BEFORE THE NEW YORK STATE 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 OF EARTHJUSTICE ON THE DRAFT CLEAN ENERGY STANDARD BIENNIAL REVIEW

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I. Introduction

Earthjustice respectfully submits these comments to the Public Service Commission ("the Commission" or "PSC") on the July 1, 2024, Draft Clean Energy Standard Biennial Review ("Draft Review"). Earthjustice welcomes the opportunity to comment on the Climate Leadership and Community Protection Act ("CLCPA") mandate to achieve a 70% renewable energy grid by 2030, a critical component of the State's efforts to equitably reduce greenhouse gas emissions over the coming decades and transition to a clean-energy economy. These comments provide Earthjustice's response to the conclusions and proposals set forth in the Draft Review and explain the statutory and environmental imperative to meet the 2030 deadline.

However, in order to provide more detailed feedback on the Draft Review and technical recommendations to the PSC, Earthjustice and other stakeholders require more time to retain experts, undertake a more thorough analysis, and conduct forecast modeling where needed. Earthjustice respectfully asks PSC to provide stakeholders the opportunity to submit additional comments on a longer timeline.

Additionally, Earthjustice urges that the Final Review omit any conclusion that the PSC is likely to miss the 2030 deadline. As detailed below, the PSC is unable to reach that conclusion without additional analysis, and need not do so at this early stage. Signaling that the PSC expects to miss the deadline will only create uncertainty for renewable energy developers that the State must attract in order to meet our 2030, 2040, and 2050 mandates. Taking urgent steps to meet the target, by contrast, will accelerate renewable energy development, build momentum to attract further investment and innovation, mitigate costs on ratepayers, and make clear to developers that New York is open for business.

As detailed below, Earthjustice urges the PSC to:

- Increase renewable energy procurement targets;
- Reform the procurement process to minimize project cancelations;
- Identify and address grid congestion and interconnection challenges;
- Work with the New York Independent System Operator ("NYISO") to engage in holistic transmission planning;
- Increase downstate access to renewable energy and storage;
- Establish renewable energy zones;
- Accurately model demand growth;
- Mitigate demand growth by advancing energy efficiency and demand response measures;
- Place controls on large energy consumers such as cryptocurrency miners;
- Leverage federal funding for renewable energy; and
- Take steps to ensure that the renewable energy transition does not disproportionately burden disadvantaged communities, such as innovative rate design and bill assistance programs.

II. The 2030 Deadline is Essential for Driving Renewable Energy Capacity and Ensuring that New York Meets Our Other Climate Targets

The CLCPA mandates transformative change in the electric sector in furtherance of the CLCPA's broader climate mandates. Across all sectors of the economy, the CLCPA requires that by 2030 greenhouse gas emissions be reduced 40% from 1990 levels and that by 2050 emissions be reduced 85% from 1990 levels.[1] Meeting the 2030 and 2050 emissions reduction requirements depends on achievement of a 70% renewable grid by 2030. In 2020 the Legislature reaffirmed New York's commitment to the 70% by 2030 mandate by enacting the Accelerated Renewable Energy Growth and Community Benefits Act, which streamlined the renewable energy generation siting process specifically "for the purpose of enabling the state to meet CLCPA targets."[2]

[1] N.Y. ECL §§ 75-0107(1)(a)–(b), 75-0109(4)(a)–(b), (f).
[2] N.Y. Pub. Auth. Law § 1900(1).

Earthjustice is very concerned about the Draft Review's conclusion that the PSC is likely to miss the 2030 mandate, which is unsupported, counterproductive, and harmful to all of New York's climate efforts. Prematurely and unnecessarily casting doubt on the State's ability to fulfill this mandate does not just mean a three-year delay in meeting one specific requirement—doing so puts all of our climate targets at risk. The Climate Action Council Scoping Plan's three scenarios for meeting the 2030 and 2050 greenhouse gas targets contemplate different policy pathways, but all three rely on New York meeting the 70% by 2030 mandate.[3] Undermining the 2030 mandate would hamstring the State's ability to meet the CLCPA economy-wide greenhouse gas reduction requirements in the coming decades.

Failing to meet the 2030 deadline would also imperil the State's ability to meet the 2040 deadline for ensuring that New York's electricity is zero-emission, which is critical to reducing emissions by 85% and achieving net zero emissions by 2050—especially as the transportation and buildings sectors electrify. As Department of Public Service and New York State Energy Research and Development Authority ("NYSERDA") Staff explained in 2020, "[a]chieving the 70 by 30 Target is a necessary and foundational precondition for achieving the 2040 Zero Emission Target."[4] New York needs a large amount of new renewable energy in order to meet our CLCPA targets, and "[t]he investment and procurement commitments for 70 by 30 are needed now in order to drive the availability of the quality and quantity of renewable resources required."[5] Casting doubt on the 2030 deadline at this early date risks creating uncertainty for the renewable energy developers that the State must attract. New York has already seen developer

[3] Climate Action Council, *Scoping Plan* 16 (Dec. 2022), https://climate.ny.gov/resources/scoping-plan/.
[4] White Paper on Clean Energy Standard Procurements to Implement New York's Climate Leadership and Community Protection Act at 3, PSC Case No. 15-E-0302 (June 18, 2020).
[5] *Id*.

bids drop off in 2024 following contract cancellations in 2023 due to inflationary pressure.[6] If New York signals to developers that we are not serious about meeting our 2030 deadline, renewable energy companies might decide not to assume the risk of developing projects here. By contrast, maintaining the deadline will make New York a more attractive place for developers to invest and create momentum to continue building out renewable energy capacity.

Missing the 2030 deadline would also betray the CLCPA's equity guarantees, including the requirement that State agencies prioritize reductions of greenhouse gases and local pollution in disadvantaged communities ("DACs") and the goal of decreasing the use of fossil fuel peaker plants located in or near DACs.[7] As the Department of Public Service has acknowledged, failing to meet the 2030 deadline "means some fossil energy resources may operate longer than they would if all goals were met on time."[8] Those fossil fuel-powered facilities disproportionately harm DACs, low-income communities, and communities of color, and keeping them online prolongs the environmental injustices that the Legislature intended to remedy and reverse in enacting the CLCPA.[9] A 2019 study found that New Yorkers who are Asian, Black, Latino, Native American, or mixed race were more likely to die as a result of particulate matter

[6] NYSERDA received bids for just 38 large-scale renewable projects in response to the latest solicitation, down from 68 last year. *See* NYSERDA, *Solicitations for Large-Scale Renewables: 2024 RES Solicitations for Tier 1 RECs*, https://www.nyserda.ny.gov/All-Programs/Large-Scale-Renewables/RES-Tier-One-Eligibility/Solicitations-for-Long-term-Contracts (last visited Sept. 16, 2024); NYSERDA, *Solicitations for Large-Scale Renewables: 2023 RES Solicitations for Tier 1 RECs* https://web.archive.org/web/20240114194826/https://www.nyserda.ny.gov/All-Programs/Large-Scale-Renewables/RES-Tier-One-Eligibility/Solicitations-for-Long-term-Contracts.

[7] CLCPA § 7(3), 2019 N.Y. Sess. Laws Ch. 106 (S. 6599); N.Y. Pub. Serv. Law § 66-p(7) (2022) [hereinafter PSL].

[8] Office of the New York State Comptroller, *Public Service Commission & New York State Energy Research and Development Authority: Climate Act Goals – Planning, Procurements, and Progress Tracking* 40 (July 2024), https://www.osc.ny.gov/files/state-agencies/audits/pdf/sga-2024-22s4.pdf [hereinafter *Climate Act Goals – Planning, Procurements, and Progress Tracking*].

[9] *See, e.g.*, CLCPA § 1(7), 2019 N.Y. Sess. Laws Ch. 106 (S. 6599) ("Climate change especially heightens the vulnerability of disadvantaged communities, which bear environmental and socioeconomic burdens as well as legacies of racial and ethnic discrimination. Actions undertaken by New York state to mitigate greenhouse gas emissions should prioritize the safety and health of disadvantaged communities . . . ").

associated with power generation than white non-Latino New Yorkers,[10] and in New York City, 78% of residents who live within one mile of a peaker plant are either low-income people or people of color.[11] Additionally, as the New York State Comptroller found in an audit of the State's progress on our climate goals, continued reliance on fossil fuels requires ratepayers to maintain the infrastructure for transporting fossil fuels,[12] a financial burden that falls disproportionately on low-income energy customers.[13]

A conclusion that the PSC will miss the 2030 deadline is premature and will do damage to New York's climate goals for decades to come. While the Final Review can and should raise the concern that the State is currently behind schedule and set forth a plan to get back on track, it should reject any conclusion that we will miss the 2030 deadline and focus instead on steps the State can take to continue to work towards that target.

III. The Public Service Commission and NYSERDA Can and Must Do More to Expand Renewable Energy Capacity Going Forward

New York has a number of tools at its disposal for increasing renewable energy capacity, including raising procurement targets, incorporating flexibility into contracts, and creative siting solutions. The State should prioritize downstate access to renewable energy by identifying and addressing downstate storage opportunities and grid congestion areas, coordinating with NYISO on transmission and storage planning, addressing the bottleneck that prevents upstate renewable resources from reaching downstate, expanding offshore wind procurement, and addressing

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[10] Maninder P.S. Thind et al., *Fine Particulate Air Pollution from Electricity Generation in the U.S.: Health Impacts by Race, Income, and Geography*, 53 Env't Sci. Tech. 14,010 (Nov. 20, 2019), https://doi.org/10.1021/acs.est.9b02527.

[11] *See* Erin Childs et al., PEAK Coalition, *The Fossil Fuel End Game: A Frontline Vision to Retire New York City's Peaker Plants by 2030*, at 13 (Mar. 2021), https://www.peakcoalition.org/_files/ugd/f10969_e27774865535495598a21be0242560a8.pdf.

[12] *Climate Act Goals – Planning, Procurements, and Progress Tracking*, *supra* note 8, at 11.

[13] *See* Michael J. Walsh & Michael E. Bloomberg, Building Decarbonization Coal., *The Future of Gas in New York State* 44–45 (Mar. 2023), https://buildingdecarb.org/wp-content/uploads/BDC-The-Future-of-Gas-in-NYS.pdf.

interconnection queue challenges. New York should also establish renewable energy zones in order to take advantage of resource-rich areas.

A. The State should take urgent steps to increase renewable energy capacity

The Draft Review recognizes that the State has access to multiple tools that can expand and speed up renewable energy deployment. Earthjustice welcomes the PSC's proposed reforms to increase procurement targets, provide more flexible contracts when developers show a real need, and think creatively about renewable energy siting.

Earthjustice agrees that the Tier 1 procurement targets should be increased and encourages the PSC to aim higher. The Draft Review determines that NYSERDA would need to procure approximately 14,048 GWh per solicitation in the next three years in order to meet the 2030 deadline and concludes that remaining renewable resource potential far exceeds the State's needs.[14] Nonetheless, the Draft Review recommends increasing the annual Tier 1 procurement target to only 5,600 gigawatt hours ("GWh") per year.[15] The Draft Review provides no basis for setting the target so low, or any analysis or modeling to explore the upper bounds of a feasible target. The PSC and NYSERDA should undertake a meaningful investigation to determine whether NYSERDA could procure 14,048 GWh in the next three solicitations, and if not, whether existing barriers can be addressed and how close NYSERDA could get to that figure.

The PSC should also be more ambitious with respect to distributed generation. New York is already on track to exceed its mandate of developing 6 gigawatts ("GW") of distributed solar energy by 2050, in part because distributed resources can be deployed more quickly and easily

[14] Draft Biennial Review at 56, Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard, NY PSC Case N. 15-E-0302 (July 1, 2024) [hereinafter *Biennial Review*].
[15] *Id*. at 60.

than large-scale generation assets.[16] Earthjustice welcomes the Draft Review's recommendation to increase the distributed generation goal beyond 10 GW by 2030.[17] The Final Review should provide a specific target based on the PSC's analysis of the feasible and optimal amount of distributed generation that the State can achieve between now and 2030, and how strategic and expanded use of distribute generation can contribute to meeting the 2030 target.

Earthjustice agrees that the procurement process should be reformed. Critically, more flexible contracts will help New York avoid project cancellations that stymie progress towards our targets. Between 2005 and April 2023, 12% of contracted large-scale renewable projects were canceled, and last year developers canceled 88 projects after the PSC denied their petition for inflation adjustments.[18] Building in contract flexibility measures where a developer demonstrates a real need will serve ratepayers and the grid in the long run by avoiding the inefficiencies of awarding contracts that are later canceled. Similarly, Earthjustice agrees that New Yorkers will be better served if NYSERDA amends the project scoring criteria to reduce the 70% bid price scoring component and more heavily weight other factors that are indicative of a project's success and ability to get off the ground, as discussed in comments submitted by ACE NY.

As detailed in the Draft Review, New York must think critically about renewable energy siting given recent reforms protecting wetlands, forests, and farmland.[19] Earthjustice applauds the PSC and NYSERDA for developing plans and tools to promote smart siting and agrivoltaics. The State should also explore opportunities for solar farms to promote and conserve biodiversity.

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[16] Samantha Maldonado, *New York on Track to Exceed Its Solar Targets as Other Climate Goals Slip*, The City (Aug. 7, 2024), https://www.thecity.nyc/2024/08/07/solar-power-clean-energy-goal-on-track/.
[17] *Biennial Review*, *supra* note 14, at 61.
[18] *Climate Act Goals – Planning, Procurements, and Progress Tracking*, *supra* note 8, at 1.
[19] *Biennial Review*, *supra* note 14, at 33–39.

Solar farms are increasingly showing promise as potential hosts for pollinator habitat,[20] and a recent study found that planting grasses along photovoltaic solar rays promoted bee species and improved habitat and biodiversity across all metrics.[21] The State should also exploit every opportunity to build solar on brownfields, parking lots, and large roofs such as at manufacturing sites and warehouses.

Additionally, the numerous proceedings at the Commission have made it extremely difficult for all but the most resourced entities from to engage in every docket and stakeholder process, and can divert energy away from meeting this essential statutory requirement. The Commission should streamline the opportunities to support the State's efforts to ramp up renewable energy so that New Yorkers can actively participate.

B. The PSC must expand downstate access to renewable energy and storage

In order to meet the 2030 deadline, the PSC must increase downstate access to renewable energy and storage. Simply put, in light of transmission congestion between upstate and downstate, limited options for downstate renewable siting, and systemic market barriers, the PSC must focus on replacing existing downstate fossil fuel resources with the combination of renewable resources, storage, and transmission projects necessary to meet statewide CLCPA targets.

As detailed below, the PSC should prioritize new transmission and storage to bridge the gap between upstate and downstate, increase targeted support for the mix of specific resources necessary to replace peaker plants with renewable resources and storage, and coordinate with

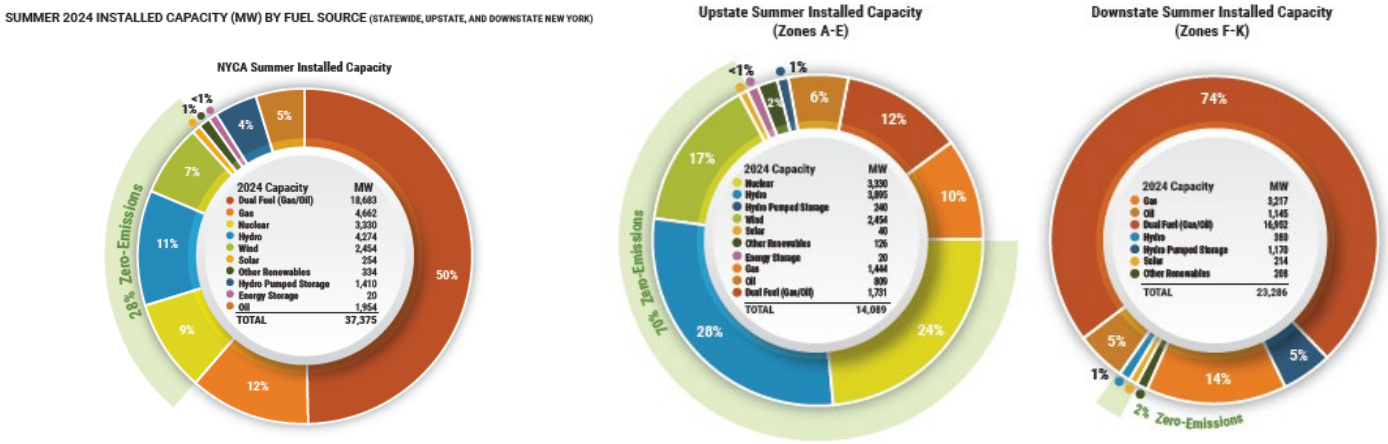
[20] Catrin Einhorn, *Solar Farms Have a Superpower Beyond Clean Energy*, NYT (Sep. 5, 2024), https://www.nytimes.com/2024/09/05/climate/solar-power-pollinators-wildlife.html.
[21] Leroy J. Walston, et al., *If You Build It, Will They Come? Insect Community Responses to Habitat Establishment at Solar Energy Facilities in Minnesota, USA*, 19 Env't Rsch. Letters (Dec. 18, 2023), https://doi.org/10.1088/1748-9326/ad0f72.

NYISO where needed to address barriers to expanding downstate New York's access to new renewable energy resources.

1. Without downstate access to renewable energy and storage, New York cannot meet the CLCPA targets

While New York has made progress in developing renewable energy, downstate areas including the Hudson Valley, New York City and Long Island have not benefited from the transition nearly as much as Upstate New York has. In a dynamic often referred to as the Tale of Two Grids, New York has a "clean Upstate (Zones A-E) electric system (powered largely by nuclear and hydro)"[22] where 70% of generating resources and 91% of energy produced are zero-emission.[23] The inverse is true downstate (Zones F-K), however, which has "a near-complete fossil powered" electric system.[24] Because the downstate region represents over 75% of New York's population and two-thirds of the State's energy demand,[25] the downstate region's continued reliance on fossil fuel energy generation is the only reason that New York is not already exceeding the Clean Energy Standard targets, as shown below:[26]

[22] Isuru Seneviratne, *Electric Evolution: New York's Electricity System, Prices, and Climate Plans*, Harvard Univ. Planning & Design (Nov. 19, 2022), https://storymaps.arcgis.com/stories/75ae570ed31844629721ef87d37a9b02 [hereinafter *Electric Evolution*].
[23] NYISO, *2024 Power Trends: The New York ISO Annual Grid and Markets Report* 48–49 (2024),https://www.nyiso.com/documents/20142/2223020/2024-Power-Trends.pdf/31ec9a11-21f2-0b47-677d-f4a498a32978?t=1717677687961 [hereinafter *2024 Power Trends*].
[24] *Electric Evolution*, *supra* note 22; *2024 Power Trends*, *supra* note 23, at 48.
[25] *See, e.g.*, *id.* NYISO, 2024 Load & Capacity Data: A Report by the New York Independent System Operator, Inc. Gold Book 131 (Apr. 2024), https://www.nyiso.com/documents/20142/2226333/2024-Gold-Book-Public.pdf [hereinafter *Gold Book*].
[26] *2024 Power Trends*, *supra* note 23, at 48.



This dichotomy is first and foremost a result of transmission constraints between the upstate and downstate regions, which limit the amount of expanding renewable energy resources located upstate that can be delivered downstate to meet demand.[27] This transmission bottleneck underlies and is compounded by NYISO requirements that the transmission-constrained downstate zones produce approximately 80-105% of their own generating capacity locally.[28] These two restrictions have resulted in a downward spiral of harms for downstate residents that have fallen most severely on frontline communities surrounding the aging and highly polluting fossil fuel plants that power the downstate region.

2. NYISO capacity zone requirements present significant barriers to a downstate energy transition

While the PSC can and must take urgent steps to address barriers to transmission development, two structural barriers stemming from NYISO are holding downstate back from CLCPA compliance: 1) high in-zone generation requirements for downstate zones, which

[27] NYISO, *New Transmission Investments Add a New Chapter to the "Tale of Two Grids"* (July 19, 2022), https://www.nyiso.com/-/new-transmission-investments-add-a-new-chapter-to-the-tale-of-two-grids-.
[28] NYISO, *Market Administration and Control Area Services Tariff*, 320, 323–324 (Aug. 1, 2024), https://nyisoviewer.etariff.biz/ViewerDocLibrary/MasterTariffs/9FullTariffNYISOMST.pdf; NYISO, *Locational Minimum Installed Capacity Requirements Study: For the 2024–2025 Capability Year* 2 (Apr. 2024), https://www.nyiso.com/documents/20142/42519933/2024-2025-LCR-Report.pdf.

strongly favor existing generation; and 2) current capacity market structures that favor fossil fuel generation over storage and transmission resources. In 2013, in response to transmission constraints affecting downstate areas, NYISO proposed new special capacity zones G-K that stretched from the Hudson Valley to Long Island. Because transmission was limited and a number of generating resources within those zones had retired, NYISO proposed requiring these newly designated zones to procure a minimum percentage of generation capacity from within the zonal footprint.[29] The PSC protested the establishment of these new zones for a number of reasons that proved to be prescient. It pointed out that new transmission technology and infrastructure being developed could more affordably alleviate the need for the proposed capacity zones and that the estimated additional $150 million per year cost to ratepayers would not incent new resources to develop in those areas but would instead serve as a windfall to existing generators.[30]

These concerns reflect today's reality that downstate in-zone capacity generation requirements present significant barriers to compliance with CLCPA requirements. Downstate New York, especially New York City, is densely populated and highly developed, which significantly increases the cost and difficulty of developing *any* new large generating resources in Zones G-K. Given restrictions on onshore renewable energy siting, the primary renewable generating options for those zones are: offshore wind rooftop solar, brownfield solar, agrivoltaics, short- and long-term battery storage, and demand-side resources. In light of these limitations, improving transmission to bring lower cost resources downstate would alleviate economic burdens on ratepayers.

[29] *New York Independent System Operator Inc.*, 144 FERC ¶ 61,126 (2013) at 2.
[30] Notice of Intervention and Protest of the New York State Public Svc. Comm. at 4–6, *New York Ind. Sys. Oper, Inc.*, FERC Docket No. ER13-1380-000 (May 21, 2013).

The harms of the "Tale of Two Grids" are further aggravated by NYISO capacity market rules that are structurally biased toward continued operation of incumbent fossil fuel resources that cost New York ratepayers billions of dollars for excess capacity that is unnecessary to maintain grid reliability and that thwart the transition to competitive, clean energy resources.[31] Capacity markets are entirely an administrative construct whose demand, price, and terms of sale are all determined by NYISO in ways that tilt in favor of fossil fuel generators. In particular, the market requires the purchase of the cheapest unit of generic energy, and is currently unable to take account of the need for different energy attributes, such as carbon intensity or specific resource type.

The extremely high in-zone generation requirements that NYISO imposes on downstate New York and the impossibility of retiring resources without a replacement have led to reliance on existing fossil fuel power plants. In Zones G-K, this has meant keeping heavily-polluting fossil fuel peaking plants open, even though they are so expensive to run that they are rarely used,[32] a problem that has become even more pronounced since the retirement of Indian Point in 2021.[33] Between 2010 and 2019 alone, New York City peaker plant owners were paid $4.5 billion—money that New Yorkers paid mostly to out-of-state companies[34]—to keep plants online that were not intended to serve as primary energy resources and that run only for a few

[31] *See* Todd Aagaard & Andrew N. Kleit, *Too Much is Never Enough: Constructing Electricity Capacity Market Demand*, 43 Energy L. J. 79 (May 1, 2022), https://www.eba-net.org/wp-content/uploads/2023/02/5-Aagard-Kleit-79-124.pdf; PEAK Coalition, *Dirty Energy, Big Money* 5–8, 13–15 (May 2020), https://www.cleanegroup.org/wp-content/uploads/Dirty-Energy-Big-Money.pdf; Rob Gramlich & Michael Goggin, *Too Much of the Wrong Thing The Need for Capacity Market Replacement or Reform,* 1–3, 10 (Nov. 2019), https://gridstrategiesllc.com/wp-content/uploads/2024/05/too-much-of-the-wrong-thing-the-need-for-capacity-market-replacement-or-reform.pdf.
[32] *Dirty Energy, Big Money*, *supra* note 31, at 7.
[33] Grant Dever, *Autopsy of a Perfect Policy Failure: The Closure of Indian Point*, FREOPP (May 1, 2024), https://freopp.org/whitepapers/autopsy-of-a-perfect-policy-failure-the-closure-of-indian-point/.
[34] *Dirty Energy, Big Money*, *supra* note 31.

hundred hours per year.[35] Batteries could serve and supplant these gas-peaking resources, in whole or in part, depending on the location.[36] These peaker plants cause significant economic and human health harm to the surrounding communities, disproportionately affecting low-income New Yorkers and communities of color,[37] whose exposure to air pollution from these peaker plants has been associated with disproportionate COVID-19 related deaths.[38]

Because the current structure of NYISO capacity markets prioritizes fossil fuel resources, securing the renewables needed to achieve our 2030 deadline will be impossible through capacity market procurement alone. NYISO capacity market prices are insufficient to develop the resources that NYSERDA is depending on for the clean energy transition, such as offshore wind and both short-term and long-term storage. Additionally, recent market changes shifting to marginal capacity accreditation further favor fossil resources and hinder the rapid transition to critical resources like storage.[39] In addition, the development of demand response and other special case resources, which could contribute significantly to reliability during peak hours and unexpected events with the right Commission support, is hampered by burdensome terms and conditions, which must be reduced as soon as possible.[40]

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[35] *Dirty Energy, Big Money*, *supra* note 31, at 14–15.
[36] *See, e.g.*, 39 Organizations, *Comments and Request for Public Hearing under 6 NYCRR Part 621.8 Draft Title V Air Permit Renewal for the Harlem River Yards Plant at 688 East 132nd St., Bronx, NY 10454 DEC ID: 2600700726, Application ID: 2-6007-00726/00003* at §§(5(b)(ii), 5(c)(iv)(b) (Mar. 29, 2023), https://bceq.org/wp-content/uploads/2023/06/Harlem-River-Yards-Plant-Comments-March-2023.pdf.
[37] *Id.* at 9–11; *Autopsy of a Perfect Policy Failure*, *supra* note 33.
[38] Lisa Friedman, *New Research Links Air Pollution to Higher Coronavirus Death Rates*, NYT (Apr. 17, 2020), https://www.nytimes.com/2020/04/07/climate/air-pollution-coronavirus-covid.html.
[39] *See, e.g.*, Joseph Cavicchi and Charles Wu, *FERC's Acceptance of 2 Capacity Accreditation Methods Will Complicate Renewables Development* (June 6, 2022), https://www.utilitydive.com/news/ferc-capacity-accreditation-renewable-storage-pjm-nyiso/624750/.
[40] *See, e.g.,* Vincent Gabrielle, *Large Consumers Miffed at NYISO Proposal to Shorten SCR Notice Period*, RTO Insider (Sept. 2, 2024), https://www.rtoinsider.com/86468-updates-special-case-resources-program-debated-nyiso/.

Nor does the capacity market compensate transmission projects that unlock access to generation capacity, which are often the most economically efficient solution, especially in the case of intermittent generation resources that are more plentiful and less expensive to develop upstate. [41] Because there has been no capacity market compensation for transmission, it is no surprise that more transmission technology and infrastructure have not been built.[42]

Capacity market reforms could speed the renewable energy transition. Some reforms, like expanding the participation of special case resources, could help grow a nascent industry. NYISO is also currently in the process of changing the unit it uses as a benchmark for capacity procurement from a combined-cycle gas plant to a 2-hour battery.[43] This reform is especially important to speed up the influx of short-term storage that will be an important piece of resource adequacy going forward and incentivize battery technology improvements. With such a limited reform, however, the NYISO capacity market will not be able to procure the specific mix of resources needed downstate in the time periods required to achieve compliance with the CLCPA. Consequently, the Commission must also direct targeted procurement of regional transmission and distribution technologies and infrastructure, as well as specific resources such as aggregated demand response and longer-term storage that are designed to replace dirty peaker plant capacity. The Commission must do everything within its authority to support these revisions, as quickly as possible.

[41] David B. Patton et al., Potomac Economics, *2023 State of the Market Report for the New York ISO Markets* 94 (May 2024), https://www.potomaceconomics.com/wp-content/uploads/2024/05/NYISO-2023-SOM-Full-Report__5-13-2024-Final.pdf.
[42] *Id.*
[43] Vincent Gabrielle, *Stakeholders Battle over Battery as Proxy in NYISO Demand Curve Reset*, RTO Insider (July 7, 2024), https://www.rtoinsider.com/82662-stakeholders-battle-battery-nyiso-demand-curve-reset/.

Specifically, we recommend that the PSC:

- *Increase offshore wind procurement targets to 13GW*. Experts have estimated for several years that Zones J and K would need to develop considerably more than the current 9 GW offshore wind target to meet anticipated future load needs.[44] Recent estimates presented by NYISO as part of the Coordinated Grid Planning Process assumed 13 GW of offshore wind.[45] However, current plans for onshore transmission points of interconnection would accommodate only 9 GW of offshore wind. This restricted transmission capacity will limit the amount of offshore wind generation that can be built. Because offshore wind interconnection is expensive and limited, transmission planning is paramount. Planning should be done as soon as possible since offshore wind facilities are in the procurement stage.
- *Increase downstate storage procurement targets and other resources that would be necessary to allow downstate peaker plants to retire.* While we applaud recent changes targeting funding for storage in the downstate region, these funding levels need to be increased.[46] The Commission must plan specific resource development and transmission to ensure compliance

[44] *See, e.g.,* Johannes Pfeifenberger, The Brattle Group, *New York State and Regional Transmission Planning for Offshore Wind Generation* 10 (Mar. 30, 2022), https://www.brattle.com/wp-content/uploads/2022/04/New-York-State-and-Regional-Transmission-Planning-for-Offshore-Wind-Generation.pdf.
[45] Keith Burrell, NYISO, *Coordinated Grid Planning Process (CGPP): Summary of Stage 1 Capacity Expansion Analysis Results* 25 (Sept. 3, 2024), https://www.nyiso.com/documents/20142/46717653/04_CGPP_ESPWG_20240903_vFinal.pdf/542cbf36-59b8-dc58-f2f3-dabee66b557a.
[46] *Order Establishing Updated Energy Storage Goal and Deployment Policy* at 20-21, PSC Case No. 18-E-0130 (June 20, 2024).

with the 2019 Peaker Rule. As the Commission has found, prioritizing downstate storage is essential as the State moves towards closing peaker plants.[47] The Commission should consider using batteries to phase down peaker hourly operations, look to Renewable Ravenswood as an example of replacing peaking units with renewable resources, and engage impacted communities on other creative ways to replace all of the peaker plants in Zones J and K.[48]

3. Holistic transmission planning is critical to achieving CLCPA requirements

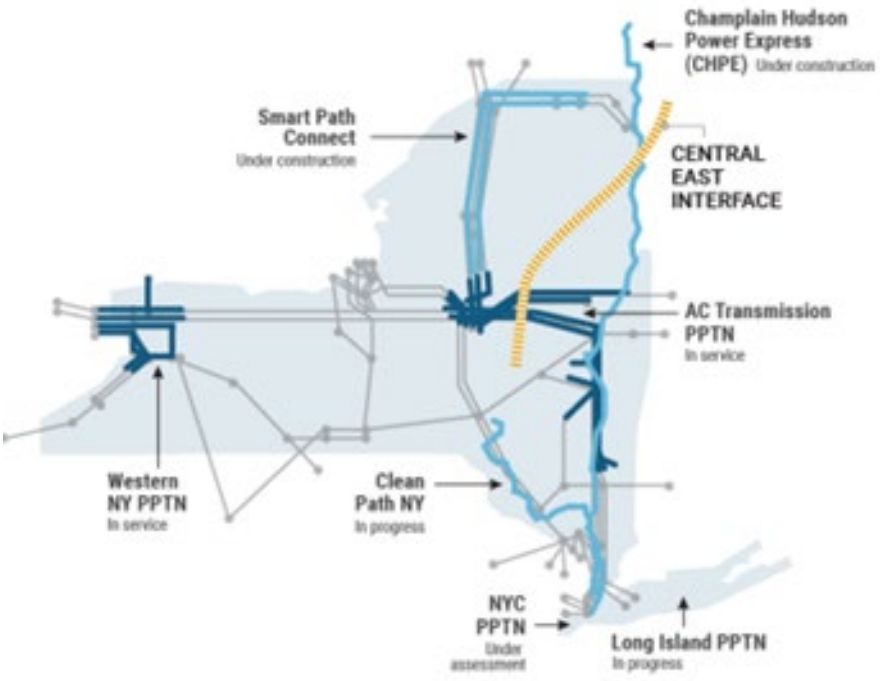
As detailed above, compliance with CLCPA cannot rely on existing structures designed around the fossil fuel energy system. A coordinated effort to build transmission where renewable resources are likely to be built, that takes into account when they need to be online, is essential to supporting the transition to clean energy. The Federal Energy Regulatory Commission's ("FERC") recently issued Order 1920 provides a critical opportunity for the PSC to provide input on NYISO's planning process and to coordinate with NYISO to meet New York's transmission needs. The PSC must seize this opportunity. Additionally, the PSC should fulfill its own statutory mandate to study and address grid congestion issues that act as barriers to renewable energy penetration.

Historically, NYISO has failed to engage in holistic planning that accounts for all the varying needs for transmission, including reliability, economic efficiency, and public policy needs. Instead, these processes were siloed into different planning efforts and potential transmission solutions for one need were not often evaluated for all the various benefits such

[47] *Id.*
[48] *See, e.g.*, 39 Organizations, *supra* note 36, at 5(b)(ii), 5(c)(iv)(b).

projects would provide. Consequently, New Yorkers have missed out on the potential economies of scale provided by one large regional project that could replace multiple local projects. Nor do incumbent transmission owners have incentives to build large regional projects. These actors have the right of first refusal to build local "reliability" projects and receive little to no oversight of them, and are loath to give up that right to become a large regional transmission owner that must compete with other merchant transmission companies.

Fortunately, the Clean Path NY and the Champlain Hudson Power Express a are helping to relieve the upstate/downstate bottleneck, as shown below.[49]



[49] NYISO, *20-Year Outlook Report Identifies Resources & Transmission Needed to Meet Policy Objectives* 2 (2024), https://www.nyiso.com/documents/20142/23494579/2023-2042-Outlook-Datasheet.pdf/af9d80ff-7a08-f637-6905-3b0946d29572?t=1721919848145.

However, more coordination on transmission planning is needed between the PSC and NYISO. Failure to plan for the transmission required to support the future energy supply mix and demand means that existing fossil fuel assets cannot retire, regardless of any legal requirement.

Environmental justice communities in New York City know this all too well. Under the 2019 Peaker Plant Rule, two heavily polluting peaker plants, Gowanus and Narrows, were required to shut down by May 2025.[50] However, on August 4, 2023, NYISO claimed that revisions to its energy forecast showing increased demand and reduced capacity associated with peaker plant retirements made it aware for the first time that there would be a capacity shortfall that would threaten grid reliability, and NYISO directed both facilities to remain open past the deadline.[51] Keeping these facilities online perpetuates continued health effects plaguing communities who have been exposed to harmful air emissions from these facilities for decades, and who had successfully organized for a mandate to shut them down.[52]

Despite the critical importance of shutting down these highly polluting units in compliance with the law, and despite knowing of the impending retirements since 2019, NYISO did not seek solutions to address this legally required capacity retirement until four years later. Nor did NYISO do so as part of its long-term Reliability Planning Process that involves a 4-to-10-year outlook period. Instead, NYISO solicited short-term reliability need solutions, giving parties only two months in which to propose a solution that would need to be online in under two

[50] NYISO, *NYISO Identifies Solution to Solve New York City Reliability Need* (Nov. 20, 2023), https://www.nyiso.com/-/press-release-%7C-nyiso-identifies-solution-to-solve-new-york-city-reliability-need#:~:text=Those%20generators%20will%20remain%20available,the%20reliability%20need%20is%20expected.
[51] NYISO, *Short-Term Reliability Process Report: 2025 Near-Term Reliability Need* 5 (Nov. 20, 2023), https://www.nyiso.com/documents/20142/39103148/2023-Q2-Short-Term-Reliability-Process-Report.pdf/.
[52] Robert Walton, *NYISO to Keep 4 NYC Peakers Running Past Planned 2025 Retirement to Maintain Reliability*, Utility Dive (Nov. 21, 2023), https://www.utilitydive.com/news/nyc-peakers-planned-2025-retirement-remain-online-reliability-must-run-nyiso/700417/.

years.[53] NYISO rejected a number of parties' proposals, including a transmission solution that would not be complete until after 2026 and a proposed a battery solution that was insufficient to cover the deficiency; NYISO noted that if other battery solutions had been proposed as well, it "could have considered selecting multiple solutions that, collectively, meet the Need."[54] But NYISO did not explain how much additional battery capacity would have been necessary or why NYISO did not actively reach out to storage representatives to make sure they were aware of the solicitation and the ability to aggregate proposals.

This example—in which polluting peaker plants have been left online despite a legal mandate to close, and despite impacted communities organizing for years to protect themselves—highlights the need for coordination between the PSC and NYISO not just on transmission, but on planning for specific asset retirement and replacement generation. The two bodies must work together on transmission and resource adequacy to achieve timely compliance with CLCPA targets.

FERC's Order 1920 provides an opportunity to improve coordination between the PSC and NYISO. Order 1920 requires all transmission providers to conduct long-term, scenario-based regional transmission planning. The Order requires an analysis of 20-year forward assessment of expected energy supply and demand based on a minimum set of criteria, including legal requirements and goals, corporate energy targets, relevant cost trends, foreseeable retirements, and other trends to identify and evaluate future transmission needs.[55] Order 1920 also requires an evaluation of proposed transmission solutions that provide multiple benefits; sets requirements

[53] *Id.*
[54] *Id*. at 7.
[55] *Building for the Future Through Electric Regional Transmission Planning and Cost Allocation*, 187 FERC ¶ 61,068 (May 13, 2024).

around project selection and default cost allocation methodologies; and requires greater transparency regarding local transmission planning, including creating a right of first refusal for right-sized transmission projects.[56] Finally, Order 1920 requires transmission providers to revise interregional transmission procedures to enable greater coordination on and selection of interregional transmission projects.[57]

Because Order 1920 is a floor and not a ceiling both on how open and comprehensive the transmission planning process can be, the compliance filing process provides an opportunity for the PSC to synchronize CLCPA planning with NYISO. NYISO has started stakeholder engagement on compliance with Order 1920, a process that will extend through August 12, 2025, and will require coordination with the PSC.[58] In light of the PSC's Coordinated Grid Planning Process,[59] which overlaps considerably with Order 1920, the PSC and NYISO should work together to align the two processes bridge the upstate/downstate divide, and make sure that State procurement targets align with expected load demands. Additionally, the Accelerated Renewable Energy Growth and Community Benefits Act directed the PSC to issue regular reviews of grid congestion and achievement of the CLCPA targets, and to initiate new proceedings to address any deficiencies that those reviews identify.[60] The first review was due on January 1, 2023,[61] and the PSC has yet to issue it. The PSC should prioritize issuing this review, both to identify and

[56] *Id.*
[57] *Id.*
[58] Yachi Lin, NYISO, *Order No, 1920: Long-Term Regional Transmission Planning* (Aug. 6, 2024), https://www.nyiso.com/documents/20142/46217988/13_Order%20No%201920%20ESPWG%20Summary_20240806_final.pdf/46bd915b-ebe5-e054-0833-862dff574e60; Vincent Gabrielle*, NYISO Previews Work on Compliance with FERC Order 1920,* RTO Insider (Aug. 12, 2024), https://www.rtoinsider.com/84896-nyiso-previews-work-on-compliance-with-ferc-order-1920/.
[59] *Order Approving a Coordinated Grid Planning Process*, NY PSC Case No. 20-E-0197 (Aug. 17, 2023).
[60] Accelerated Renewable Energy Growth and Community Benefit Act pt. JJJ, § 7(7), 2020 N.Y. Sess. Laws Ch. 58 (S. 7508).
[61] *Id*.

begin to address grid congestion issues and to gather more information to facilitate coordination with NYISO going forward.

A second critical lesson of New York's failure to retire downstate peaker plants as scheduled and legally required is that the PSC and NYISO need to broaden stakeholder participation to ensure frontline community input and comply with the CLCPA's mandate that DACs receive at least 35% of the benefits of clean energy spending.[62] Stakeholder participation cannot be an afterthought tacked on at the end after decisions have already been made. Rather, affected community members must sit at the table at the outset of planning for the grid of the future and throughout each element of the energy system planning process. As noted above, barriers remain to participation by impacted communities in the many stakeholder processes and Commission proceedings. We regularly hear from clients and partners that there is no effective or efficient way to participate in the multiple places where grid planning is occurring before the state and NYISO. Issues being shuttled from one proceeding to the next will also not quicken any of the timelines discussed herein. More unified resource planning must be seriously considered.

The Commission's establishment of the Energy Policy Planning Advisory Council ("EPPAC") is one step towards ensuring community representatives have a seat at the table. Additionally, an example of a more community-centered approach to energy planning is Renewable Ravenswood, a plan to transform the 27-acre Ravenswood Generating station into a clean energy hub that works to preserve unionized jobs while bringing in offshore wind, upstate wind and solar energy, and large-scale energy storage in Zone J.

[62] CLCPA § 2; N.Y. ECL § 75-0117.

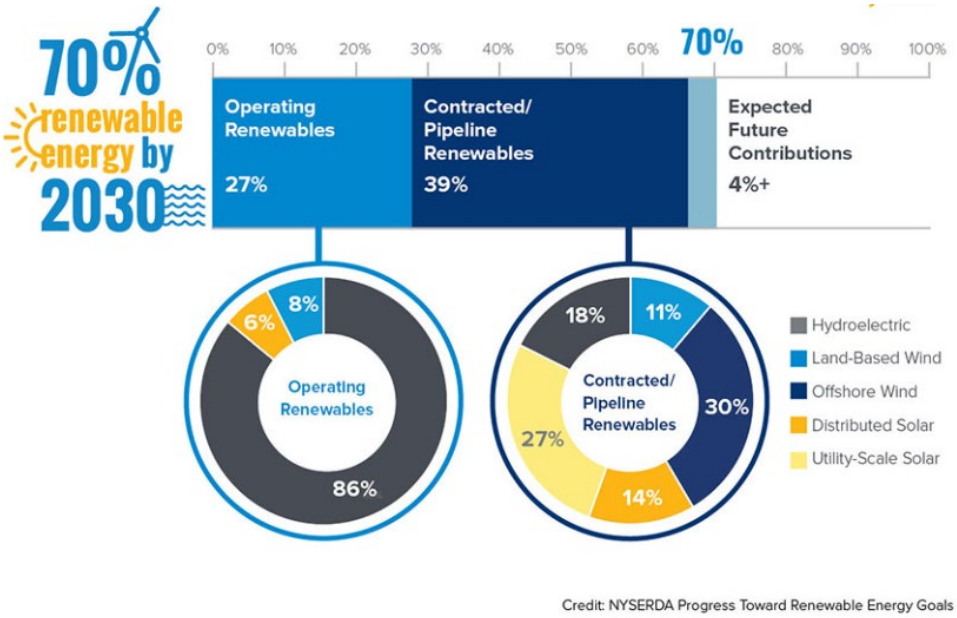
The Commission should also take advantage of grid enhancing transmission technologies that exist and can be installed quickly on existing transmission and distribution lines. These non-capital-intensive and existing right-of-way options must be properly incentive by the Commission.

Finally, it is also essential that New York do more to coordinate with other states and ISOs on interregional transmission planning. This coordination is especially important in the offshore wind context, where *without* coordination between neighboring states and ISOs, the costs of building can become unsustainable. After the U.S. Department of Energy issued the Atlantic Offshore Wind Transmission Study,[63] which included participation by NYISO and other grid operators, neither NYISO nor other ISOs have taken further action on the Study nor called for interregional bodies to do so. The PSC should push NYISO to do more. The PSC should also do all it can to support the NY-Mid-Atlantic and the NY-New England Proposed Corridors as National Interest Electric Transmission Corridors, as that designation will substantially alleviate congestion downstate and at the Massachusetts border.[64]

4. The PSC and NYISO must address interconnection queue problems

The slow pace of the interconnection queue is another major contributor to the State's current challenges in meeting the 70% by 2030 target. As shown below, NYSERDA procurement efforts are advancing:

[63] *See* Gregory Brinkman, et al., NREL, *Atlantic Offshore Wind Transmission Study* (Mar. 2024), *https://www.nrel.gov/wind/atlantic-offshore-wind-transmission-study.html*.
[64] U.S. Department of Energy Grid Deployment Office, Initiation of Phase 2 of National Interest Electric Transmission Corridor (NIETC) Designation Process: Preliminary List of Potential NIETCs Issued Pursuant to Section 216(a) of the Federal Power Act at app. A, B (May 8, 2024), https://www.energy.gov/sites/default/files/2024-05/PreliminaryListPotentialNIETCsPublicRelease.pdf.



Credit: NYSERDA Progress Toward Renewable Energy Goals

While these numbers look promising, projects must wait too long to move from the "Contracted" to "Operating" column. As of November 2022, NYISO had nearly 107 GW of resources in the queue seeking grid interconnection—which is three times the amount of energy on the system during peak load.[65] The vast majority of resources in the queue are renewable.[66] As evidenced by this backlog, renewable resources are not getting built due to regulatory structures designed to process a handful of large fossil fuel generators rather than numerous smaller renewable energy generators. Additionally, the costs of interconnection have doubled since 2017 both at the point of interconnection and for broader network upgrades.[67] Developers often do not know these interconnection costs upfront, and they can be prohibitively expensive.

[65] *See*, Julie Mulvaney Kemp et al., Berkeley Lab, *Interconnection Cost Analysis in the NYISO Territory* 2 (Mar. 2023), https://eta-publications.lbl.gov/sites/default/files/nyiso_interconnection_costs_vfinal.pdf.
[66] *Id.* at 2.
[67] *Id.* at 5.

FERC has addressed interconnection queue reform as part of Order 2023, which NYISO is in the process of implementing.[68] The Commission must do more, quickly. While Order 2023 will go a long way to improve these problems, the PSC should be cognizant that holding a place in the queue is critical. This challenge underscores the need for flexibility in contracting terms, which allows resources to resolve potential disputes without losing a place in the queue.

C. The State should establish renewable energy zones

Earthjustice supports the Draft Review's proposal to consider establishing renewable energy zones—as other states including Texas and Illinois have done[69]—to speed up the energy transition while also reducing costs. NYSERDA and the PSC know where conditions are optimal for building out renewable energy generation.[70] The Renewable Action Through Project Interconnection and Deployment Act ("RAPID Act") creates an opportunity to better coordinate transmission planning and renewable energy development. Given the historical challenges identified in the Draft Review and in U.S. Department of Energy studies about costs and permitting requirements,[71] the Commission should work with stakeholders to determine promising locations for solar and wind development and create renewable energy zones. Once new transmission is built, New York can shift to a "connect and manage" model that prioritizes and rewards projects that are likely to be successful. As discussed in Section V, federal funding is available to support transmission infrastructure. The PSC should prioritize building

[68] Thinh Nguyen, NYISO, *Order No. 2023/2023-A Compliance Update* (Apr. 1, 2024), https://www.nyiso.com/documents/20142/43847922/06_Order%20No.%202023_2023-A%20Compliance%20Update_TPAS_20240401_final.pdf/bec463ce-42a9-b67e-8338-b7f9fe3d2075.
[69] State of Illinois, *ICC Adopts Illinois' First Renewable Energy Access Plan* (June 4, 2024), https://www.illinois.gov/news/press-release.30099.html.
[70] *Biennial Review, supra* note 14, at 92.
[71] *See* New York Protected Areas Database, NYPAD Interactive Map, https://www.nypad.org/InteractiveMap (last visited Sept. 19, 2024).

transmission to potential renewable energy zones now, leveraging federal funding to the fullest extent possible.

IV. The Commission Must Accurately Model Forecasted Load Growth and Make Efforts to Mitigate that Load Growth to Ensure CLCPA Compliance and Affordability

The Commission cannot engage in resource planning without a complete picture of future load growth. The Commission should work with NYISO to accurately forecast load growth, accounting for large loads such as cryptocurrency mining operations. The Commission and NYSERDA should also prioritize addressing load growth through efficiency and demand response measures, avoiding investments in false solutions that consume significant energy such as hydrogen, and considering steps to address large consumers' impacts on the grid to protect New Yorkers' health and pocketbooks.

A. The Commission must accurately model forecasted load growth

The Commission should prioritize, in consultation with NYISO, accurately forecasting load in order to more precisely assess whether and how the State can achieve the 2030 mandate. As the Draft Review itself notes, "[t]he scale and timing of additional large industrial loads is uncertain."[72] The Commission should not make any decisions in 2024 based on uncertain load projections.

Much of the forecasted load growth in Draft Review is driven by datacenters and cryptocurrency mining. Datacenter growth forecasts for 2030 vary widely, and some analysts

[72] *Biennial Review*, *supra* note 14, at 54.

believe that those forecasts overestimate future growth by double- or triple-counting facilities.[73] On top of that, proof-of-work cryptocurrency mining is responsible for between 0.6% and 2.3% of national electrical consumption.[74] In New York State the percentage is likely higher because the state hosts more cryptocurrency mining than any other state besides Texas and Georgia.[75]

In response to concerns about cryptocurrency mining's impacts on climate, air quality, and human health, in 2021 the Governor signed into law a bill directing the Department of Environmental Conservation ("DEC"), in consultation with the Commission, to develop a Generic Environmental Impact Statement ("GEIS") on cryptocurrency mining by November 2023.[76] The timeline for the GEIS should get back on track, and once final, the GEIS will provide more specific information regarding the amount of energy consumed and the carbon footprint of cryptocurrency mining in New York State. The U.S. Energy Information Agency is also collecting information on the electric load associated with cryptocurrency mining, which

[73] Maeve Allsup, *'Bad Data Means Bad Predictions': Experts Advise Congress on AI Load Growth*, Latitude Media (June 5, 2024), https://www.latitudemedia.com/news/bad-data-means-bad-predictions-experts-advise-congress-on-ai-load-growth ("If we don't get the right load information, then we're going to be wrong . . . Bad data means bad predictions. We need to be working to find out what's the real load . . . and what efficiencies can we count on from the data centers and other large users."); *See also id.* ("Getting transparent and accurate demand projections for data center load is a 'top, critical issue' that everyone from utilities to tech companies should be working to address."); *See also, e.g.*, John Engel, *Utility Consumer Advocates Slam PJM's 'Inconsistent' Data Center Load Forecasts: Maryland, Delaware, Illinois, Ohio, and North Carolina Said PJM's Load Forecasts are Based on Speculation and Could Lead to Poor Investment Decisions*, Power Grid International (July 19, 2024) https://www.power-grid.com/td/transmission/utility-consumer-advocates-slam-pjms-inconsistent-data-center-load-forecasts/#gref; Isabelle Riu et al., E3, *Load Growth Is Here to Stay, but Are Data Centers? Strategically Managing the Challenges and Opportunities of Load Growth* (July 2024), https://www.ethree.com/wp-content/uploads/2024/07/E3-White-Paper-2024-Load-Growth-Is-Here-to-Stay-but-Are-Data-Centers.pdf; Sierra Club, *Demanding Better: How Growing Demand For Electricity Can Drive A Cleaner Grid* (Sept. 2024), at 7, https://www.sierraclub.org/sites/default/files/2024-09/demandingbetterreportfinal_sept2024.pdf.

[74] U.S. Energy Info. Admin., *Tracking Electricity Consumption from U.S. Cryptocurrency Mining Operations* (Feb. 1, 2024), https://www.eia.gov/todayinenergy/detail.php?id=61364.

[75] NYISO's large load interconnection queue appears to undercount load driven by cryptocurrency mining, based on our internal analysis. *See* Gold Book, *supra* note 25, at 131.

[76] 2021 N.Y. Sess. Laws Ch. 628 (A. 7389-C) § 3.

will soon be available.[77] Better information on the amount of New York State-specific load driven by cryptocurrency mining is imperative for resource planning. Without accurate information, New York risks over-building generation to meet speculative load.[78] More importantly, a lack of information about future cryptocurrency mining or datacenter energy consumption should not be used to justify postponing fossil retirements and delaying the clean energy transition.

The Commission should work with DEC to ensure that the GEIS is issued as soon as possible and incorporate new information GEIS and from the Energy Information Agency when it becomes available. The Commission should also work with NYISO to ensure that new digital load is accurately captured in NYISO forecasts. More accurate and transparent information about load growth will allow the Commission to plan accordingly and provide an accurate evidentiary basis for a conclusion about how much renewable energy capacity will be needed to meet the 2030 mandate.

B. The Commission, in collaboration with other agencies and with NYISO, must make efforts to mitigate load growth to protect New Yorkers, the grid, and the climate

The unexpected growth in electricity load is a major driver of the shortfall that the Draft Review projects for 2030, and the State must work creatively to address the underlying factors leading to load growth: electrification, hydrogen production, and large consumers such as data centers.

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[77] Robert Walton, *EIA Prepares for Second Attempt to Survey Bitcoin Miners About Electricity Consumption,* Utility Dive (July 11, 2024), https://www.utilitydive.com/news/federal-government-prepares-second-attempt-to-survey-bitcoin-miners-energy-se/721063/; Earthjustice, *U.S. Energy Information Administration to Advance New Survey Requiring Cryptomining Companies to Report Energy Use* (July 11, 2024), https://earthjustice.org/press/2024/u-s-energy-information-administration-to-advance-new-survey-requiring-crypto-mining-companies-to-report-energy-use.

[78] *See, e.g.*, Allison Good, *Credit Risks Loom for Utilities that Overestimate Datacenter Demand*, S&P Global (July 26, 2024), https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/credit-risks-loom-for-utilities-that-overestimate-datacenter-demand-82567534.

First, transportation and building electrification is driving load growth, but this is *not* unexpected. Electrification has long been a climate goal and the State has known for over a decade that it would increase load.[79] To address load growth driven by electrification, the Commission should do everything within its authority to quickly implement the Climate Action Council's recommendations on energy efficiency and demand response as described further below.

Second, hydrogen production is a potential driver of load growth, but unlike transportation and building electrification it has no social, economic, or environmental value. As described below, the Commission should avoid directing energy resources to the false solution of hydrogen, which instead of advancing climate goals could stymie our ability to meet CLCPA mandates.

Third, existing and potential cryptocurrency mining facilities and artificial intelligence ("AI") datacenters are driving new load growth, primarily in NYISO Zones C-E, for which the State has not adequately planned.[80] The state must ensure that load growth from AI data centers and cryptocurrency mining facilities, which are run by affluent (often out-of-state) companies

[79] For example, New York signed the light-duty zero-emission vehicle Memorandum of Understanding in 2013. *Scoping Plan*, *supra* note 3, at 150.

[80] Unplanned in that (a) cryptocurrency mining unexpectedly exploded in the U.S. after China banned it in 2021, and nearly 38% of that mining migrated to the U.S. (*see, e.g.*, Sierra Club & Earthjustice, *The Energy Bomb: How Proof-of-Work Cryptocurrency Mining Worsens the Climate Crisis and Harms Communities Now* 4 (Sept. 2022), https://earthjustice.org/wp-content/uploads/energy_bomb_bitcoin_white_paper_101322.pdf [hereinafter "Energy Bomb"]) and (b) the amount of energy consumed by AI model training and usage, had not been forecasted, nor planned for by most states, utilities or RTOs/ISOs (*see, e.g.*, Lois Parshley, The *Unknown Toll of the AI Takeover*, The American Prospect (July 1, 2024), https://prospect.org/environment/2024-07-01-unknown-toll-of-ai-takeover/).

and offer few good jobs,[81] do not delay the clean energy transition. As discussed further below, there are many options available to the Commission and other State agencies to prevent and mitigate the climate and other impacts from digital load growth and to ensure that these energy-intensive operations are not subsidized by ordinary New Yorkers through our electricity rates or our health.

1. All efforts must be made to urgently deploy energy efficiency and demand response programs to mitigate load growth

The Commission should act quickly to advance energy efficiency and demand management strategies in order to mitigate residential and commercial load where possible. The Commission must do more to integrate these strategies into planning for building and vehicle electrification to mitigate load growth and support grid reliability, as well as to enhance affordability for New Yorkers. Energy efficiency and demand response measures can be implemented quickly and are a win-win for reducing energy burdens and meeting the 2030 deadline.

[81] *See, e.g.*, Jacob Whiton, *New Data on Data Center Subsidies, Same Old Problems*, Good Jobs First (July 25, 2023), https://goodjobsfirst.org/new-data-on-data-center-subsidies-same-old-problems/; Earthjustice, *Impacts of Cryptomining: Cryptocurrency Mining in Kentucky* (Sept. 12, 2023), https://earthjustice.org/feature/cryptocurrency-mining-kentucky#harm ("The Kentucky Center for Economic Policy argues that incentivizing the industry so heavily is a poor use of government funds because, among other reasons, it is an industry that creates little local work."); *see also id.* ("[S]ome see echoes of what they say were the worst elements of the now largely defunct coal industry: out-of-state money, absentee owners, and huge fortunes made with little wealth trickling down to local communities."); *Energy Bomb*, *supra* note 80, at 20 (reports of Cryptocurrency Mining Jobs Have Been Greatly Overstated).

Demand response is a critical tool because it reduces operation of fossil generation, allows increased integration of renewables, and lowers wholesale power prices. The Commission must ensure that demand response is valued properly and that residential rate payers can fully participate in demand response programs, especially downstate where much of the planned-for electrification load will occur, so that demand can be reduced at peak times. The Commission must give a full and appropriate value to compliance with the CLCPA in its valuation of demand response programs.

The Commission is lagging behind on implementing recommended strategies providing by the Climate Action Council's Scoping Plan for residential and commercial energy efficiency and demand response, which include:

- Adopt Advanced Codes for Highly Efficient, Zero-Emission, and Resilient New Construction
- Adopt Standards for Zero-Emission Equipment and the Energy Performance of Existing Buildings
- Require Energy Benchmarking and Disclosure
- Scale Up Public Financial Incentives
- Expand Access to Public and Private Low-Cost Financing
- Support Development of Thermal Energy Networks
- Align Energy Price Signals with Policy Goals
- Facilitate Distributed Generation Resources
- Promote Community Choice Aggregation
- Advance Demand Side Solutions[82]

Additionally, the Scoping Plan provides specific energy efficiency and ratemaking recommendations that the Commission and the Department of Public Service should implement, including:

- Require utilities to structure their rates to encourage off-peak charging
- Reopen the generic benefit-cost analysis proceeding to update costs and benefits to account for the value of energy efficiency and demand response

[82] *Scoping Plan*, *supra* note 3, at 183, 225.

- Adopt energy efficiency standards for large commercial and multifamily properties informed by New York City's Local Law 97[83]

The Commission is leaving a significant amount of energy savings on the table by falling behind on implementing the Scoping Plan's recommendations for advancing efficiency and demand response, and should use its rulemaking authority as well as rate cases to seize all opportunities to mitigate load growth through these measures. Additionally, a lack of transparency and accountability on the implementation and use of energy efficiency and demand response programs continue to pose challenges. Information on progress and full deployment of energy efficiency and demand response programs, or the lack of thereof, is buried both within and across many dockets—or not available to the public or the communities impacted by these programs. The Commission and regulated utilities should report frequently and clearly on their progress on the implementation of these strategies, as well as identify and address barriers. The Commission should use its ratemaking authority to require utilities to expand efficiency measures, report more regularly on progress and effectiveness, take all possible steps to implement demand response programs, and take advantage of incentives.

Especially as electric vehicle charging—including for medium- and heavy-duty vehicles ("MHDV")—ramps up in the coming years, managed charging programs and vehicle-to-grid integration will be key tools to support grid reliability. The PSC should prioritize utility implementation of managed charging programs in the MHDV Make-Ready proceeding and should ensure that the new Proactive Grid Planning proceeding incorporates planning for vehicle to grid integration, particularly for vehicle fleets.

[83] *Scoping Plan*, *supra* note 3, at 157, 189, 251, 417.

Finally, the Commission should work with other State agencies to implement the State Comptroller's recommendations to improve energy efficiency in State buildings, and ensure that our agencies are leaders and not laggards in this regard, as recent reporting indicates.[84]

2. All efforts must be made to mitigate load growth from wasteful hydrogen production, which is not a viable decarbonization strategy

Hydrogen production is an enormous drain on the grid and only serves a climate dead end. A recent report forecasted that hydrogen production in New York could use as much as 48 terawatt hours of electricity and that "replacing New York state's natural gas supplies with carbon-free hydrogen would require four times more renewable energy than the state currently aims to build to achieve full decarbonization by 2050."[85] Using renewable energy to produce hydrogen is inefficient and wasteful and will make it harder to meet our 2030 mandate, while also increasing costs.[86]

Relatedly, hydrogen blending in the gas distribution system is also not a viable building or electricity decarbonization strategy.[87] Recent analysis indicates that it would be technically

[84] Marie J. French, *Prison Closures Boost New York's Progress on Energy Efficiency Mandate*, Politico Pro (Sept. 6, 2024), https://subscriber.politicopro.com/article/eenews/2024/09/06/prison-closures-boost-new-yorks-progress-on-energy-efficiency-mandate-ee-00177335; N.Y. Office State Comptroller, *Selected Management and Operations Practices – BuildSmart NY/Executive Order 88* (Sept. 28, 2023) https://www.osc.ny.gov/state-agencies/audits/2023/09/28/selected-management-and-operations-practices-buildsmart-nyexecutive-order-88.

[85] Emma Penrod, *Blending Hydrogen in New York Gas Systems Could Require 48 TWh of Electricity: EDF*, Utility Dive (Sept. 13, 2024), https://www.utilitydive.com/news/blending-green-hydrogen-new-york-gas-heat-pumps-edf-report/726886/; *See also* Max Shron, et al., Switchbox, *Blending Hydrogen & Natural Gas: A Road to Nowhere for New Yorkers* (Sept 12, 2024), https://library.edf.org/AssetLink/s8f1821gt5082xc120811663012uib7c.pdf.

[86] See International Energy Agency, *How Much Will Renewable Hydrogen Production Drive Demand for New Renewable Energy Capacity by 2027?* (Dec. 2022), https://www.iea.org/reports/how-much-will-renewable-hydrogen-production-drive-demand-for-new-renewable-energy-capacity-by-2027.

[87] *See, e.g.*, Sasan Saadat & Sara Gersen, Earthjustice, *Reclaiming Hydrogen for a Renewable Future: Distinguishing Oil & Gas Industry Spin from Zero-Emission Solutions* (Aug. 2021), https://earthjustice.org/wp-content/uploads/hydrogen_earthjustice_2021.pdf; Lorne Stockman et al., Oil Change International, *Funding Failure: Carbon Capture and Fossil Hydrogen Subsidies Exposed* (Aug. 29, 2024), https://priceofoil.org/2024/08/27/funding-failure-carbon-capture-and-fossil-hydrogen-subsidies-exposed/; Dan Esposito, Energy Innovation, *Hydrogen Policy's Narrow Path: Delusions And Solutions* (Aug. 27, 2024), https://energyinnovation.org/publication/hydrogen-policys-narrow-path-delusions-and-solutions/.

challenging to blend hydrogen with methane gas at any meaningful percentage. In 2022, the California Public Utilities Commission ("CPUC") commissioned a hydrogen blending feasibility study that involved a literature review, modeling, and experimental work.[88] The study confirmed that hydrogen causes embrittlement and blistering of cathodically protected steel pipes,[89] and even synthetic pipes show deteriorating performance with increased hydrogen blending. The study found "limitations in material integrity for mixtures of 20% hydrogen" by energy.[90] Based on the analyses conducted, the CPUC concluded that a "systemwide blending injection scenario becomes concerning as hydrogen blending approaches 5% by volume,"[91] meaning that any greenhouse gas emissions savings are extremely limited. Additionally, a 2023 Argonne National Laboratory study found that higher blending amounts directly correlate to diminished greenhouse gas emission reductions, primarily due to hydrogen leakage resulting from the higher flow rates required to deliver the same amount of energy content to customers at higher hydrogen blending percentages.[92] Moreover, hydrogen is inherently less cost-effective than electricity for building heating and cooking needs since the hydrogen production process requires electricity as an input. Energy is lost in the chemical reaction that produces hydrogen. As demonstrated in the chart below, using electricity directly to power end use appliances is far more efficient than using electricity to create green hydrogen.[93]

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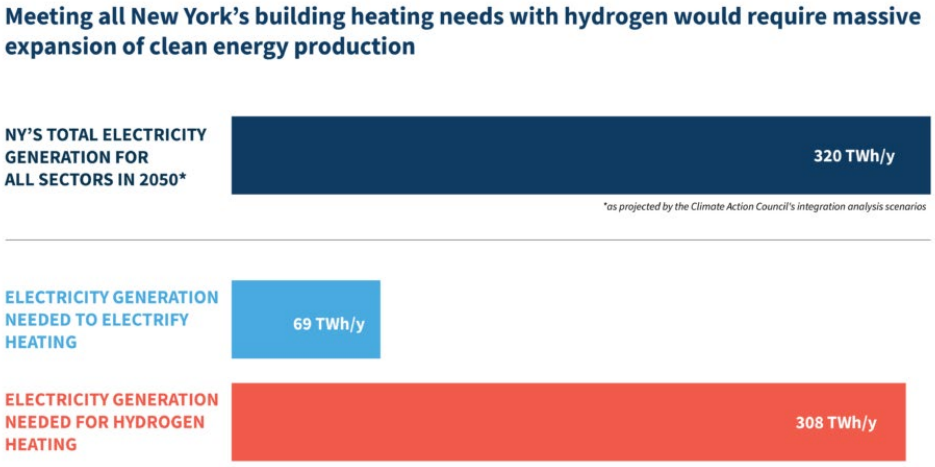
[88] Arun SK Raju et al., California Public Utilities Commission, *Hydrogen Blending Impacts Study: Final Report* 2 (July 18, 2022), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M493/K760/493760600.PDF.
[89] *Id.* at 16–17.
[90] *Id.* at 3.
[91] *Id.* at 4.
[92] Tom DiChristopher, *Hydrogen Blending in Gas Pipelines Faces Limits Due to Leakage: U.S. DOE Lab*, S&P Global (Oct. 27, 2023), https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/natural-gas/102723-hydrogen-blending-in-gas-pipelines-faces-limits-due-to-leakage-us-doe-lab.
[93] Olivia Prieto & Mike Henchen, Rocky Mountain Institute, *Low-Carbon Fuels Have a Limited Role to Play in New York's Buildings* (May 25, 2022), https://rmi.org/low-carbon-fuels-have-a-limited-role-to-play-in-new-yorks-buildings/.



The Commission should continue to disallow rate recovery for hydrogen blending pilot projects, as the Commission recently did in the Downstate National Grid rate case.[94] In addition, to meet the 2030 deadline, renewable resources cannot be diverted toward hybrid hydrogen-gas combustion to produce electricity, which is both inefficient and costly, and does not reduce emissions in any meaningful way. New York's own experience demonstrates this. For example, in 2022, the New York Power Authority ("NYPA") worked with industry groups to pilot green hydrogen blending and combustion at its Brentwood peaker plant on Long Island, and found that a 35% hydrogen blend with gas only resulted in a 14% reduction in greenhouse gas emissions.[95] Using renewable energy to create hydrogen to achieve such minimal greenhouse gas benefits is wasteful and inefficient. The State should instead prioritize the use of renewable energy to directly serve New Yorkers' electricity needs. Moreover, hydrogen combustion produces up to six times as much oxides of nitrogen as methane gas combustion, posing significant and harmful

[94] Order Approving Terms of Joint Proposal and Establishing Gas Rate Plans, With Minor Modification and Corrections at 117, NY PSC Case Nos. 23-G-0225, 23-G-0226, & 23-G-0200 (Aug. 15, 2024).
[95] Seth Mullendore et al., PEAK Coalition, *Accelerate Now! The Fossil Fuel End Game 2.0* at 29 (Jan. 2024), https://www.cleanegroup.org/wp-content/uploads/Accelerate-Now-Fossil-Fuel-End-Game.pdf.

local air pollution to nearby communities, in addition to prolonging the combustion and use of polluting and dangerous fossil fuels, a result that would, in Brentwood for example, likely implicate CLCPA Section 7(3).[96] The Commission should also refuse to include hydrogen in the definition of "zero-emission" for purposes of the 100% zero-emission by 2040 mandate, for these reasons and for others discussed further in comments filed in that proceeding.[97]

3. The PSC should ensure cryptocurrency mining operations and artificial intelligence datacenters pay their fair share for their enormous electricity use and take steps to mitigate their costs, climate impacts, and pollution

The massive amounts of energy use from cryptocurrency mining in New York, and the low rates cryptocurrency miners pay, pose a serious threat to our State's climate efforts. As detailed below, cryptocurrency mining companies use an enormous amount of electricity. The Commission should take steps to address cryptocurrency's impacts by halting any new or expanding operations and ensuring that existing cryptocurrency miners pay their fair share for electricity. Many of the same steps could be used to address the emerging issue of AI datacenters.

It has been estimated that New York accounts for approximately 20% of the country's cryptocurrency mining, which undermines our efforts to clean up our electric grid.[98] While the vast majority of New York's renewable energy generation takes place upstate, cryptocurrency mining in NYISO Zones C-E consumes an enormous amount of that energy. As discussed in Section III(B), New York's ability to transmit renewable energy from upstate to downstate will

[96] Mehmet Salih Cellek & Ali Pinarbaşi, Investigations on Performance and Emission Characteristics of an Industrial Low Swirl Burner While Burning Natural Gas, Methane, Hydrogen-Enriched Natural Gas and Hydrogen as Fuels, 43 Int'l J. Hydrogen Energy 1194, 1205 (Jan 11, 2017), https://doi.org/10.1016/j.ijhydene.2017.05.107.
[97] See, e.g., Sierra Club & Earthjustice, *Comments In Response To The Commission's Notice Seeking Further Comment On The Order Initiating Process Regarding Zero Emissions Target* (Aug. 16, 2023), Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard, NY PSC Case No. 15-E-0302.
[98] *Energy Bomb*, *supra* note 80 (this value is reflected from the most recent publicly available data).

determine whether we can meet the CLCPA requirements.[99] However, if upstate cryptocurrency mining load continues apace, it will divert ever more renewable energy away from everyday New Yorkers and frustrate the State's ability to meet the CLCPA mandates. This outcome is not inevitable, and the Commission can implement mitigation and planning measures that protect New Yorkers' grid, health, and pocketbooks.

Our research indicates that approximately 1200 MW of current and near term forecasted load in New York is due to cryptocurrency mining — enough to power approximately 971,060 homes each year, more than all other cities in New York besides New York City.[100] New York could be as much as 4% closer to meeting our 2030 targets without these cryptocurrency mining operations. Under just one NYPA contract, cryptocurrency mining current receives between 90 and 410 MW of electricity from NYPA, and our research shows that other cryptocurrency miners consume between 395 and 637 MW of electricity provided by the New York Municipal Power Agency ("NYMPA"). The true state-provided supply might be higher, since tracking the electricity use of cryptocurrency mining is difficult due to a lack of required reporting, permits, and approvals, as well as its relatively new arrival to the United States.[101]

Cryptocurrency miners pay extremely low rates for electricity, which are effectively subsidized by the people of New York via disproportionate residential electricity rates, as well as the health and environmental impacts from greenhouse emissions, water pollution, noise

[99] *See, e.g.,* New York ISO, *Short-Term Assessment of Reliability: 2023 Quarter 2* (July 14, 2023), https://www.nyiso.com/documents/20142/16004172/2023-Q2-STAR-Report-Final.pdf.
[100] Documents and calculations on file with authors.
[101] As a general matter, there is little transparency or regulation for cryptocurrency mining operations, in New York and across the U.S. *See, e.g.*, U.S. Energy Info. Admin., *Tracking Electricity Consumption from U.S. Cryptocurrency Mining Operations* (Feb. 1, 2024), https://www.eia.gov/todayinenergy/detail.php?id=61364.

pollution, electronic waste, and more.[102] Adding insult to injury, in addition to extremely low electricity rates, cryptocurrency miners often enjoy other subsidies in form of state and local tax breaks for which New Yorkers also foot the bill.[103]

Though there is little transparency and accountability from the cryptocurrency mining industry, our records show that many cryptocurrency mining companies pay as little as one tenth of the amount regular households pay for electricity. According to the U.S. Energy Information Administration, in 2022, the last year for which reporting exists:

- Residential ratepayers in New York State paid an average of 22.08 cents per kilowatt hour ("kWh") for their electricity;
- Commercial ratepayers in New York State paid an average of 18.19 cents per kWh; and
- Industrial ratepayers in New York State paid an average of 7.55 cents per kWh.[104]

In contrast, for example, Digihost International, a cryptocurrency mining company that the Commission recently allowed to purchase an entire gas plant just for the company's own operations,[105] pays the equivalent of 3 cents per kWh.[106] The company Terawulf in Somerset,

[102] Matteo Benetton et al., *When Cryptocurrency Comes to Town: High Electricity-Use Spillovers to the Local Economy*, SSRN 3 (Aug. 4, 2022), https://dx.doi.org/10.2139/ssrn.3779720 (finding that Plattsburgh residents and small businesses paid $189 million and $90 million, respectively, more in electricity bills due to cryptocurrency mining).
[103] See, e.g., Energy Bomb, supra note 80, at 20.
[104] U.S. Energy Info. Admin., *New York Electricity Profile 2022*, under "Full Data Tables 1–17" link. Tab 8. Sales, rows 25-31 (Nov. 2, 2023), https://www.eia.gov/electricity/state/newyork/.
[105] Earthjustice, Environmental Groups File Lawsuit Challenging New York Public Service Commission's Approval of Fracked Gas-Powered Crypto Mining Operations (Jan. 13, 2023), https://earthjustice.org/press/2023/environmental-groups-file-lawsuit-challenging-new-york-public-service-commissions-approval-of-fracked-gas-powered-crypto-mining-operations.
[106] Energy Central News, *Digihost Acquires 60 MW Power Plant Increasing Hashrate Capacity to 3 EH* 1 (Mar. 24, 2024), https://waterfrontonline.files.wordpress.com/2021/04/digihostbuys60mwpower.pdf (linking to Apr. 2021 press release). Note: Digihost generates their own power. Many crypto miners purchase discounted power from a utility or other electricity provider. There is no transparency into what Digihost was paying its utility National Grid before it switched to behind-the-meter mining.

New York appears to pay approximately the same, according to recent reporting.[107] Cryptocurrency miners in Plattsburgh paid approximately 2 cents per kWh before the town instituted a new electricity rate.[108]

Plattsburgh's measures to impose a new rate on High Density Load customers, which were supported by the Commission, can be a model for the rest of the State, to both protect ratepayers and the climate from the impacts of cryptocurrency mining. Plattsburgh Rider A, approved in 2022,[109] defines High Density Load customers as "generally involved in mining for cryptocurrencies, which requires significant amounts of electricity but generates few, if any, jobs, and can move to new location with little effort."[110] In approving Rider A, the Commission acknowledged the need to provide safeguards to municipal utility customers by requiring High Density Load customers to provide a deposit or letter of credit because such customers can relocate easily, and their energy bills can reflect a significant portion of the municipal utilities' total supply cost.[111]

At the same time, Plattsburgh also put into place other energy efficiency and protective measures on the local level. For example, the town set ambient indoor heat limits and noise

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[107] Jenny Ahn & Nick Gibbons, Hunterbrook, *Coal, Crypto, and False Branding: Inside TeraWulf's Greenwashing Machine* (Aug. 5, 2024), https://hntrbrk.com/terawulf/ ("At a full 500 MW capacity, as TeraWulf says it plans to scale to, the total cost [of purchasing REC] would be about $34.8 million a year. This would increase TeraWulf's annual cost of revenue by 60%. It would also bump up the company's cost of energy close to the industry average of five cents per kilowatt hour.").

[108] Aaron Wood, *U.S.: Plattsburgh NY Introduces Temporary Ban on New Crypto Mining Operations*, Coin Telegraph (Mar. 16, 2018), https://cointelegraph.com/news/us-plattsburgh-ny-introduces-temporary-ban-on-new-crypto-mining-operations; *Order Adopting Action and Tariff Amendments on a Permanent Basis*, NY PSC Case 18-E-0126 (issued June 15, 2018).

[109] Order Adopting Action and Tariff Amendments on a Permanent Basis, Tariff Filing by the New York Municipal Power Agency to Implement a New Rider A - Rates and Charges for High Density Load Service, NY PSC Case 18-E-0126 (June 15, 2018) [hereinafter NYMPA Rider A].

[110] *Id*. at 2–3.

[111] *Id*. (cryptocurrency mining loads "impose capital and commodity costs on NYMPA members because of their unusually high energy demands while not maintaining a long-term presence in the community, [and] increase[e] costs for all NYMPA members and their ratepayers while providing no corresponding benefit to the community.")

limits and requires all cryptocurrency miners to recycle their waste heat when temperatures fall below 40 degrees.[112] The Commission can support these types of local government action while taking its own steps to mitigate the impacts of cryptocurrency mining.

Many other states, and many utilities in other states, have observed cryptocurrency mining's destabilizing impacts on other ratepayers and the grid and have taken action. State utility commissions around the country have used their rate-making authority to set rates for cryptocurrency mining operations that better protect other ratepayers from having to subsidize their operations, and to ensure adequate electricity supply for the grid as a whole.[113] State utility

[112] City of Plattsburgh Code §§ 360-29(J), 360-29(F)(3)-(4).

[113] See, e.g., *Blocktree Prop., LLC v. Pub. Util. Dist. No. 2 of Grant Cnty., WA*, 447 F. Supp. 3d 1030 (E.D. Wash. 2020), *aff'd sub nom*, 849 F. App'x 656 (9th Cir. 2021) (upholding Grant County's ability to institute special rates for cryptocurrency mining companies); Idaho Power Co., *Schedule 20: Speculative High-Density Load* 2 (Jan. 1, 2024), https://docs.idahopower.com/pdfs/AboutUs/RatesRegulatory/Tariffs/20.pdf (new rates applied to customers who "have the ability to relocate quickly in response to short-term economic signals and meet four or more of the following criteria: (i) High energy use density; (ii) High load factor; (iii) Load that is portable and distributable; (iv) Highly variable load growth or load reduction . . . ; (v) High sensitivity to volatile commodity or asset prices; (vi) Part of an industry with potential to quickly become a large concentration of power demand; (vii) Lack of credit history or ability to demonstrate financial viability"; *Id.* (schedule 20 also required customers to pay for required upgrades to interconnection facilities, including the cost of studies); Order, In the Matter of: Electronic Tariff Filing of Kentucky Power Co. for Approval of a Special Contract with Ebon Int'l, LLC, Ky. PSC Case No. 2022-00387 (Aug. 28, 2023) (denying a special contract with a cryptocurrency miner that would increase the utility's load by 25%, citing, among other concerns, a likelihood of increased rates for non-participating ratepayers); *NYMPA Rider A*, *supra* note 109 (discussed above); In the Matter of the Application of Entergy Arkansas, LLC for a Proposed Tariff Regarding Large Power High-Load Density (Crypto-Mining) at *4, 2022 WL 16901992 (Ark. PSC Case No.01-041-U2022) ("Crypto mining customers may potentially require significant system resource investment and create risk of those investments becoming stranded assets. The Commission finds that it is reasonable to impose additional safeguards to protect EAL's customers. Having reviewed the testimonies of EAL and Staff, the Commission finds that EAL's proposed LPHLDS tariff does not unduly discriminate, is just and reasonable, is in the public interest and is therefore approved."); Order Granting Approval, Matter of Application of Mecklenburg Elec. Coop. at 2, Va. SCC No. PUR-2021-00059 (Dec. 14, 2021) (Special rate and service agreement for new customers with "data center load." to: (1) recover costs to serve load, (2) protect the Coop's existing members from subsidizing new load, and (3) provide the Coop with reasonable margin to continue to provide reliable service, including inter alia, upfront contribution charges and security deposits to protect other ratepayers.).

commissions around the United States[114] (and Canada[115]), as well as U.S. grid operators,[116] have paused service requests from cryptocurrency miners to address these concerns.

Based on these examples and experts' advice,[117] we recommend that the Commission seriously consider the following measures to mitigate this unique segment of load growth:

- a temporary moratorium on new connections and expansion of existing load for cryptocurrency mining until protective measures for climate and affordability can be instituted, such as:

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[114] *See, e.g., Application for Approval of New Tariffs by Ohio Power Company, Matter of the Application of Ohio Power Company*, Ohio PUC Case No. 24-508-EL-ATA (pausing new service requests from data centers and cryptocurrency mines, and applying for a Data Center Power tariff and Mobile Data Center tariff to "justly and reasonably balances the interests of these new classes of data center and cryptocurrency miner customers with the other existing (and future) AEP Ohio Customers"); Statement of Steve Wright of Public Utility District No. 1 of Chelan County, Cleaning Up Cryptocurrency: the Energy Impacts of *Blockchains* Before the Subcomm. on Energy and Commerce, 117th Cong. 2, 5 (2022); see *also Questions* for the Record re: Hearing on Cleaning Up Cryptocurrency: The Energy Impacts of Blockchains Before the *Subcomm. on Energy and Commerce*, 117th Cong. (2022) (the Chelan County Public Utility District in Washington instituted two moratoriums on new mining operations as well as a new rate structure to discourage miners from setting up shop within its footprint after the utility was overwhelmed by demand for cheap hydropower from crypto miners).

[115] *See, e.g.*, Jacques Poitras, *Province Banning N.B. Power from Selling Electricity to Crypto Mines*, CBC (Nov. 1, 2024), https://www.cbc.ca/news/canada/new-brunswick/province-banning-nb-power-selling-electricity-crypto-mines-1.7014210 (New Brunswick banned new electrical grid connections for Bitcoin miners citing the strain on grid and need for supply to meet other core demands); Sam Reynolds, *British Columbia Court Backs Ban on Crypto Mining in Canadian Province*, Coindesk (Feb. 6, 2024), https://www.coindesk.com/policy/2024/02/06/british-columbia-court-backs-ban-on-crypto-mining-in-canadian-province/ (British Columbia's provincial power utility, B.C Hydro's, moratorium on crypto mining projects was upheld by judge in 2024).

[116] Electric Reliability Council of Texas (ERCOT), Notice to Market *Participants:* W-A032522-01 Interim Large Load Interconnection Process (Mar. 25, 2022), https://www.ercot.com/services/comm/mkt_notices/detail?id=fc84b65f-72fe-4704-9974-b52974cdb81e (ERCOT has temporarily paused requests for "load interconnection requests that have not been modeled and studied in a completed ERCOT planning assessment . . . and meet the following applicability requirements: New loads not co-located with a Resource with total demand within the next two years of 75 MW or greater; Existing loads not co-located with a Resource increasing total demand by 75 MW or greater within the next two years; New loads co-located with a Resource with total demand within the next two years of 20 MW or greater; or Existing loads co-located with a Resource increasing total demand by 20 MW or greater within the next two years"); *Gold Book*, *supra* note 25, at 131 (approximately 60% of large loads on the Large Load Interconnection Queue are cryptocurrency mining operations).

[117] *See, e.g.*, Sierra Club, *Demanding Better: How Growing Demand For Electricity Can Drive A Cleaner Grid* (Sept. 2024), https://www.sierraclub.org/sites/default/files/2024-09/demandingbetterreportfinal_sept2024.pdf; Shankar Chandramowli, et al., ICF, *Power surge: Navigating U.S. Electricity Demand Growth: How the Rapid Rise in Electricity Demand Could Impact* the *Transition* to *Clean, Reliable, and Affordable Electricity* 17 (Sept. 12, 2024), https://www.icf.com/insights/energy/impact-rapid-demand-growth-us. (Recommendations include: "Allowing tariffs that enable fair recovery of grid maintenance and investment costs, based on usage by different kinds of customer groups[;] Considering alternatives for cost recovery and return on investment for non-traditional investments[; and] Balancing investment risks of new technologies with safe, secure, reliable, and affordable electricity. Performance-based rate structures, market participation, and other solutions should all be considered.").

- protective electricity rates for residential rate payers, including but not limited to safeguards from socializing the costs associated with new infrastructure from digital loads;
- protections from stranded assets and unpaid bills, for example via security deposits, surety bonds, or letters of credit;
- rightsized demand response programs that do not disproportionately reward cryptocurrency miners for demand response (and ensure that they do in fact respond at times of peak load, since some evidence indicates inconsistency in behavior[118]), when residential ratepayers and local businesses are not afforded the same terms;[119]
- adequate and clean generation that provides 1) new clean supply, 2) hourly matching and 3) regional deliverability;[120]
- requirements that all cryptocurrency miners purchase Tier 1 Renewable Energy Credits[121] or pay a system benefit charge;
- a requirement that all cryptocurrency miners provide information to the Commission and DEC to allow for accurate planning;[122] and

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[118] *See, e.g.*, ERCOT Large Flexible Load Task Force (LFLTF), *Public Overview of Large Load Revision Requests for 8.16.23 Workshop*, at Slide 10 (Nov. 8, 2023), https://www.ercot.com/files/docs/2023/11/08/PUBLIC-Overview-of-Large-Load-Revision-Requests-for-8-16-23-Workshop.pptx ("Large Loads have exhibited inconsistent behavior during Resource scarcity events . . . In the last two years, ERCOT has acquired some information regarding Large Load behavior during periods of Resource scarcity. Experience shows inconsistent response from Large Load sites that should be expected to reduce consumption.").

[119] In Texas, a BloombergNEF report and ERCOT's independent market monitor both found that energy prices in Texas will increase by $1.5 to 1.8 billion if Bitcoin mining continues its rapid expansion in Texas. That same modeling shows peak energy prices increasing by 30% in a scenario where cryptocurrency mining peak load roughly triples and increasing by 80% if cryptocurrency mining peak load increases sixfold. Wood Mackenzie, *The Key Takeaways from our PJM, MISO and ERCOT Seasonal Outlook Webinars* (Sept. 27, 2023), https://www.woodmac.com/news/opinion/the-key-takeaways-from-our-pjm-miso-and-ercot-seasonal-outlook-webinars/; Robert Walton, *Conservative Approach to Texas Grid Operations Could Cost Consumers $1.5B This Year, Says Market Monitor*, Utility Dive (June 24, 2022), https://www.utilitydive.com/news/texas-grid-ercot-market-monitor-consumers-puc/626018/. By way of illustration, five facilities in Texas collectively made at least $60 million from demand response programs since 2020, and Riot Blockchain specifically, in just one summer month's heat wave last year, profited more than $31.7 million alone. Those payments will be paid for by other Texans. *See, e.g.*, MacKenzie Sigalos & Jordan Smith, *Texas Paid Bitcoin Miner Riot $31.7 Million to Shut Down During Heat Wave in August*, CNBC (Sept 6, 2023), https://www.cnbc.com/2023/09/06/texas-paid-bitcoin-miner-riot-31point7-million-to-shut-down-in-august.html.

[120] American Clean Power, *3 Pillars for Building a Green Hydrogen Industry for Decarbonization* (June 2023), https://cleanpower.org/wp-content/uploads/gateway/2023/06/ACP_GreenHydrogenFramework_OnePager.pdf; Rachel Fakhry, NRDC, *New Analysis: The 3 Pillars Will Support Large Hydrogen Deployment* (June 20, 2023), https://www.nrdc.org/bio/rachel-fakhry/new-analysis-3-pillars-will-support-large-hydrogen-deployment.

[121] 5c/kwh is still much too low and significantly disproportionate to what everyday New Yorkers pay for their electricity, as discussed above. NYSERDA, Tier 1 - New Renewables, https://www.nyserda.ny.gov/All-Programs/Large-Scale-Renewables/RES-Tier-One-Eligibility (last visited Sept. 9, 2024); Jenny Ahn & Nick Gibbons, *supra* note 107 ("TeraWulf's operating cost would increase by an estimated 60% if the company purchased enough RECs to cover its planned capacity at the keystone facility. This would bring TeraWulf's energy cost to around the industry average.").

[122] *See, e.g.*, *Proposal For Publication Of New 16 TAC §25.114, Matter of Virtual Currency Mining Registration* at 1, Public Utility Commission of Texas Project No. 56962 (Aug. 29, 2024), https://interchange.puc.texas.gov/Documents/56962_3_1423745.PDF ("The proposed rule would require a registrant

- safeguards to ensure that mining facilities do not increase electricity or capacity costs for existing customers.

Many of these suggestions can similarly apply to AI datacenters, with adjustments, to further ensure that our CLCPA mandates are met.[123] However, AI datacenter load has not yet been forecasted with any specificity for New York State. Until we know more, the PSC should not decide now, in 2024, to change the 2030 mandates of the CLCPA based on load that may not materialize.

The Commission should also work closely with other state agencies and lawmakers to do everything possible to minimize costs to other ratepayers and to prevent increasing greenhouse gas emissions from large digital loads. There are many solutions to this problem that have been advanced in other jurisdictions, many of which we hope will appear in the DEC's GEIS on cryptocurrency mining, as indicated by the GEIS Public Scoping Document.[124] The Scoping Document recognizes mitigation and alternatives such as those that:

- Will "reduce or eliminate the impact that cryptocurrency mining operations may have on the achievement of the greenhouse gas emissions reduction requirements in the Climate Act could include the requirement to utilize primarily or solely grid-supplied electricity or on-site renewable energy or zero-emission resources."[125]
- "Transition of the industry to utilizing renewable or zero-emission energy resources for electricity."
- "Limit, or limit the expansion of, cryptocurrency mining operations that use proof-of-work authentication methods or require the use of alternative technologies that reduce energy consumption, such as proof-of-stake mining. ..."[126]

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to provide information to the commission annually about its virtual currency mining facility's location, owners, form of business, and demand for electricity.").

[123] Jessica Kuntz & Lauren Kuntz, Opinion: *AI is Here. Get Ready for a Spike in Your Electric Bill* , CNN (July 5, 2024), https://www.cnn.com/2024/07/05/opinions/artificial-intelligence-electricity-grid-demand-kuntz/index.html.

[124] NYS DEC, New York State Environmental Quality Review Act (SEQR) Final Public Scoping Document for Generic Environmental Impact Statement (GEIS) on Cryptocurrency Mining Operations that Use Proof-of-Work Authentication Methods to Validate Blockchain Transactions, at 6 (April 2024), https://dec.ny.gov/sites/default/files/2024-04/cryptogeisfinalpublicscope.pdf.

[125] *Id*. at 6.

[126] *Id*. at 6.

To the last point, it is important to note that there are far less energy-intensive processes for validating cryptocurrencies. When the cryptocurrency Ethereum switched from proof-of-work to proof-of-stake validation two years ago, its emissions and energy were reduced more than 99% percent.[127]

Ideas used in other states are also models to mitigate the climate and energy impacts of cryptocurrency mining on load growth, such as: requiring emissions disclosures by cryptocurrency mining operations consuming more than 5 MW;[128] ensuring that miners cannot purchase non-renewable electricity when local renewables cannot meet demand;[129] and requiring miners to reduce the emissions associated with electricity used on site by certain percentage levels by 2027, 2030, 2035, and 2040.[130] Other promising mitigation measures include a tax on miners such as the federal Digital Asset Mining Excise tax,[131] which other jurisdictions have

[127] *See, e.g.*, Zack Hale, *Ethereum's 99% Cut in Energy Use Will Curb Crypto's Climate Footprint*, S&P Global (Sept. 16, 2022), https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/ethereum-s-99-cut-in-energy-use-will-curb-crypto-s-climate-footprint-72145342.

[128] Crypto-Asset Environmental Transparency Act of 2023, S. 661, 118th Cong. (2023); *see also* To Amend the Arkansas Data Centers Act of 2023; To Provide for the Regulation of Digital Asset Mining Businesses; And to Declare an Emergency, 2024 Ark. Laws Act 174 (S.B. 79) (implements rules regarding cryptocurrency mining including permitting, application for a permit, etc., along with its sister law SB 78).

[129] 2023 Wash. Sess. Laws Ch. 233 (H.B. 1416); Madaline Dunn, *Washington: Washington House Bill 1416 Signed into Law to Regulate Emissions Tied to Crypto Mining and Data Centers*, Baxtel (May 9,2023) https://baxtel.com/news/washington-house-bill-1416-signed-into-law-to-regulate-emissions-tied-to-crypto-mining-and-data-centers.

[130] 2023 Or. Laws (H.B. 2816); Mike Rogoway, *Bill Would Require Data Centers, Crypto Miners to Meet Oregon's Clean Energy Targets*, The Oregonian (Feb. 22, 2023), https://www.oregonlive.com/silicon-forest/2023/01/bill-would-require-oregon-data-centers-crypto-miners-to-meet-states-clean-energy-targets.html.

[131] White House Counsel of Economic Advisers, *The DAME Tax: Making Cryptominers Pay for Costs They Impose on Others* (May 2, 2023), https://www.whitehouse.gov/cea/written-materials/2023/05/02/cost-of- cryptocurrency mining-dame-tax/.

adopted to address the impacts on their grid and climate;[132] a minimum threshold of waste heat to be recycled or used, as Plattsburgh implemented;[133] and a power density limit that sets a cap on the number of kilowatts of energy consumption per thousand square feet. Additionally, as discussed above, cryptocurrency mining operations consume significant amounts of public power. The Commission can work with public power authorities such as NYPA to ensure that public power allocations are not diverted from New York residents to cryptocurrency mining operations.

In sum, the Commission, in conjunction with the legislature and other State agencies, has tools available to mitigate the load growth from cryptocurrency mining. Earthjustice urges the Commission to utilize all of them and would welcome the opportunity to provide further comment on this issue in this or any forum.

V. New York State Should Exhaust Federal Funding Opportunities for Renewable Energy

In seeking to ensure that New York State can achieve its statutory mandate of 70% renewable electric generation by 2030, the State must take advantage of the many federal programs and monies available for energy transition. The enactment of the Infrastructure Investment and Jobs Act[134] ("IIJA") in November 2021 and the Inflation Reduction Act[135]

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[132] Int'l Monetary Fund, *Carbon Emissions from AI and Crypto Are Surging and Tax Policy Can Help* (Aug. 15, 2024), https://www.imf.org/en/Blogs/Articles/2024/08/15/carbon-emissions-from-ai-and-crypto-are-surging-and-tax-policy-can-help; Eliza Gkritsi, *Sweden Drives Final Nail into its Bitcoin Mining Industry with Tax Hike*, CoinDesk (Apr. 14, 2023), https://www.coindesk.com/policy/2023/04/14/sweden-drives-final-nail-into-its-bitcoin-mining-industry-with-tax-hike/ (Swedish Ministry of Finance abolishes existing tax incentives for Bitcoin miners in the country, increasing tax from $0.0006 to $0.035 per kW (a 6,000% increase)); Lubomir Tassev, *Kazakhstan President Signs Law Increasing Tax Burden for Crypto Miners*, Bitcoin News (July 13, 2022), https://news.bitcoin.com/kazakhstan-president-signs-law-increasing-tax-burden-for-crypto-miners/ (crypto farms powered by renewable energy pay the lowest tax rates).

[133] City of Plattsburgh Code §§ 360-29(J); 360-29(F)(3)-(4).

[134] Infrastructure Investment and Jobs Act, Pub. L. 117–158, 135 Stat. 1350 [hereinafter IIJA].

[135] Inflation Reduction Act of 2022, Pub. L. 117–169, 136 Stat. 1818 [hereinafter IRA].

("IRA") in August 2022 deployed billions of dollars to support construction of clean energy projects throughout the nation, and New York should seek all support available to ensure a rapid and affordable clean energy transition. As detailed below, there are ample opportunities for the State, as well as local governments, public power providers, utilities, and private energy providers within the State, to access federal support that should be employed to speed the transition to renewable energy generating technologies. The State should coordinate efforts to obtain federal funding, require that private entities seeking state financial support seek federal funding, and provide transparency and accountability about both the process and deployment of this funding.

The Commission should create a task force, either within the Commission or in partnership with NYSERDA, to track all available federal support opportunities, including eligible beneficiaries, application requirements, and application deadlines. This task force should ensure that New York agencies and local governments are aware of federal energy programs they are eligible for and commit resources to assist those entities in preparing comprehensive applications. The task force could require that utilities participate in the Commission's proceeding on utility applications for federal funding.[136] Other organizations have attempted to establish public information compilations for this type of implementation work, including the Government Finance Officers Association,[137] National Governors Association,[138] Metropolitan

[136]. *See* of Petition of AARP New York and Public Utility Law Project to Institute a Proceeding Regarding Utility Applications for Federal Funding, NY PSC Case N. 22-M-0590.

[137] Government Finance Officers Association, *Inflation Reduction Act (IRA) Implementation Resources*, https://www.gfoa.org/ira-implementation-resources (last visited Sept. 18, 2024).

[138] National Governor's Association, *Inflation Reduction Act: Infrastructure Implementation Resources*, https://www.nga.org/ira-resources (last updated Sept. 16, 2024); National Governor's Association, IIJA Implementation Resources, https://www.nga.org/iija-implementation-resources (last updated Sept. 16, 2024).

Mayors Caucus,[139] American Cities Climate Challenge,[140] Local Infrastructure Hub,[141] Alliance for a Sustainable Future,[142] World Resources Institute,[143] and Columbia Law School.[144] These resources may be a helpful launching point, but New York should provide tailored support to its agencies and localities and refuse applications for funding or other state support unless that entity has also maximized all federal funding opportunities.

Neutrally assisting investor-owned utilities, municipal utilities, rural electric cooperatives, project developers, Tribes and Indian Nations, and local governments with their efforts to secure public federal funding is squarely within NYSERDA's statutory authority, which includes the power to "[p]articipate in the construction of facilities to be used for the furnishing of electric energy . . . to the extent required by the public interest" and "[t]o accumulate and disseminate information relating to the development and use of new energy technologies and energy conservation technologies[.]"[145] The Commission has a regular practice of requiring NYSERDA to develop implementation plans for particular programs,[146] and the Commission should dedicate more personnel to this effort as soon as possible. The Commission

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[139] Metropolitan Mayors Caucus, *Inflation Reduction Act Resources for Communities, Residents* (Mar. 11. 2024), https://mayorscaucus.org/inflation-reduction-act-resources-for-communities-residents.

[140] American Cities Climate Change Renewables Accelerator, *Funding Guidance: America's Federal Funding Opportunities and Resources for Decarbonization*, https://cityrenewables.org/ffold (last visited Sept. 18, 2024).

[141] Ian Goldsmith et al., *Catalyzing Local Clean Energy: A Roadmap for Maximizing Inflation Reduction Act Opportunities and Community Benefits* (Sept. 2023), https://cityrenewables.org/wp-content/uploads/edd/2023/11/local-infrastructure-hub-ira-roadmap-for-cities.pdf.

[142] Alliance for a Sustainable Future, *Cities Advancing Climate Action Unlocking the Potential of the Inflation Reduction Act* (July 2023), https://www.usmayors.org/wp-content/uploads/2023/07/Unlocking-the-Potential-of-the-Inflation-Reduction-Act20230711.pdf.

[143] World Resources Institute, *IRA Bonus Mapper (Beta)*, https://wri.github.io/ira-eligibility-enhancements/#map=3.44/38.07/-95.87 (last visited Sept. 18, 2024).

[144] Sabin Center for Climate Change Law, *Cities Climate Law Initiative*, https://climate.law.columbia.edu/content/cities-climate-law-initiative (last visited Sept. 18, 2024).

[145] N.Y. Pub. Auth. Law §§ 1854(3)(d), (5).

[146] See, *e.g., Order Approving Phase 6 Implementation*, NY PSC Case No. 15-E-0302 (July 22, 2024).

and NYSERDA should also make these efforts transparent to the public so ratepayers need not question whether the State is doing everything it can to minimize the rate impacts on them, a major goal of the federal investments.

Although we applaud New York State for already successfully securing several federal funding awards for clean energy during 2022, 2023, and 2024, we also are concerned about what programs were left on the table. The funding awards New York has secured include:

- $30 million announced last month for New York Power Authority's "Clean Path New York" underground and underwater HVDC transmission line under the U.S. Department of Energy's ("USDOE") Grid Resilience and Innovation Partnerships / Grid Innovation Program;[147]
- $43.5 million for New York Power Authority's "Propel NY Energy Sustainable Communities Initiative"—which supports DACs impacted by the Propel NY transmission project—under USDOE's Transmission Siting and Economic Development Grants Program, which provides $760 million and is designed to advance critical transmission projects by accelerating siting and permitting while supporting economic development efforts in communities impacted by transmission construction and operation.[148]
- $249.8 million for NYSERDA's NY-Sun Solar Program under the U.S. Environmental Protection Agency's ("USEPA") Solar for All Program;[149]

[147] Grid Deployment Office, *Grid Resilience and Innovation Partnerships (GRIP) Program Projects*, https://www.energy.gov/gdo/grid-resilience-and-innovation-partnerships-grip-program-projects (last visited Sept. 18, 2024).

[148] Grid Deployment Office, *Transmission Siting and Economic Development Grants Program*, https://www.energy.gov/gdo/TSED (last visited Sept. 18, 2024); IRA § 50152.

[149] U.S. EPA, *Solar for All*, https://www.epa.gov/greenhouse-gas-reduction-fund/solar-all (last visited Sept. 18, 2024); IRA § 60103 (creating 42 U.S.C. § 7434).

- $113.3 million from 2018-2022 (which predated new funding[150] provided by the Inflation Reduction Act) under the Rural Energy for America Program[151] ("REAP"), which provides grant or loan money to agricultural producers or small businesses (including rural electric cooperatives) for up to 50% of project cost for renewable energy systems or retrofits that produce zero greenhouse gas emissions, or projects in an energy community, or energy efficiency improvement projects, or projects proposed by eligible Tribal entities. Subsequently, for Fiscal Year 2023 under the REAP program after the IRA's enactment, 12 projects from New York received approximately $3.5 million of grants, and another project received another $3.5 million loan.[152]

New York, however, has fallen short of its full potential to realize federal monies on several occasions. For example, the only New York entity selected to receive funds under the U.S. Environmental Protection Agency's Climate Pollution Reduction Grants program[153] announced in July 2024 was Hudson Valley Regional Council, which received $3 million for landfill emissions mitigation,[154] whereas other states received upwards of $100 million each,

[150] USDA Rural Development, *Rural Energy For America Program (REAP)*, https://www.rd.usda.gov/inflation-reduction-act/rural-energy-america-program-reap (last visited Sept. 18, 2024).

[151] USDA Rural Development, *Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Guaranteed Loans & Grants*, https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans (last visited Sept. 18, 2024); *See* IRA § 22002 (appropriating funds for an existing program under 7 U.S.C. § 8107).

[152] USDA Rural Development, *Rural Energy For America Program Chart: Loan Total $30,300,000*, https://www.rd.usda.gov/media/file/download/usda-rd-reap-chart-11-01-2023.pdf (last visited Sept. 18, 2024). As of November 2023, 80 projects in New York requested funding under REAP after the IRA was enacted; *See* USDA, *IRA Climate and Clean Energy Solutions: New York Updates*, https://www.nrcs.usda.gov/sites/default/files/2023-11/ira-climate-new-york.pdf (last visited Sept. 18, 2024).

[153] U.S. EPA, *Climate Pollution Reduction Grants*, https://www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants (last visited Sept. 18, 2024) (Authorized under 42 U.S.C. § 7437 and enacted through IRA § 60114, this program made available $5 billion for Tribes, states, air pollution control agencies, and local governments to develop and implement plans for reducing greenhouse gas emissions.).

[154] U.S. EPA, *Hudson Valley Regional Council (New York)*, https://www.epa.gov/inflation-reduction-act/hudson-valley-regional-council-new-york (last visited Sept. 18, 2024).

with one award to a state exceeding $400 million.[155] Additionally, under USDOE's Energy Improvements in Rural or Remote Areas program,[156] with $1 billion total funds available, there were no New York entities included in award announcements in July 2023,[157] February 2024,[158] or April 2024.[159] Under the U.S. Department of Agriculture's ("USDA") New ERA[160] (Empowering Rural America) program, just one project from New York applied, requesting $6 million of funding;[161] when the first round of New ERA awardees was announced September 5, 2024, no New York rural electric cooperatives were chosen.[162]

Looking ahead, there are many opportunities for New York public and private energy providers to access federal support to achieve the State's 2030 mandate, and the Commission should support eligible beneficiaries in accessing available funding. The following is a non-exhaustive list of existing and forthcoming opportunities:

Tax Credit Bonuses

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[155] U.S. EPA, *CPRG Selected Applications by Sector - Electric Power*, https://www.epa.gov/inflation-reduction-act/cprg-selected-applications-sector-electric-power (last visited Sept. 18, 2024).

[156] U.S. Department of Energy Office of Clean Energy Demonstrations, *Energy Improvements in Rural or Remote Areas*, https://www.energy.gov/oced/era (last visited Sept. 18, 2024); IIJA § 40103 (creating new 42 U.S.C. § 18712).

[157] American-Made Challenges, *Energizing Rural Communities Prize*, https://americanmadechallenges.org/challenges/rural-energy/results (last visited Sept. 18, 2024).

[158] U.S. Department of Energy Office of Clean Energy Demonstrations, *Energy Improvements in Rural or Remote Areas Selected and Awarded Projects*, https://www.energy.gov/oced/energy-improvements-rural-or-remote-areas-selected-and-awarded-projects (last visited Sept. 18, 2024).

[159] U.S. Department of Energy Office of Clean Energy Demonstrations, *Energy Improvements in Rural or Remote Areas Grant Selections for Award Negotiations*, https://www.energy.gov/oced/energy-improvements-rural-or-remote-areas-grant-selections-award-negotiations (last visited Sept. 18, 2024).

[160] USDA Rural Development, *Empowering Rural America Program: Project Announcements*, https://www.rd.usda.gov/programs-services/electric-programs/empowering-rural-america-new-era-program (last visited Sept. 18, 2024); IRA § 22004 (modifying 7 U.S.C. § 8103) (New ERA provides $9.7 billion to rural electric cooperatives for loans for the purchase of (*inter alia*) renewable energy, or energy efficiency improvements to electric generation or transmission systems.).

[161] USDA, *IRA Climate and Clean Energy Solutions: New York Updates*, https://www.nrcs.usda.gov/sites/default/files/2023-11/ira-climate-new-york.pdf (last visited Sept. 18, 2024).

[162] *Empowering Rural America Program: Project Announcements*, *supra* note 160.

There are two significant locational-based bonus programs under the federal Production Tax Credit ("PTC") and Investment Tax Credit ("ITC") statutes (Sections 45Y and 48E, respectively, of the Internal Revenue Code), which provide income tax credit-based support for clean energy technologies.[163] These bonuses include:

- The federal tax laws define certain localities[164] as "energy communities" where projects qualify to receive tax credit bonuses, equaling 10% extra on the PTC or 10 extra percentage points on the ITC. Generally speaking, energy communities are federally defined brownfield sites; areas with high levels of fossil fuel employment or tax revenues combined with above-average unemployment; or areas where a coal mine closed after 1999 or a coal power plant closed after 2009.[165] It is not clear that NYSERDA is making every effort to ensure large-scale renewable developers bidding into solicitations are taking full advantage of the eligible localities for bonus credits.[166] And if not already doing so, the State should seek to maximize the number of "energy community" projects—which can internalize federal tax credit value in forming their renewable energy credit ("REC") bids—that bid. Moreover, under NYSERDA's Build-Ready Program[167] that proactively works with potential renewable

[163] Additionally, government and nonprofit entities may, via a new statutory provision introduced by the IRA, also benefit from these tax credit programs generally (regardless of bonuses) even without corporate income tax liability. *See* IRA § 13801 (creating new 26 U.S.C. § 6417); U.S. Department of Energy Office of Policy, *Elective Pay for Clean Energy Tax Credits: U.S. Territories*, https://www.energy.gov/sites/default/files/2024-08/Elective_Pay_Fact_Sheet_Territories_073124.pdf (last visited Sept. 18, 2024).

[164] Interagency Working Group on Coal & Power Plant Communities & Economic Revitalization, Energy Community Tax Credit Bonus, https://energycommunities.gov/energy-community-tax-credit-bonus.

[165] 26 U.S.C. § 45(b)(11).

[166] See, *e.g.*, 2024 Tier 1 RECs solicitation documents. NYSERDA, *Update to Renewable Energy Standard Purchase of New York Tier 1 Eligible Renewable Energy Certificates Request for Proposals (RFP) No. RESRFP24-1 RFP* (July 18, 2024), https://portal.nyserda.ny.gov/servlet/servlet.FileDownload?file=00P8z000004NCL9EAO; NYSERDA Large-Scale Renewables Team, *New York Tier 1 RESRFP24-1 Proposers' Webinar* (June 27, 2024), https://www.nyserda.ny.gov/-/media/Storage/RESRFP24-1/Proposers-Webinar.pdf.

[167] NYSERDA, *Build-Ready Program*, https://www.nyserda.ny.gov/All-Programs/Build-Ready-Program (last visited Sept. 18, 2024).

development sites, it is not clear in the various program documents that there is any effort to prioritize "energy communities" sites that are recognized by federal law.

- Wind and solar facilities under 5 MW *may* qualify for an additional 10 percentage points on the ITC if they are located in "low-income communities" (as defined in Section 45D(e) of the Internal Revenue Code) or on Tribal land (eligibility is not guaranteed because national program capacity under this provision[168] is limited to 1,800 MW per year). For projects of the same size range in a "qualified low-income residential building project" or "qualified low-income economic benefit project," there is a possibility of an additional 20 percentage points on the ITC (again, with national program capacity limited to 1,800 MW per year). The Commission, through its general supervisory authority over electric distribution utilities,[169] should require utilities to reach out to eligible home and building owners as defined in the federal tax law to be sure that such owners are aware of their eligibility for these bonuses.

USDOE Loan Programs Office

NYSERDA can improve coordination with USDOE-administered loans in order to further support renewable developers. NYSERDA's 2024 Large-Scale Renewables Request for Proposals ("RFP") provides that if a selected facility receives USDOE Loan Programs Office ("LPO") financing subsequent to project selection by NYSERDA, the project's REC price will be reduced by 1%.[170] This financing includes the Energy Infrastructure Reinvestment

[168] 26 U.S.C. §§ 48(e), 48(h).

[169] PSL §§ 65, 66.

[170] *Update to Renewable Energy Standard*, *supra* note 166, at 5.2.2.

Program[171, 172] and other programs. While the Memorandum of Understanding ("MOU") announced in 2023 between NYSERDA and USDOE[173] is an important effort to integrate federal funding with State REC procurement, a project with a *pending* LPO loan guarantee application will not, under current RFP structures, receive any advantage in NYSERDA project selection, because the project has no federal funding certainty to enable a lowered bid to NYSERDA.

Section III.b of the MOU provides that NYSERDA will "facilitate [Clean Energy Standard] Projects' filing of LPO financing applications," in a situation where LPO support is not confirmed at the time of application to NYSERDA. Yet a project that is subsequently not selected for the NYSERDA REC procurement may not continue moving forward in development long enough to stay alive for LPO consideration. One option that the State could consider to resolve this chicken and egg problem is to allow projects with a pending LPO application to enter a bid of their choosing that contemplates LPO support with the caveat that if selected, the project's REC contract could be made conditional on the LPO loan guarantee, with the project

[171] This program is intended to support a total of five billion dollars of loan guarantees for projects that retool, repower, repurpose, or replace energy infrastructure that has ceased operations, or that enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases. IIJA § 50144 (creating 42 U.S.C. § 16517).

[172] Potentially, the Energy Infrastructure Reinvestment Program could be apt for a clean energy project that is replacing a retiring fossil-fired project under the New York Independent System Operator. *NYISO OATT* at "Transfer of Deliverability Rights" Attachment HH §§ 40.18.3, 40.18.4, Docket No. ER24-1915-000 (Aug. 20, 2024), https://nyisoviewer.etariff.biz/ViewerDocLibrary/MasterTariffs/9FullTariffNYISOOATT.pdf.

[173] NYSERDA, MOU Announced between U.S. Department of Energy and New York State Energy Research and Development Authority to Accelerate Clean Energy Financing (Sept. 28, 2023), https://www.nyserda.ny.gov/About/Newsroom/2023-Announcements/2023-09-28-Governor-Hochul-Announces-Partnership-Between-US-Department-of-Energy; NYSERDA, *Memorandum of Understanding Between the United States Department of Energy and the New York State Energy Research and Development Authority (NYSERDA Agreement No. 217650)* (Sept. 28, 2023), https://www.energy.gov/sites/default/files/2023-11/DOELPO_NYSERDA_LPO_MOU_Signed_%28003%29.pdf.

given an option to exit the contract without penalty absent LPO funding.[174] To the extent that this risk of project attrition may jeopardize the State's renewables goals, the State can simply expand procurement targets—which, as discussed in Section III(A), the State should do in any event.

Energy Improvements in Rural or Remote Areas

USDOE announced in August 2024 that it intends[175] to release a Notice of Funding Opportunity for the Energy Improvements in Rural or Remote Areas program for Fiscal Year 2024. As discussed above, no New York applicants were selected in prior funding announcements under this program. While USDOE has not yet clarified when applications will be due, the Commission and NYSERDA should give close attention to this program, working with rural municipalities, rural electric cooperatives, and other eligible beneficiaries to do everything they can to develop appropriate applications.

Transmission Siting and Economic Development Grants

USDOE has also announced that it will release another funding opportunity under the Transmission Siting and Economic Development Grants Program in fall 2024. The Commission and NYSERDA should collaborate with transmission owners to be sure that they submit complete and competitive applications.

Energy Storage

[174] A variation on this model might be that the applicant project could enter two REC bid prices, one contemplating LPO support and one without. As part of the selection process, NYSERDA could indicate whether the project is selected even with the higher bid, or only with the lower bid. If the project's LPO application were denied, it could switch to the higher contractual REC price, if that higher bid had been deemed competitive in the selection process. Potentially, this might lead to public revelations of private bid information that NYSERDA wishes to keep confidential, but Commenters suggest it for consideration of the Commission and NYSERDA.

[175] OCED Funding Opportunity Exchange, *DE-FOA-0003423: Notice of Intent to Issue: DE-FOA-0003328 Energy Improvements in Rural or Remote Areas FY24* (Aug. 22, 2024), https://oced-exchange.energy.gov/Default.aspx#FoaId30e04ed5-7532-4e64-8336-8557132d338c.

The Energy Storage Demonstration and Pilot Grant Program,[176] administered by USDOE, has $445 million available over five years to support demonstration and pilot projects for private utilities (including rural electric cooperatives and municipal utilities), state and local governments, and Tribes. On September 5, 2024, USDOE opened applications for up to $100 million in federal funding to support pilot-scale energy storage demonstration projects.[177] USDOE states that "[a]pplicant teams must include at least one technology provider as a recipient or a subrecipient. Priority will be given to proposals that include utility, developer, and/or end user members, a plan to demonstrate the solution in an operational environment, and a plan to build investor confidence to secure support for follow on projects." Concept papers for these projects are due October 16, 2024, with full applications due February 13, 2025. New York should take full advantage of this program all downstate storage developers should apply.

State Energy Program

USDOE's State Energy Program,[178] originally created in the 1970s, received $500 million of new appropriations via the IIJA.[179] These funds are to be distributed to States annually under a distribution formula.[180] As part of the Annual Formula Grant Application that NYSERDA must submit to USDOE, New York must include activities to support transmission

[176] National Energy Technology Laboratory, *Notice of Intent to Issue A Funding Opportunity Announcement No.: DE-FOA-0003036 "Energy Storage Demonstration and Validation"*, https://netl.doe.gov/node/12403 (last visited Sept. 18, 2024); Energy Act of 2020, Pub. L. No. 106–469, 114 Stat. 2029, div. Z § 3201 (creating 42 U.S.C. § 17232); IIJA § 40112.

[177] Office of Clean Energy Demonstrations, *Funding Notice: Long-Duration Energy Storage Pilot Program*, https://www.energy.gov/oced/funding-notice-long-duration-energy-storage-pilot-program (last visited Sept. 19, 2024).

[178] Office of State and Community Energy Programs, *About the State and Energy Program*, https://www.energy.gov/scep/about-state-energy-program (last visited Sept. 19, 2024).; 42 U.S.C. § 6325.

[179] IIJA § 40109.

[180] *See* U.S. Department of Energy, *State Energy Program: Operation Manual* 8 (2022), https://www.energy.gov/sites/default/files/2022-02/sep-operations-manual-2022.pdf.

and grid planning;[181] and under existing law, State energy conservation plans "*may* include loan programs and performance contracting programs for leveraging of additional public and private sector funds, and programs which allow rebates, grants, or other incentives for the purchase and installation of energy efficiency and renewable energy measures."[182] NYSERDA should be sure to coordinate its Annual Formula Grant Application[183] for the State Energy Program funding with other federal funding that New York State, local governments, or other entities within New York that have received, have sought, or will seek.

Energy Efficiency and Conservation Block Grants

The Energy Efficiency and Conservation Block Grant Program[184] has $550 million available to assist states, local governments, and Tribes in implementing strategies to reduce energy use, to reduce fossil fuel emissions, and to improve energy efficiency. Encouragingly, the City of Buffalo and the Town of Babylon have received a total exceeding $500,000 through block grants.[185] However, many states have already received more than two awards (for local, state, or Tribal entities) under the program, including states that are smaller than New York. In 2023, DOE announced[186] that New York State is eligible for a total of $3.35 million under this

[181] IIJA § 40109(a) (modifying 42 U.S.C. § 6322(c)).

[182] 42 U.S.C. § 6322(d)(5) (emphasis added).

[183] *State Energy Program: Operation Manual*, *supra* 180; Department of Energy, *State Energy Program Notice 22-03: Infrastructure Investment and Jobs Act of 2021 State Energy Program Formula Grant Application Instructions* (Aug. 26, 2022), https://www.energy.gov/sites/default/files/2022-08/SEP_IIJA_Application_Instructions.pdf.

[184] IIJA § 40552 (modifying 42 U.S.C. §§ 17152, 17154); Office of State and Community Energy Programs, *Energy Efficiency and Conservation Block Grant Program*, https://www.energy.gov/scep/energy-efficiency-and-conservation-block-grant-program (last visited Sept. 19, 2024).

[185] Office of State and Community Energy Programs, *Energy Efficiency and Conservation Block Grant Program Awards*, https://www.energy.gov/scep/energy-efficiency-and-conservation-block-grant-program-awards (last visited Sept. 19, 2024).

[186] Office of State and Community Energy Programs (SCEP), *Attachment 1b: DOE Formula Grant Funding Allocations to States for the Energy Efficiency and Conservation Block Grant (EECBG) Program)*, https://www.energy.gov/sites/default/files/2023-

program and that municipal governments in New York State are eligible for $16.7 million in total under the program,[187] and that Tribes[188] are eligible for $100,000. Although the application deadline for States passed in 2023, the deadline for local governments to apply[189] has been extended to October 31, 2024, and the deadline for Tribes and Indian Nations to apply is May 31, 2025. The Commission and NYSERDA must make every effort to ensure that eligible recipients in the State prepare satisfactory applications for these funds.

Hydropower

New York has extensive existing and potential hydroelectric power resources, and the IIJA has provided four specific support programs for this technology. Most of these programs have already accepted and/or awarded their full complement of applications, but there may be some remaining opportunities for New York facilities to seek benefits.

- First, Section 40331 of IIJA extends the existing Hydroelectric Production Incentive Program[190] to provide $125 million in production-based support (1.8 cents per kWh as of 2006, adjusted for inflation) to hydroelectric energy generated at facilities that reached operation after FY2005 and (i) are additions to an existing dam or conduit completed before November 15, 2021 or (ii) has a capacity not over 20 MW, has received FERC authorization,

01/IIJA%20%2840552%29%20EECBG%20Program_Attachment%201b.%20_State%20Allocations_FINAL.pdf (last visited Sept. 19, 2024).

[187] Office of State and Community Energy Programs (SCEP), *Attachment 1A: DOE Formula Grant Funding Allocations to Local Governments for the Energy Efficiency and Conservation Block Grant (EECBG) Program)*, https://www.energy.gov/sites/default/files/2023-01/IIJA%20%2840552%29%20EECBG%20Program_Attachment%201a.%20_Local%20Govt.%20Allocations_FINAL.pdf (last visited Sept. 19, 2024).

[188] *Id*.

[189] Office of State and Community Energy Programs (SCEP), *EECBG Program Formula Hub*, https://www.energy.gov/scep/eecbg-program-formula-grant-application-hub (last visited Sept. 19, 2024).

[190] Grid Deployment Office, *Section 242: Hydroelectric Production Incentive Program*, https://www.energy.gov/gdo/section-242-hydroelectric-production-incentive-program (last visited Sept. 19, 2024).

and is constructed in an area with inadequate electric service.[191] A qualifying facility under this program may receive payments for ten years, but a facility may receive no more than $1,000,000 in one calendar year.[192] In October 2023, USDOE announced that 66 hydropower facilities around the country would receive funding for electricity generated in calendar years 2021 and 2022, including four projects in New York.[193] The State should ensure that these facilities continue to avail themselves of this funding stream.

- Second, Section 40333 of IIJA provides $553.6 million for capital improvements at existing hydroelectric facilities (prior to the IIJA enactment date in November 2021) related to improving grid resiliency, dam safety, or environmental quality, with the grant capped at 30% of the capital improvement cost and $5 million per facility per year.[194] USDOE accepted applications for this program in 2023, although selected entities have not been announced yet, and USDOE indicated an intent to open another funding round later.[195]
- Finally, Section 40334 creates the Pumped Storage Hydropower Wind and Solar Integration and System Reliability Initiative, which authorizes $10 million per year through FY2026 for financial assistance to eligible entities (including electric utilities, State Energy Offices, Tribes) for a project of at least 1,000 MW that can serve more than one organized electricity

[191] 42 U.S.C. § 15881.

[192] *Id.*

[193] Grid Deployment Office, *EPACT 2005 Section 242 Hydroelectric Production Incentive Calendar Year 2021 & 2022 Incentive Recipients Calendar Year 2021 Incentive Recipients*, https://www.energy.gov/sites/default/files/2023-12/120823%20Updated%20Section%20242%20Hydroelectric%20Production%20Incentives%20Selections%20List.pdf (last visited Sept. 19, 2024).

[194] 42 U.S.C. § 15883.

[195] Grid Deployment Office, *Section 247: Maintaining and Enhancing Hydroelectricity Incentives*, https://www.energy.gov/gdo/section-247-maintaining-and-enhancing-hydroelectricity-incentives (last visited Sept. 19, 2024); Grid Deployment Office, *Maintaining and Enhancing Hydroelectricity Incentives*, https://www.energy.gov/gdo/maintaining-enhancing-hydroelectricity-incentives (last visited Sept. 19, 2024).

market and stores electricity generated by renewable generators on Tribal land and has received a preliminary permit from FERC.[196] As of September 2024, it is not clear if USDOE has awarded this funding, although applications were accepted in 2022 and awards were meant to be made in 2023.[197]

Grid Resilience

Federal support programs for electric grid resilience that may still have future application cycles include:

- While the Grid Resilience State and Tribal Formula Grant,[198] administered by USDOE, accepted applications for Fiscal Year 2024 in June 2024, USDOE may in future years conduct another funding cycle, which the Commission and NYSERDA should closely monitor.
- The Preventing Outages and Enhancing the Resilience of the Electric Grid grant program[199] provides $5 billion total through FY2026 for various hardening and resiliency measures for electric transmission and distribution grids. Fifty percent of the funding must be given directly to States and Tribes, which can then re-grant the funds to eligible grid operators and other electric providers. Although applications for the first two years of funding closed in

[196] 42 U.S.C. § 17232.

[197] Office of Energy & Renewable Energy, *Funding Notice: Bipartisan Infrastructure Law: Pumped Storage Hydropower Wind and Solar Integration and System Reliability Initiative*, https://www.energy.gov/eere/water/funding-notice-bipartisan-infrastructure-law-pumped-storage-hydropower-wind-and-solar (last visited Sept. 19, 2024).

[198] National Energy Technology Laboratory, *Grid Resilience State And Tribal Formula Grant*, https://netl.doe.gov/bilhub/grid-resilience/formula-grants (last visited Sept. 19, 2024); Grid Deployment Office, *Grid Resilience State/Tribal Formula Grants Program*, https://www.energy.gov/gdo/grid-resilience-statetribal-formula-grants-program (last visited Sept. 19, 2024).

[199] IIJA § 40101; Grid Deployment Office, *Preventing Outages and Enhancing the Resilience of the Electric Grid Grants*, https://www.energy.gov/gdo/preventing-outages-and-enhancing-resilience-electric-grid-grants (last visited Sept. 19, 2024).

2023, it appears likely that additional rounds of funding will be administered, and States and Tribes may apply directly. The Commission and NYSERDA should monitor this potential funding opportunity.

- The Smart Grid Investment Matching Grant Program,[200] which dates back to 2007, received $3 billion of new funding through the IIJA, to remain available through 2026, and its eligible uses were expanded to new smart grid technologies. In October 2023, National Grid was selected for a $49.6 million grant for its "Future Grid Project" which will "deploy innovative digital technology solutions to maximize the value of distributed energy resources" throughout Upstate New York and Massachusetts.[201] Because the total amount awarded in October 2023 was approximately $1 billion, USDOE will likely open additional application windows in future years, and the Commission and NYSERDA should carefully monitor the program status.

Rural Energy for America Program

Under the REAP, discussed above, the IRA provided around $2 billion total through FY2027, and the USDA is holding annual application cycles. USDA's FY2024 application cycle has a deadline of September 30, 2024. The Commission should support applicants in this and future cycles.

Community Change Grants

[200] IIJA § 40107 (amending 42 U.S.C. § 17386); Grid Deployment Office, *Smart Grid Grants*, https://www.energy.gov/gdo/smart-grid-grants (last visited Sept. 19, 2024).

[201] Grid Deployment Office, *Grid Resilience and Innovation Partnerships Progra*m (Oct. 2023), https://www.energy.gov/sites/default/files/2023-11/DOE_GRIP_2115_National%20Grid%20USA%20Service%20Company%2C%20Inc_v4_RELEASE_508.pdf.

The Environmental and Climate Justice Block Grants program[202] provides $2.8 billion for community-based nonprofit organizations (either acting alone, or in partnership with a Tribe or Indian Nation, local government, or higher education institution) for purposes of greenhouse gas reduction, mitigation, and adaptation. The U.S. Environmental Protection Agency has divided this funding into multiple programs, including the Environmental and Climate Justice Community Change Grants program,[203] which has $2 billion available for projects in DACs that reduce pollution, increase community climate resilience, and build community capacity to address environmental and climate justice challenges. The initial set of awardees announced in July 2024 included Bronx River Alliance, which will convene a Bronx Climate Justice Task Force to speak with a coordinated voice to decisionmakers.[204] The Community Change Grants program continues to accept applications until November 21, 2024.

Tribal-focused support

In addition to some programs described above in which Tribal entities and Indian Nations are eligible beneficiaries (among other beneficiary types), recent federal legislation has created funding initiatives specifically targeting Tribal energy systems, some of which still have or will have open application cycles. With eight federally recognized Tribes and Indian Nations in New York State, the people of New York have ample opportunity to benefit from these programs. These include:

[202] IRA § 60201 (creating new 42 U.S.C. § 7438).

[203] U.S. EPA, *Inflation Reduction Act Community Change Grants Program*, https://www.epa.gov/inflation-reduction-act/inflation-reduction-act-community-change-grants-program (last visited Sept. 19, 2024).

[204] U.S. EPA, *Community Change Grants Selection*, https://www.epa.gov/inflation-reduction-act/community-change-grants-selections (last visited Sept. 19, 2024).

- Tribal Energy Loan Guarantee Program,[205] administered by USDOE LPO, for which the IRA significantly expanded the budget from $2 billion of total loans outstanding to $20 billion.[206] This program is intended to support Tribal investment in energy-related projects by providing direct loans or partial loan guarantees to federally recognized Tribes and Indian Nations for projects including electricity generation, transmission and/or distribution facilities; energy storage facilities; and distributed generation. The loan budget does not expire, although appropriations to administer the program expire after FY2028.
- The Tribal Electrification Program,[207] administered by the U.S. Department of Interior's Bureau of Indian Affairs ("BIA"), provides $145.5 million through Fiscal Year 2031 for provision of zero-emission electricity to unelectrified and electrified Tribal homes (including related home repairs and retrofitting). The BIA accepted applications through June 2024, and has stated that it intends to announce awards in September 2024. Whenever the awards are announced, and if recipients in New York State are selected, the State should work with recipients to be sure they are able to complete all required conditions of the funding.

As detailed above, many sources of federal funding are available now and in the coming years to support New York's efforts to scale up renewable energy generation. New York must not leave money—and emissions reductions—on the table by failing to take full advantage of these opportunities. Moreover, as discussed in Section VI below, pursuing every federal funding opportunity will help the State ensure that the renewable energy transition does not

[205] 25 U.S.C. § 3502(c); Loan Programs Office, Tribal Energy Loan Guarantee Program, https://www.energy.gov/lpo/tribal-energy-loan-guarantee-program (last visited Sept. 19, 2024).

[206] IRA § 50145.

[207] IRA § 80003.

disproportionately burden DACs. The Commission and NYSERDA should act quickly to establish a task force to support themselves, developers, local governments, Tribes and Indian Nations, and public power authorities in understanding and accessing the many sources of federal funding that the State can leverage to meet the 2030 mandate and closely monitor the opportunities detailed above.

VI. The State Must Reach the 2030 Target Without Compromising Equity and Affordability

In working towards the 2030 target, the State must comply with the CLCPA's prohibition on agency actions that disproportionately burden DACs. Renewable energy penetration can lower utility bills and provide economic and health benefits to all New Yorkers. However, the State must take affirmative steps to ensure that costs of the renewable energy transition do not fall on the backs of low-income ratepayers and DACs, as detailed below.

Providing access to renewable energy requires procuring enough resources to meet the 70% by 2030 target as well as ensuring that all New York ratepayers can afford to pay their utility bills and reap the benefits of investments in renewable energy. Fortunately, renewable energy is becoming increasingly cost competitive with fossil fuels.[208] Since New York began to procure more wind and solar energy in 2010, electric rates have either declined or stayed consistent compared to other utilities with less solar procurement.[209] By contrast, electric and gas rates have increased throughout the country in states where utilities' delivery supply is majority

[208] Alison F. Takemura, *Chart: Renewables Are On Track to Keep Getting Cheaper and Cheaper,* Canary Media, (Sept. 1, 2023), https://www.canarymedia.com/articles/clean-energy/charts-renewables-are-on-track-to-keep-getting-cheaper-and-cheaper.
[209] Brendan Pierpont, *Clean Energy Isn't Driving Power Spikes*, at Figure 4, p. 8, (July 2024), https://energyinnovation.org/wp-content/uploads/2024/07/Clean-Energy-Isnt-Driving-Power-Price-Spikes.pdf.

fossil fuels.[210] These trends indicate that renewable energy is an essential part of ensuring that all New Yorkers can pay their bills and avoid utility disconnections.

The State's investment in renewable energy can bring significant economic and health benefits to New Yorkers in general and DACs in particular. In a study that examined the costs and benefits of renewable energy needed to meet renewable portfolio standards ("RPS"), USDOE concluded that "even under conservative assumptions, the benefits of [renewable energy] used to meet RPS demand growth will exceed the costs."[211] USDOE further concluded that existing RPS policies could yield $97 billion in air pollution health benefits, $161 billion in climate damage reductions, and $558 billion in health benefits.

Many New Yorkers, however, still experience high energy burdens, or the percentage of household income attributed to energy bills.[212] Energy burdens above 6% are considered high, while energy burdens above 10% are considered severe.[213] NYSERDA reports that while statewide median energy burden is 3.4%, the average energy burden for low-income customers is 13%.[214] In New York City specifically, while the median energy burden for all low-income

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[210] *Id.*
[211] Ryan Wiser et al., *Assessing the Cost and Benefits of U.S. Renewable Portfolio Standards*, Env't. Rsch. Letter (Sept. 2017), https://escholarship.org/uc/item/2b65r2nz.
[212] DOE, *Low-Income Energy Affordability Data (LEAD) Tool and Community Energy Solutions*, Office of State and Community Energy Programs, https://www.energy.gov/scep/low-income-energy-affordability-data-lead-tool-and-community-energy-solutions#:~:text=(SLOPE)%20platform.-,Energy%20Burden,which%20is%20estimated%20at%202%25 (last visited Sept. 21, 2024).
[213] Roxana Ayala & Amanda Dewey, *Data Update: City Energy Burdens*, ACEE (Sept. 11, 2024), https://www.aceee.org/policy-brief/2024/09/data-update-city-energy-burdens.
[214] NYSERDA, *Increasing Access to Clean Energy & Efficiency*, https://www.nyserda.ny.gov/Featured-Stories/Increasing-Access-to-Clean-Energy-and-Efficiency#:~:text=Energy%20costs%20for%20the%20average%20New%20York,Energy%20Affordability%20Program%20Link%20opens%20in%20new (last visited Sept. 9, 2024).

ratepayers is 9.3%,[215] 20% of low-income ratepayers in New York City experience energy burdens above 10%.[216]

The State must ensure that efforts to meet the 2030 target do not disproportionately create or exacerbate energy burdens on DACs. Any energy burdens must be addressed as required by CLCPA Section 7(3), and can be mitigated through targeted investments that provide benefits to ratepayers in DACs. Such investments should be combined with rate reform and cost-effective energy efficiency programs to reduce energy insecurity in New York communities while providing access to affordable utility services. In taking steps to expand renewable energy and work towards the 2030 target, the commission and utilities should place guardrails to mitigate any severe economic impacts on customers such as capping rate impacts for economically challenged ratepayers, using innovative rate structures, and increasing funding for bill assistance programs. The State should also require that federal funding for renewable energy projects be exhausted before ratepayers foot the bill. The Commission can explore localized renewable energy programs including expanding distributed generation such as microgrids, community solar, and marketing solar and storage panels to eligible customers, as well as storage. More targeted energy efficiency programs for all customers to promote energy conservation can also help with reducing bill impacts. These measures would also contribute to beneficial impacts of the renewable energy transition including increased resilience for vulnerable communities during emergency weather events, reduced outages, and reduced strain on the grid resulting in positive economic impacts.

[215] Ariel Drehobl et al., *How High Are Household Energy Burdens? An Assessment of National and Metropolitan Energy Burden Across the United States*, ACEEE (Sept. 2020) www.aceee.org/sites/default/files/pdfs/u2006.pdf.
[216] Roxana Ayala & Amanda Dewey, ACEE, *Data Update: City Energy Burdens*, (Sept. 11, 2024), https://www.aceee.org/policy-brief/2024/09/data-update-city-energy-burdens.

VII. The Public Service Commission Must Keep the 2030 Target in Place

For the reasons discussed above, the PSC need not, and should not, conclude at this time that it will miss the 2030 target. Additionally, as detailed below, the PSC lacks the authority to move the deadline. Moreover, the Draft Review's conclusion that the PSC will likely miss the 2030 deadline is arbitrary and capricious because it is not based on evidence and ignores regulatory and economic changes that will speed up renewable energy development over the next six years.

A. The Public Service Law requires the PSC to ensure that New York's electric grid is 70% renewable by 2030

The PSC does not have the authority to move the 2030 deadline. To the extent the PSC reads Section 66-p(4) of the Public Service Law as allowing it to move the 2030 deadline, the PSC has not met its burden under that provision.

The CLCPA does not empower the PSC to push back the 2030 deadline in 2024. The CLCPA directed the PSC to, by June 30, 2021, establish a program to ensure that at least 70% of statewide electric generation is provided by renewable energy by 2030 and that 100% is zero-emission by 2040. The statute refers to the 2030 and 2040 deadlines as "the targets."[217] While the CLCPA provides that the PSC "may, in designing the [renewable energy] program, modify the obligations of jurisdictional load serving entities and/or the targets," the statute does not provide a means for the PSC to modify the targets once the program is underway. In other words, in 2024, since the program has already been designed and is in place, the PSC may not alter the deadlines.

[217] N.Y. Public Service Law § 66-p(2).

The CLCPA allows the PSC to modify load serving entities' obligations as needed to meet the deadlines, but the PSC cannot move the deadlines at this point. In directing the PSC to establish the renewable energy program, the Legislature distinguished between "the obligations of jurisdictional load serving entities" and "the targets," i.e. the deadlines.[218] The Legislature empowered the PSC to "temporarily suspend or modify *the obligations* under [the renewable energy] program" after conducting a hearing and making certain findings, but not to move "the targets" once the program was underway.[219] The discretion to modify "the obligations" of load serving entities does not empower the PSC to change "the targets," including the 2030 deadline.

To the extent that the PSC reads this statutory language as allowing for a deadline extension, the PSC has not met the requirements for making any modification to the renewable energy program. Before making such a modification, the PSC must hold a hearing and make a finding that: 1) the program impedes the provision of safe and adequate electric service; 2) the program is likely to impair existing obligations and agreements; and/or 3) there is a significant increase in arrears or service disconnections that the commission determines is related to the program.[220]

The PSC's request for comments on the Draft Review cannot satisfy the hearing requirement, and not only because the plain language of the statute requires an actual hearing.[221] Under the CLCPA, every two years the PSC must issue a review of the renewable energy program after accepting public comment.[222] The CLCPA separately requires a hearing before the

[218] PSL § 66-p(2).
[219] *Id*. § 66-p(4) (emphasis added).
[220] *Id*. § 66-p(4).
[221] *See T-Mobile Northeast, LLC v. DeBellis*, 32 N.Y.3d 594, 607 (2018) ("We begin with the plain language of the statute, which is the clearest indicator of legislative intent.").
[222] *See* PSL § 66-p(3).

PSC can modify the renewable energy program.[223] Under the "well-established precept that every part of a statute is to be given effect and meaning," the CLCPA can only be read to both require the PSC to accept comments on the Draft Review *and* to also hold a hearing before modifying the renewable energy program.[224] The Legislature would not have created two distinct statutory obligations if fulfilling one could satisfy the other.

The Draft Review also does not set forth the findings required to modify the renewable energy program.[225] The PSC's determinations that New York needs to develop an additional 115,437 GWh of renewable energy to achieve the 70% by 2030 mandate, and is unlikely to do so, does not mean that the renewable energy program will impede safe and reliable service, is likely to impair existing obligations or agreements, or has already led to arrears and disconnections, as required to modify the program.[226] Nor could the PSC make these findings at this time or with the information at hand. Rather than operating under a new 2033 deadline, the PSC must hold itself accountable for meeting the 2030 mandate.

B. The Draft Review's conclusion that the PSC is likely to miss the 2030 deadline is arbitrary and capricious

The Draft Review's conclusion that the PSC is likely to miss its statutory deadline is arbitrary and capricious and should be omitted from the Final Review. While the Draft Review serves an important role in demonstrating how increased load and slow renewables development puts the State at risk of falling short, the conclusion that the PSC will likely miss the 2030 target is premature and unsupported by evidence. In reaching this conclusion the PSC failed to conduct

[223] *Id*. § 66-p(4).
[224] *Ivey v. State of New York*, 80 N.Y.2d 474, 480 (1992); *see also Matter of Wang v. James*, 40 N.Y.3d 497, 503 (2023) ("[A] statutory construction which renders one part meaningless should be avoided.") (quoting *Matter of Anonymous v. Molik*, 32 N.Y.3d 30, 37 (2018)).
[225] PSL § 66-p(4).
[226] PSL § 66-p(4); *Biennial* Review, *supra* note 14, at 54–56.

any modeling and relied solely on recent, anomalous historical trends, "without sound basis in reason or regard to the facts" such as ongoing regulatory and economic developments.[227]

Specifically, the PSC reviewed the amount of renewable energy developed in New York over the past twelve years and determined that in the coming years, annual Tier 1 procurement would not exceed 6,000 GWh, slightly less than the annual average between 2020 and 2023.[228] But the PSC should not assume that renewable energy will continue to develop at the same slow pace. As the Draft Review recognizes, the past four years have been anomalous due to the COVID-19 pandemic and Russia's invasion of Ukraine, which led to unforeseen supply chain disruptions and inflation. [229] Before 2020, renewable energy projects were delayed and scuttled under the Article 10 siting process, which was created to address fossil fuel generation siting and imposes requirements that—as the Legislature recognized in enacting the Accelerated Renewable Energy Growth and Community Benefits Act—are inappropriately onerous for renewable energy. [230] In the decade preceding the passage of the Accelerated Renewable Energy Growth and Community Benefits Act, only six renewable energy projects had received approval through the Article 10 process and only one had begun construction.[231] It would be arbitrary and capricious for the Final Review to conclude that the PSC is likely to miss the 2030 deadline

[227] *Matter of Peckham v. Calogero*, 12 N.Y.3d 424, 431 (2009); *Biennial* Review, *supra* note 14, at 93.
[228] *Biennial* Review, *supra* note 14, at 93–94.
[229] *Id*. at 11–12.
[230] Alexander Fields, *Will Section 94-C Enable Renewable Energy Project Siting and Help New York Achieve Its Energy Targets?*, 46 Colum. J. of Env't L. 125 (Dec. 12, 2020), https://journals.library.columbia.edu/index.php/cjel/article/view/7916/4041; *See also* Accelerated Renewable Energy Growth and Community Benefit Act pt. JJJ, § 3–4(a), 2020 N.Y. Sess. Laws Ch. 58 (S. 7508) ("A public policy purpose would be served and the interests of the people of the state would be advanced by . . . expediting the regulatory review for the siting of major renewable energy facilities.").
[231] Aff. of Houtan Moaveni ¶¶ at 21, 23, *Town of Copake v. New York State Office of Renewable Energy Siting*, NYSCEF Doc. No. 110 (Aug. 26, 2021), Index No. 905502-21.

based on historical data and without "regard to the facts" indicating that renewable energy development can and will occur more swiftly in the coming years.[232]

The PSC has every reason to expect that renewable energy deployment will speed up over the next six years. For example, nationwide, storage deployment—a critical piece of renewable energy penetration—has increased 62% in the past year and just closed its second-best quarter on record,[233] and solar manufacturing capacity has quadrupled since the IRA was passed.[234] In New York, we are currently ahead of schedule to meet the CLCPA's distributed solar energy target.[235] Large-scale renewable energy siting has become more efficient since the Legislature enacted the Accelerated Renewable Energy Growth and Community Benefit Act and renewable penetration will speed up in the coming years as transmission permitting is streamlined under the new Renewable Action Through Project Interconnection and Deployment RAPID Act. In fact, in July 2022 the Commission Chair told the Legislature that "New York is on track to exceed the 70 percent by 2030 Climate Act mandate for renewable energy,"[236] and in February 2023 he told the Legislature that New York was "on a path to achieving a zero-

[232] *Calogero*, 12 N.Y.3d 424, 431 (2009).
[233] Brian Martucci, *U.S. energy storage installations rise 62% in Q2*, Utility Dive (Sept. 6, 2024), https://www.utilitydive.com/news/us-energy-storage-installations-rise-62-percent-in-Q2/726311/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202024-09-10%20Utility%20Dive%20Storage%20%5Bissue:65730%5D&utm_term=Utility%20Dive:%20Storage.
[234] Eric Wesoff, *U.S. Solar Manufacturing Capacity has Quadrupled Thanks to Climate Law*, Canary Media (Sept. 9, 2024), https://www.canarymedia.com/articles/solar/us-solar-manufacturing-capacity-has-quadrupled-thanks-to-climate-law.
[235] Samantha Maldonado, *New York on Track to Exceed Its Solar Targets as Other Climate Goals Slip*, The City (Aug. 7, 2024), https://www.thecity.nyc/2024/08/07/solar-power-clean-energy-goal-on-track/.
[236] *Public Hearing on the Role of State Authorities in Renewable Energy Development Before the Committee on Corporations, Authorities and Commissions, the Committee on Energy, & the Committee on Environmental Conservation* at 145, 2022 Legis. Sess. (N.Y. 2022) (statement of Rory Christian, Commission Chair, N.Y. PSC), https://nystateassembly.granicus.com/DocumentViewer.php?file=nystateassembly_9e12d96fdb33c26aa9333298ee8f444e.pdf&view=1.

emission electric grid by 2040, including 70 percent renewable energy by 2030."[237] Similarly, during a 2022-2024 audit, the PSC told the Office of the Comptroller that New York was on track to meet the 2030 deadline, before doing an about-face in the July 1 Draft Review. [238]

An overly pessimistic conclusion about future energy needs and the pace of renewable development that is not based on sound evidence or thorough modeling can have harmful real-world consequences. In what proved to be an expensive and polluting miscalculation that should serve as a cautionary tale, in 2022 California decided to keep three gas-fired power plants online as a strategic reliability reserve, and now has a 2,550 megawatt surplus due entirely to renewable energy.[239] New York should avoid California's missteps by keeping the 70% by 2030 target in place, stepping up efforts to meet the target, and conducting thorough modeling going forward to ensure the state is on track.

The Draft Review's approach of waving the white flag six years ahead of time based on limited and outdated information is a grave mistake. Even assuming that the PSC has the authority to push back the 2030 deadline, there is no reason to conclude at this early stage that it will miss the target. The PSC must complete two more biennial reviews before 2030.[240] If in 2028 the PSC is concerned about meeting the deadline, at that point, it could hold a hearing and allow for stakeholders to meaningfully comment on the State's capacity to achieve a 70%

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[237] New York State Senate, *2023-2024 Executive Budget on Agriculture/Environmental Conservation/Energy: Hearing Before the New York State Senate Finance and Assembly Ways and Means Committees* (Feb. 14 2023), https://www.nysenate.gov/transcripts/268.
[238] *Climate Act Goals – Planning, Procurements, and Progress Tracking*, *supra* note 8, at 21.
[239] *See* Letter to Governor Newsom from Communities for a Better Environment et al., (May 28, 2024), https://drive.google.com/file/d/1teXcwAJBmgPGJkexsD1wl77kx7Aj82I5/view*;* California ISO, *2024 Summer Loads and Resources Assessment* (May 23, 2024), https://www.caiso.com/Documents/Briefingon2024SummerLoadsandResourcesAssessment-Presentation-May2024.pdf.
[240] *See* PSL § 66-p(3).

renewable grid by 2030, including by providing enough time for stakeholders to develop technical analysis.

VIII. Conclusion

Earthjustice urges the Commission to take the steps detailed above to rapidly increase renewable energy development, and to omit from the Final Review any conclusion that the State might miss the 2030 deadline.

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