FERC's decision. Inevitably, if the 2019 solicitation uses a fixed price REC structure, bidders will be unlikely to incorporate the full value of the proposed carbon price in their bids. The result, therefore, will likely be that ratepayers overpay for those RECs in the event the carbon price is implemented.

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[30] NYSERDA, Large-Scale Renewable Energy Development in New York: Options and Assessment, Final Report (June 2015), Report Number 15-12.

[31] *Id*. at 12.

[32] These figures come from NYSERDA's analysis of a renewable project with a utility-backed power purchase agreement. Elsewhere in the LSR Options Paper NYSERDA observed that the utility-backed PPA was equivalent, from a financial risk perspective, to a project that receives a contract for differences. *Id*. at 20. Although an Index REC is neither a contract for differences nor a PPA, it approaches the market hedge properties of the contract for differences and thus NYSERDA's estimate in the LSR Options paper is relevant to the potential cost savings that could be realized by an Index REC procurement mechanism.

[33] *Id*. at 24.

Some have argued that variable-priced REC structures shift the risks of market volatility from developers to ratepayers. Their logic is backwards. An Index REC structure would *reduce* volatility on customer bills. The reason is simple: as wholesale market prices go up, the Index REC value goes down and vice versa. Although it may be small as a percentage of the customer's bill, there is no question that an Index REC structure would tend to stabilize bill impacts compared to a fixed price structure.[34]

An Index REC would also stands on strong jurisdictional footing. As the Commission knows well, in *Coalition for Competitive Electricity v. Zibelman*,[35] the Second Circuit upheld the Zero Emission Credit program against a claim that it was preempted. In accord with the Seventh Circuit and the Federal Energy Regulatory Commission's amicus brief, the Second Circuit rejected the claim that the indexation of ZECs to market prices intruded on FERC's jurisdiction. Grounded in a straight-forward reading of *Hughes v. Talen*,[36] the Court held that that what matters for jurisdictional purposes is the presence of a tether "to 'wholesale market participation,' not prices."[37] Because the Index REC Price is a composite of market prices and does not depend on what the generator actually receives in the market – or if the generator participates in the NYISO market at all – it would be upheld under *Hughes* and *Zibelman*.

V. Implementation of the Index REC for Tier 1 Procurements

For consistency across resource types and ease of administration, the Index REC should be implemented in a manner substantially similar to the Index OREC. Like with Index OREC bids, developers would include a strike price in $/MWh with each bid that – if accepted – would become part of the REC contract. At the end of each month, for each MWh of eligible generation, the generator would be paid a monthly REC price that nets the as-bid strike price against a reference energy price and a $/MWh-equivalent reference capacity price.[38]

a. Reference Energy Price

Like the Index OREC, the reference energy price for the Index REC should be calculated using the monthly time-weighted average of NYISO day-ahead prices for the applicable zone. An important aspect of using time-weighted average prices, rather than weighting by the hours in which the generators actually produce, is that generators will continue to see the correct market signal to produce at the times of day when prices are highest. Dispatchable resources, including those with storage, will retain the incentive to dispatch during the highest price hours. And, non-dispatchable resources will continue to have the correct incentive to make design choices (such as choice of technology, location, tilt, etc.) that optimize their output during the highest-price hours.

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[34] *See also id*. at 4.

[35] 906 F.3d 41 (2018) ("*Zibelman*").

[36] 136 S. Ct. 1288 (2016)

[37] *Zibelman* at 51 (quoting *Hughes* at 136 S. C.t at 1299).

[38] *See* Offshore Wind Order at Appendix C.

One unavoidable difference between the reference energy price formulas for the Index OREC and Index REC is the zonal weighting. Because offshore wind projects interconnect in down-state, coastal areas, the Commission based the Index OREC on a load-weighted average of those zones (J and K) to calculate the reference energy price.[39] But because Tier 1 onshore resources may be located anywhere, there is no single zone or group of zones that comprise an appropriate hedge for all Tier 1 resources. The best course, therefore, would be to calculate the reference energy price based on day-ahead prices in the zone where each resource interconnects. Doing so would result in the best possible hedge for financing renewable energy projects and the lowest cost for ratepayers. Grouping zones together for purposes of the reference energy price would do little to simplify program administration, and would come at a significant cost of increased basis risk and higher REC bids.

To ensure fair treatment between projects, the REC procument process would need to account for the fact that average prices vary across zones. To do so, Index REC bids should be compared with each other (and with any fixed REC bids received[40]) on a levelized net cost basis, in the same manner required for offshore wind bids.[41] Doing so would ensure fair treatment among projects located in different zones. A levelized net cost evaluation approach would also ensure that developers receive the appropriate market signal to make economically efficient location decisions – because locating in higher-price zones would result in lower costs to the State and a better evaluation under the levelized net cost approach. For example, assume that the average energy price in a high-price zone is $20/MWh greater than in a low-price zone. A strike price bid for a project in the high-price zone that is $15/MWh higher than a strike price bid in the low-price zone would have a net cost to the State that is lower by $5/MWh. Therefore, under a levelized net cost analysis, the bid in the high-price zone would be preferred in the cost component of the procurement evaluation even though it had a higher strike price.

b. Reference Capacity Price

The reference capacity price for the Index REC should be calculated in the same manner as the reference capacity price for the Index OREC[42]: as the product of (1) the reference UCAP price ($/kW-month) for the zone in which the project is located, (2) the project's CES-eligible installed capacity (MW), and (3) the project's UCAP production factor (decimal fraction), divided by (4) the monthly production (MWh). Like with the Index OREC, the bidder should be free to select (at the time of bidding) winter and summer UCAP Production Factor values specific to its proposed project. Allowing bidders to set their own UCAP Production Factors would let them strike the right balance between energy and capacity revenues for hedging purposes. But it would not provide an advantage or disadvantage for any particular bidder. As explained above, using a levelized net cost approach, bids with differing UCAP production factors (and therefore differing

[39] *Id*.

[40] ACE-NY and AWEA believe that Index REC bids will result in lower costs to the State and its ratepayers. Nevertheless, we would not object to a procurement policy in which developers are also allowed or even required to submit fixed REC bids in parallel, as the Commission required in the Offshore Wind Order. *Id*. at 39 – 40.

[41] *See* NYSERDA ORECRFP18-1 (Nov. 8, 2018) at § 4.3.

[42] *Id*. at §4.1.2.

capacity reference prices) would be set at parity in the procurement process, just as they are in the offshore wind context.

VI. Relief Requested

For the foregoing reasons, ACE-NY and AWEA request that the Commission authorize and direct the use of an Index REC structure as described above in time for the 2019 NYSERDA Clean Energy Standard Tier 1 solicitation.

Respectfully submitted on this 13 day of March 2019.

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