

**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

**Comments on Petition of ReEnergy Holdings LLC
for Policy Support for Bioenergy Generation**

ReEnergy Holdings LLC (“ReEnergy”) petitioned the Public Service Commission (“Commission”) to commence a proceeding to fairly and accurately compensate bioenergy generation for the environmental benefits it provides New York State in furtherance of the requirements of the Climate Leadership and Community Protection Act (“CLCPA”) (the “Petition”).¹ ReEnergy submits these comments to suggest a policy framework for such compensation.

Specifically, we propose a compensation model for bioenergy generation based on the zero-emission credit (“ZEC”) requirement of Clean Energy Standard (“CES”), which model could be adjusted by the Department of Public Service (“DPS”) to ensure the recipient facilities receive only as much support as needed to continue operation. The Commission designed the ZEC model to provide resource-specific support that recognized the unique environmental contributions of zero-emission generation to New York’s environmental goals. Like existing nuclear facilities, existing utility-scale sustainable biomass generation facilities are few in number – indeed, ReEnergy’s Black River Facility, which supplies Fort Drum with behind-the-meter zero-carbon electricity, may be the only such resource currently located in the state. Under these circumstances, a competitive solicitation likely would attract only a few bidders at most and would not yield a competitive result.

However, a sustainable bioenergy credit or “BEC” based on a Commission-determined social cost of carbon that fluctuates in relation to an index of wholesale market prices would provide more targeted support and better protection for ratepayers while retaining the environmental value of bioenergy generation. Not only would the initial BEC value reflect the actual value of greenhouse gas emissions avoided by the facility’s continued operation, it also would prevent the facility from receiving windfall payments in the event wholesale energy and capacity prices rise or federal bioenergy support is passed in the coming years.

¹ Case 15-E-0302, *Petition of ReEnergy Holdings LLC for Policy Support for Bioenergy Generation* (July 20, 2022) (“Petition”).

I. The Zero-Emission Credit Model

In August 2016, the Commission established a ZEC requirement in its *Order Adopting a Clean Energy Standard* (“CES Order”).² Under this program, a ZEC represents one megawatt-hour (“MWh”) of electricity generated from qualifying nuclear facilities that met certain Commission-determined criteria and were approved in the CES Order (specifically, the FitzPatrick, Ginna and Nine Mile Point facilities). The ZEC program lasts for 12 years with ZEC prices set in six two-year tranches, beginning in April 2017 and ending in March 2029.³

The ZEC price (\$/MWh) is set by a base amount representing the federal social cost of carbon, adjusted for Regional Greenhouse Gas Initiative (“RGGI”) revenues, and decreases if an index of wholesale electricity prices rises. The CES Order described the pricing methodology through the following formula:⁴

$$\begin{array}{ccccccc} \text{Social} & & \text{Baseline} & & \text{Amount Zone A Forecast Energy} & & \text{ZEC} \\ \text{Cost of} & & \text{RGGI} & & \text{Price} & & \text{Price} \\ \text{Carbon} & - & \text{Effect} & - & \text{and ROS Forecast Capacity Price} & = & \text{(\$/MWh)} \\ & & & & \text{combined exceeds \$39/MWh} & & \end{array}$$

The social cost of carbon is a measure, quantified in U.S. dollars, of the climate change damage done by a ton of carbon dioxide emissions in a given year.⁵ The Commission based its social cost of carbon value on the U.S. Interagency Working Group’s (“USIWG”) 2015 projected social cost of carbon using the central three percent discount rate.⁶ This cost is initially converted to \$/MWh using a marginal carbon emissions rate of 0.53846 short tons per MWh and is subject to adjustment starting with tranche 4.⁷

Since New York participates in the RGGI cap-and-trade system, estimated market revenues received by nuclear power plants due to the RGGI program are deducted from the social cost of carbon subsidy.⁸ The resulting ZEC value was calculated at \$17.48/MWh for the first two-year period.⁹ If projected wholesale energy and capacity prices rise in New York, ZEC

² Case 15-E-0302, *Order Adopting a Clean Energy Standard* (Aug. 1, 2016) (“CES Order”).

³ CES Order at 129-130.

⁴ CES Order at 131.

⁵ *Coalition for Competitive Elec., Dynegy Inc. v. Zibelman*, 272 F. Supp. 3d 554, 562 (S.D.N.Y. 2017).

⁶ CES Order at 131-32.

⁷ CES Order at 136-37.

⁸ RGGI is a partnership of nine states including New York. Under this program, member States set a region-wide cap on carbon emissions and sell allowances to power plants at auction. One RGGI allowance authorizes power plants to emit one ton of carbon dioxide. *See also* Regional Greenhouse Gas Initiative, <http://www.rggi.org>. Carbon-emitting power plants reflect the cost of RGGI allowance payments in the price for which they sell their electricity on the market. This raises the market price for electricity from all sources, including nuclear and biomass generation, thereby increasing the market revenues that such generators receive for their produced power.

⁹ CES Order, Appendix E at 11.

payments are further reduced by the amount that those prices exceed a baseline of \$39/MWh.¹⁰ Taken together, the ZEC price formula is the social cost of carbon, minus RGGI revenues, minus the amount that forecasted energy and capacity prices combined exceed a baseline of \$39/MWh.¹¹

For ZECs, the social cost of carbon component (nominal \$\$ per short ton of CO₂) is fixed by a two-year tranche based on social cost of carbon estimates published in July 2015 by the USIWG, as follows: Tranche 1 (\$42.87), Tranche 2 (\$46.79), Tranche 3 (\$50.11), Tranche 4 (\$54.66), Tranche 5 (\$59.54), Tranche 6 (\$64.54).

II. DEC's Updated Social Cost of Carbon Guidance

After the ZEC program was established, the New York State Department of Environmental Conservation ("DEC"), acting pursuant to the CLCPA, developed its own social cost of carbon calculation for New York State agencies to use in policymaking.¹² The DEC's Value of Carbon guidance updates the USIWG's 2015 values into 2020 dollars (adjusted for inflation).

In issuing this guidance, DEC also encouraged agencies to consider adopting a two percent discount rate that would result in significantly higher social cost of carbon values. Per the DEC, "Fundamentally, the Department is recommending State agencies consider a lower range of discount rates than recommended by the [USIWG]. The [USIWG's] central discount rate of 3 percent should be considered as a maximum discount rate. A rate of 2 percent should be used as the central value and a rate of 1 percent should be considered as the lower bound to ensure that State agencies are properly informed in their decision-making."¹³ The DEC provides the following values for carbon dioxide rate:

¹⁰ CES Order, Appendix E at 12.

¹¹ CES Order, Appendix E at 12.

¹² NY DEC Value of Carbon Guidance 2022, *available at* https://www.dec.ny.gov/docs/administration_pdf/vocguid22.pdf.

¹³ *Id.* at 18.

U.S Social Cost of Carbon Dioxide by Discount Rate, Adjusted for New York State (2020\$ per metric ton of CO₂)

Emissions Year	Recommended Range of Discount Rates			
	3% Average	2% Average (Central Rate)	1% Average	0% Average
2020	51	121	406	2,130
2021	52	123	409	2,125
2022	53	124	411	2,119
2023	54	126	414	2,114
2024	55	128	416	2,108
2025	56	129	418	2,103
2026	57	131	421	2,098
2027	59	132	423	2,093
2028	60	134	426	2,088
2029	61	136	428	2,083
2030	62	137	430	2,077
2031	63	139	433	2,072
2032	64	141	435	2,067
2033	65	142	437	2,061
2034	66	144	440	2,056
2035	67	146	442	2,050
2036	69	147	444	2,045
2037	70	149	446	2,040
2038	71	151	449	2,035
2039	72	152	451	2,030
2040	73	154	453	2,024
2041	74	156	456	2,020
2042	75	158	459	2,015
2043	77	160	461	2,011
2044	78	162	464	2,006
2045	79	164	467	2,002
2046	80	166	469	1,995
2047	81	167	471	1,989
2048	82	169	472	1,983
2049	84	170	474	1,976
2050	85	172	476	1,970

See DEC (2020) "Establishing a Value of Carbon"

III. ZEC Model Applied to Sustainable, Utility-Scale Bioenergy Generation

The Commission should implement an incentive for sustainable, utility-scale bioenergy generation modeled on the ZEC program and using the default two percent central discount rate, as recommended by DEC. To the extent this results in a greater incentive than is needed to keep the bioenergy facility online, the Commission may also consider adjusting the incentive to protect ratepayers. At a minimum, the Black River Facility would need compensation in line with what has been historically provided under the Renewable Portfolio Standard program and its current NYSERDA REC contract to maintain operations at Fort Drum.

A. Facility-specific Eligibility Based on Public Necessity

The ZEC program provides a ZEC payment “where there exists a public necessity to preserve the zero-emissions environmental attributes of a nuclear generating facility.”¹⁴ The Commission, in its discretion, determined such public necessity on a facility-specific basis in consideration of the following criteria:

¹⁴ CES Order at 124.

“(a) the verifiable historic contribution the facility has made to the clean energy resource mix consumed by retail consumers in New York State regardless of the location of the facility;

(b) the degree to which energy, capacity and ancillary services revenues projected to be received by the facility are at a level that is insufficient to provide adequate compensation to preserve the zero-emission environmental values or attributes historically provided by the facility;

(c) the costs and benefits of such a payment for zero-emissions attributes for the facility in relation to other clean energy alternatives for the benefit of the electric system, its customers and the environment;

(d) the impacts of such costs on ratepayers; and

(e) the public interest.”¹⁵

The Commission could use substantially similar public necessity criteria to determine eligibility for BEC payments. The Black River Facility, for example, has made verifiable contributions to New York’s clean energy resource mix for decades. The Commission deemed biomass generation an eligible Tier 1 and Tier 2 renewable energy resource in the CES Order.¹⁶ It is also in dire need of state support; whereas several of the nuclear facilities at issue had announced their closure prior to the CES Order,¹⁷ our Petition similarly states that absent additional state support, ReEnergy will be compelled to cease operations at the Black River Facility on or before the May 2023 expiration of the facility’s current NYSERDA REC contract.¹⁸

Furthermore, there are insufficient zero-emission alternatives to replace existing sustainable biomass facilities “any time soon” and preserving existing bioenergy generation similarly would “prevent backsliding from the State’s efforts to limit greenhouse gas emissions.”¹⁹ Absent intervention, the zero-carbon attributes of sustainable baseload bioenergy generation would likely be replaced with fossil-fueled resources such as natural gas. According to the NYISO’s most recent Power Trends Report, “Until there are enough clean energy resources on the grid to replace the reliability services provided by fossil fueled generation, natural gas must continue to play an important role in meeting energy needs in New York to

¹⁵ CES Order at 124.

¹⁶ CES Order at 105, 117.

¹⁷ CES Order at 119 (“Staff noted that plant owners had already announced the planned closure of the Ginna and FitzPatrick plants . . . and that the economic pressures facing Ginna and FitzPatrick also apply to the Nine Mile Point 1 and 2 plants.”).

¹⁸ Petition at 7.

¹⁹ CES Order at 119.

maintain system reliability[.]”²⁰ Electricity prices remain closely tied to the price of natural gas, “the primary fuel currently used for power generation in New York state[.]”²¹ Ratepayer impact for the 60-MW facility would be modest and far outweighed by the near-term benefits. In authorizing the ZEC program, the Commission observed that retention of upstate nuclear facilities would “help maintain fuel diversity and fuel security,” and that the “facilities in question represent significant investment in infrastructure, are operational, and have excellent safety records.”²² The same holds true for the Black River Facility.

Such public interest criteria also could allow the Commission to require that biomass used for feedstock be harvested in a sustainable manner, and is certified to the Sustainable Forestry Initiative® standard. The Commission should also consider additional sustainability criteria to the extent it is deemed necessary. For example, New Jersey’s renewable portfolio standard allows Class 1 RECs for electricity generated from the combustion of certain types of biomass, including “wood produced at a biomass energy plantation,” and provides a standard and process for New Jersey’s Department of Environmental Protection to determine the sustainability of biomass sources not specifically listed in the regulation.²³ The Commission could adopt similar sustainability criteria to determine BEC eligibility.

B. Commission-Determined, Social Cost of Carbon-Based Incentive That Protects Ratepayers

Applying the ZEC model – an administratively set incentive based on the social cost of carbon that varies in relation to wholesale market prices – would make sense in the context of existing sustainable bioenergy generation. As with nuclear facilities, there is not a competitive environment for existing sustainable bioenergy generation facility in New York State that would qualify for the incentive, and thus a Tier 1-like auction is not feasible. A Commission-determined incentive here would better ensure accurate compensation of bioenergy’s environmental attributes.

Additionally, having an incentive that adjusts for wholesale market revenues beyond a certain \$/MWh threshold ensures that bioenergy facilities do not receive a windfall in the event wholesale capacity or energy prices rise. If BEC payments in the initial amount are not needed to keep the facility online, then the incentive can be formulaically reduced to account for greater-than-expected revenues. Such adjustment should take into account how much exposure the facility has to wholesale markets; in the case of the Black River Facility, its electric supply

²⁰ NYISO, *Power Trends 2022: The Path to a Reliable, Greener Grid for New York*, at 27.

²¹ *Id.*

²² CES Order at 128-129.

²³ See N.J.A.C. 14:8-2.5. Under such process, New Jersey’s Department of Environmental Conservation must determine, *inter alia*, that “[a]ll plant matter used directly as biomass fuel was cultivated and harvested in a sustainable manner, in accordance with a management plan approved by the State environmental agency or agricultural agency in the state in which the plant was grown. If the plant matter is not used directly as biomass fuel, but is subject to alteration after its harvest and before its use as biomass fuel, this determination is not required.” N.J.A.C. 14:8-2.5(f)(iii).

agreement with Fort Drum accounts for approximately 50 percent of the facility's output and is at a fixed price that does not vary with wholesale market price fluctuations. Thus, if wholesale market prices rise, the facility will not receive increased revenues for that portion of its generation output.

C. Supporting Legal Precedent

Following the ZEC model has the additional advantage of avoiding legal risk of preemption under the Federal Power Act ("FPA") as interpreted by the U.S. Supreme Court in its decision in *Hughes v. Talen* and by the lower courts that have applied the *Hughes* precedent.²⁴ The U.S. Court of Appeals for the Second Circuit upheld the ZEC program, concluding that the program did not unlawfully intrude on FERC's jurisdiction under the FPA,²⁵ and that plaintiffs lacked standing to challenge the program on Dormant Commerce Clause grounds.²⁶

A BEC program as proposed herein would follow a structure similar to the ZEC model in all material respects, and thus be insulated from legal challenge. Regulating environmental matters is clearly within the Commission's jurisdiction and "FERC itself has sanctioned state programs that increase capacity or affect wholesale market prices, so long as the states regulate matters within their jurisdiction."²⁷

To this end, the BEC program should not require a facility to bid into the federally regulated wholesale markets as a condition of receiving payments. The U.S. Supreme Court in *Hughes* determined that a similar provision of state law was a "fatal defect" as the incentive payment was "[t]ethered to a generator's wholesale market participation."²⁸ ZEC programs that do not contain such a tether have been upheld in the face of federal preemption claims.²⁹

D. Twelve-year Term

A twelve-year term provides sufficient longevity to ensure that bioenergy generation's ongoing operations are financeable and in the case of the Black River Facility, that it can perform under the remainder of its electric supply agreement with Fort Drum. As with ZECs, the BEC program would similarly "lock[] in 12 years of significant carbon emission reductions at a

²⁴ See *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288 (2016).

²⁵ See *Coalition for Competitive Elec. v. Zibelman*, 906 F.3d 41, 53 (2d Cir. 2018).

²⁶ The Second Circuit held that plaintiffs lacked standing to challenge the ZEC program as they did not own any nuclear facilities, in or out of state, and their asserted injuries were not "traceable to the alleged discrimination against out-of-state entities, but (rather) ar[ose] from their production of energy using fuels that New York disfavors[.]" *Id.* at 58. See also *Elec. Power Supply Ass'n v. Star*, 904 F.3d 518, 524 (7th Cir. 2018) (upholding Illinois' similarly structured ZEC program and dismissing plaintiff's FPA preemption and dormant Commerce Clause claims on the merits).

²⁷ *Coalition for Competitive Elec. v. Zibelman*, 906 F.3d 41, 52 (2d Cir. 2018).

²⁸ See *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288 (2016).

²⁹ *Coalition for Competitive Elec. v. Zibelman*, 906 F.3d 41 (2d Cir. 2018); *Elec. Power Supply Ass'n v. Star*, 904 F.3d 518, 524 (7th Cir. 2018).

fraction of the benefit to be achieved, [and] New York customers will continue to benefit for years to come.”³⁰

In determining to what extent the BEC price should adjust for RGGI, it is important to note that some but not all of the minimal greenhouse gas emissions from biomass facilities may be offset by in-state sustainable forestry practices and their resulting carbon benefits.³¹ As such, the Commission may consider whether the RGGI-based reduction in the BEC formula should be smaller to the extent the Black River Facility is not receiving the same RGGI premium as nuclear facilities through the wholesale markets.

E. LSE Compliance

Other compliance features of the ZEC program could be replicated in the BEC program. Every load serving entity (“LSE”) in New York State would purchase through contract with NYSERDA, at a price and by the terms set by the Commission, an amount of BECs representing that LSE’s proportional share of BECs purchased annually by NYSERDA. The LSE’s proportional share would be determined based on the proportion of electric energy load served by the LSE in relation to the total electric energy load served by all LSEs in the New York Control Area. The LSE/NYSERDA contractual relationship would require LSEs to periodically purchase BECs during a program year based on initial forecasts of load and a balancing reconciliation at the end of each program year.

IV. Adjustment for Future Policy Support

Finally, we suggest that the Commission make clear in any order regarding a BEC program that, to the extent a market mechanism such as a carbon adjuster in the federally regulated wholesale markets compensates bioenergy facilities for the value of the attributes otherwise paid for through the proposed BEC requirement, or other federal policy support is provided, the BEC value may be adjusted by DPS staff if necessary to reduce the payment to par under the terms of its Order. Such a provision would ensure the state retains the value of the bioenergy generation but also would ensure that New York State ratepayers benefit to the maximum extent from future federal policy developments.

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Respectfully submitted,



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³⁰ CES Order at 126.

³¹ See DAR-12 / “Sustainably Harvested” Determination for Purposes of “Eligible Biomass,” Part 242.