STATE OF NEW YORK
DEPARTMENT OF PUBLIC SERVICE

Case 15-E-0302 – Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Energy Program and a Clean Energy Standard

# DEPARTMENT OF PUBLIC SERVICE STAFF PROPOSED DEFINITIONS OF KEY TERMS IN PSL §66-p

Dated November 4, 2024

# Contents

# 1 Introduction

In this proposal, the Department of Public Service Staff (Staff) suggests interpretations of key terms in the provisions of the Climate Leadership and Community Protection Act (Climate Act), codified in Section 66-p of the Public Service Law (PSL), which directs the Public Service Commission (Commission) to establish a renewable energy program and design it to achieve particular targets.[1] At issue in this proposal is the language of PSL §66-p(2)(b), which directs the Commission to establish a program pursuant to which, by the year 2040, the "statewide electrical demand system will be zero emissions." Of particular note, neither of the terms "statewide electrical demand system" nor "zero emissions" are expressly defined in the Climate Act or in the PSL. This lack of statutory definition requires the Commission's interpretation of these terms to ensure proper regulatory implementation. The breadth of possible interpretations of the statutory language suggested by commenters, in response to questions from Staff in this proceeding further highlights the need for the Commission to interpret those terms.[2] The primary purpose of this proposal is to clarify what is encompassed within the term "statewide electrical demand system" and articulate broad criteria for compliance with a "zero emissions" standard. In addition to proposing definitions – and in light of the proposed definitions' implications – Staff also recommends that the Commission direct Staff to develop a review process consistent with the provisions of PSL §66-p that tracks progress toward the power sector energy transition targets.

This document is organized as follows. The Background section below briefly describes how the Climate Act directs the Commission to pursue targets in the power sector to support economywide decarbonization, and how the Commission has done so to date. Section 3 proposes a definition of "the statewide electrical demand system" after laying out what aspects of that term require clarification to ensure that the definition is clear and useful for stakeholders in the short and longer term. Section 4, similarly, proposes a definition of "zero emissions" after identifying the aspects of the term that require clarification. Then, in section 5, Staff's proposal encourages the Commission to direct Staff to develop recommendations to the Commission for

---

1 N.Y. Laws of 2019, c. 106 §4, codified at Pub. Serv. L. §66-p.

2 Compare, Comments of City of New York (Sept. 20, 2023), with Comments of Natural Resources Defense Council (Sept. 20, 2023), and Comments of AGREE (Feb. 20, 2023), with Comments of Joint Utilities (Feb. 20, 2023).

an approach based on the process elements, metrics, and other aspects of the provisions of PSL §§ 66-p(2) to consider impacts of the program on safe, adequate, and affordable electric service in the state under reasonably foreseeable conditions.

## 2 Background

The Climate Act established hard limits on greenhouse gas emissions: a 40% reduction from a 1990 baseline by 2030, and an 85% reduction by 2050.[3] It also established targets to guide the Commission as it steers the power sector away from reliance on fossil fuels: 70% of electricity supply is to be renewable by 2030 (the "2030 target"), and the "statewide electrical demand system" is to be "zero emissions" by 2040 (the "2040 target"). These basic frameworks now organize a host of programs and measures, some overseen exclusively by the Commission and many others involving other State agencies.

The core objective of the Climate Act is to reduce climate-damaging greenhouse gas emissions through the development of clean energy generation resources in the power sector along with the electrification of greenhouse gas emitting resources in other sectors.[4] Electrifying large portions of the buildings, transportation, and other sectors would make the power sector the energy backbone of New York State's economy. Of course, reducing greenhouse gas emissions economywide through electrification requires also moving the power sector away from reliance on emitting resources to clean ones.

The Climate Act sets out power sector-specific targets for 2030 and 2040, as well as a variety of technology-specific deployment goals, and directs the Commission to pursue them. The Commission is pursuing the 2030 target and deployment goals through programs calibrated to yield enough renewables and energy storage to make those resources the bulk of New York's generation mix. Staff and the New York State Energy Research and Development Authority

---

[3] Climate Act §2, codified at Envtl. Conserv. L. §75-0107. See also 6 NYCRR Part 496 (interpreting statutory language and establishing numeric volumes for emissions limits). The Climate Act defines "'greenhouse gas' [to] mean[] carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and any other substance emitted into the air that may be reasonably anticipated to cause or contribute to anthropogenic climate change." Envtl. Conserv. L. §75-0101(7).

[4] See generally, Scoping Plan chs. 11 (transportation), 12 (buildings), and 14 (industry).

(NYSERDA) recently filed a draft review of progress toward the 2030 target, which discusses ongoing efforts and unforeseen changes in circumstances related to pursuit of that target.[5]

The process here is focused on the 2040 target and seeks, first, to identify the extent to which resources that meet the applicable standard could fail to reliably meet statewide electricity demand in 2040 and beyond and, second, to redress that potential failure by facilitating the deployment of emissions free (or clean) energy resources. The May 2023 order initiating this process posed a variety of questions to which stakeholders responded with comments.[6] Those comments informed a two-day technical conference, held in December 2023, on policy and technological considerations, and a subsequent round of questions for stakeholders about how to define the terms that are this proposal's focus. Comments responsive to those questions were filed in February 2024. In addition to these process steps, Staff and NYSERDA have contracted with the Electric Power Research Institute (EPRI) to research candidate technologies in depth in order to assess their techno-economic potential and to identify key hurdles to their deployment. Staff anticipates that this research will help inform subsequent steps in this process that will include more definitively characterizing any potential reliability gap arising from pursuit of the 2040 target and designating resources as compliant with the 2040 target.

# 3 The Statewide Electrical Demand System

By interpreting the term "statewide electrical demand system," the Commission would draw the boundary within which PSL §66-p's 2040 target applies. This boundary has geographic, grid-topological,[7] and programmatic components. Its specification also necessarily reflects the ambit of the Commission's jurisdiction over resources capable of generating electricity. This proposal refers to the full scope of resources encompassed by this boundary as the scope of application for the 2040 target.

---

5 Case 15-E-0302, Draft Clean Energy Standard Biennial Review, (filed July 1, 2024) (CES Biennial Review).

6 Case 15-E-0302, Clean Energy Standard, Order Initiating Process Regarding Zero Emissions Target (issued May 18, 2023).

7 A topology is the pattern of interconnected nodes in a network. In the context of the electrical grid, different nodes and network elements have discrete functions.

## 3.1 Covered resources and Commission jurisdiction

PSL §§ 66-p(2)(b) provides as a target that "by the year [2040] […] the statewide electrical demand system will be zero emissions." The term "statewide electrical demand system" is neither defined in existing New York law or regulation, nor used as a standard term of art in the context of energy systems planning or operation. The Commission should, therefore, adopt a definition based on its reading of the words chosen by the legislature, the legislative context in which they appear, and the operational and regulatory context to which they pertain. But this language alone is not the only guidepost for the Commission to consider here. While PSL §66-p charges the Commission with the development and implementation of a program for achieving the 2030 and 2040 targets, it does not alter the extent of the Commission's jurisdiction or authority to do so. The Commission should, therefore, carry out its responsibilities under PSL Section 66-p within the bounds of its jurisdictional constraints.

We begin by noting the extent of Commission jurisdiction, as established by statutory provisions and articulated in Commission orders. PSL §5(1)(b) assigns the Commission jurisdiction over "the manufacture, conveying, transportation, sale or distribution of . . . electricity for light, heat or power, to gas plants and to electric plants and to the persons or corporations owning, leasing or operating the same."[8] The definitions of "electric corporation" and "electric plant," both referenced in the PSL's description of Commission jurisdiction, are broadly encompassing.[9] Under these PSL provisions, Commission jurisdiction extends, in at least some respects, to all segments of the grid, including generation, transmission facilities, distribution facilities, as well as to some distributed generation resources located "behind the meter."[10] It is helpful to further note the reason for the legislature granting the Commission

---

8 PSL §5(1)(b).

9 Id. §§2(12) & 2(13).

10 With respect to electric generation and behind-the-meter distributed generation facilities in particular, the legislature has defined the scope and nature of the Commission's jurisdiction in PSL Article 4, which includes §§64-77. See, Case 05-E-0889, Proceeding on Motion of Commission to Establish Policies & Procedures Regarding Generation Unit Retirements, Order Instituting Proceeding and Notice Soliciting Comments (issued July 27, 2005). Since the Commission issued Opinion 96-12 in 1996, steering the state's electric utilities toward deregulation, the electricity generation facilities that participate in federally regulated

jurisdiction over the assets and operations covered by these definitions, namely the imperative need to maintain a system that provides safe and reliable access to electricity at rates that are just and reasonable. Consistent with this basic purpose, the Commission scrutinizes activities that potentially affect grid operations and so implicate the Commission's core duties.

The foregoing summary holds true in Long Island as well, even though the Long Island Power Authority (LIPA) is largely exempt from the Commission's jurisdiction.[11] Beginning January 1, 2014, as required by the LIPA Reform Act (LRA), the Department of Public Service (Department) opened a Long Island Office to review and issue recommendations on the core utility functions of LIPA and its Service Provider.[12] Pursuant to the LRA, the Department reviews numerous aspects of LIPA and its Service Provider's operations and recommends changes. These recommendations ensure consistency with the Commission's orders and regulations in various ways, including implementation of the Climate Act. For instance, LIPA's board has adopted a Clean Energy and Power Supply directive that is guided by the Climate Act's 2040 target.[13] Thus, LIPA's policies and programs align with Commission directives as appropriate and with oversight from Staff in order to ensure consistency of power sector regulation and operations between Long Island and the rest of the state.[14]

The Commission has, from time to time, provided clarification how the jurisdictional provisions noted above should be applied. Two relevant instances, described here, pertain to: 1) the delivery of power beyond New York's geographic and grid-topological border; and 2) specifications of entirely behind-the-meter (BTM) transactions.

*Delivery outside New York.* In a 2002 decision, the Commission received a petition "relating to jurisdiction over an entity that will deliver electric service in Pennsylvania for use in New York State by a customer of Niagara Mohawk Power Corporation," a New York State

---

wholesale markets have been subjected to lightened regulation, but remain subject to the Commission's jurisdiction. Id., pp. 2-3.

11 Public Authorities Law (PAL) §1020-S.

12 LIPA Reform Act PSL §3-b.

13 LIPA, Strategic Direction: Clean Energy and Power Supply, last amended May 21, 2022, p. 1; see also LIPA (updated Mar. 2024), 2023 Integrated Resource Plan, pp. 10, 17-18, 25-26, and 55-56.

14 PAL §§1020-F(u), (bb), (cc)-(ff), (hh), (ii).

utility.[15] Electricity was procured by a Pennsylvania utility and delivered on the Pennsylvania side of the border, but some of what was delivered was then distributed within the bounds of a single private property boundary to facilities, some of which were located on the New York side of the border. The Commission determined that it did not have jurisdiction over the Pennsylvania utility "because [that utility] does not provide service to a New York delivery point or own New York facilities."[16] Thus, pursuant to Commission precedent, the Commission does not have jurisdiction where a company outside of New York State delivers electric service to a location beyond New York State's borders, even if the electricity delivered is actually consumed within New York State's borders.

*Behind-the-meter transactions*. Two examples help to illuminate the nature of the Commission's jurisdiction with respect to BTM resources and activities. The first example involves a pair of decisions resolving petitions filed by Catalyst Renewables. In a 2009 declaratory ruling, the Commission observed that "behind-the-meter sales do not generally come within [its] jurisdiction."[17] In a 2010 order dealing with the same petitioner, the Commission defined a "behind-the-meter transaction" as one where "the energy is generated on the premises of the customer and is supplied directly to the customer and consumed on the customer's premises without ever passing through a utility/municipal utility company/public authority transmission or distribution system."[18] Importantly, the Commission found that the petitioner in that case would not be engaging in BTM transactions because "the energy [it would generate] was to pass through a wholesale meter and be delivered . . . directly to the Village of Solvay Electric Department, a municipal utility company, for resale by it to its approximately 5,300 retail customers . . . ."[19] Under this precedent, a BTM resource is generally not subject to

---

15 Case 01-E-0861, Pennsylvania Electric Company, Declaratory Ruling on Electric Service Jurisdiction and Order Approving Related Tariff (issued April 9, 2002), p. 1.

16 Id., p. 16.

17 Case 08-E-0909, Catalyst Renewables, LLC, Declaratory Ruling that 'Behind-the-Meter' Sales Are Not Eligible for Participation in the RPS Main Tier Programs (issued June 26, 2009).

18 Case 10-E-0195, Catalyst Renewables, LLC, Order Allowing Main Tier "Behind-the-Meter" Contracts and Wholesale Delivery to Utility/Municipal Utility/Public Authority Entities, Applicable to Future Solicitations Only (issued Nov. 24, 2010), p. 4 (2010 Catalyst Order).

19 Id.

Commission jurisdiction so long as its entire output is consumed onsite, but a BTM resource (and its owner) does come within the Commission's jurisdiction once it participates in transactions that involve power flowing from that resource through a meter and into the grid for use by others.

The second example relates to the Commission's treatment of renewable BTM resources in its implementation of the Renewable Portfolio Standard (RPS). While the Commission did not claim or exercise jurisdiction over wholly BTM transactions involving renewable distributed generation resources, it did direct utilities to establish and implement programs that would enable consumers to install and operate such resources.[20] Moreover, in 2010, the Commission modified the RPS Main Tier eligibility rules to allow certain BTM resources to qualify for RPS incentives.[21] As the order effectuating that modification explained, even if a customer's renewable BTM resource only reduced that customer's load, estimates of its output would still be counted toward compliance with RPS requirements, as this reflected progress toward the RPS goal.[22] This accounting treatment did not implicitly bring these renewable BTM resources within the ambit of Commission jurisdiction.

In combination, these two examples show how "jurisdiction" has a particular meaning for the Commission when it comes to BTM resources and transactions. The Commission's jurisdiction does not simply apply to the scope of any and all resources that the Commission can influence, directly or indirectly. Rather, the Commission has jurisdiction when it has a duty to consider the operation of or transactions related to a resource because of that resource's potential to affect grid operations or electric rates.

---

[20] PSL §66-j(3)(a)(iii) (directing the utilities to contract with customer-generators in their service territory until the total rated generating capacity by customer-generators is equivalent to 1% of the utility's electric demand for the year 2005); see also, Case 03-E-0188, Proceeding on Motion of the Commission Regarding Retail Renewable Portfolio Standard, Order Regarding Retail Renewable Portfolio Standard (issued September 24, 2004), p. 46 (allocating 2% of the 25% RPS goal to be met by customer-sited resources).

[21] 2010 Catalyst Order, p.1.

[22] Id., p. 8.

## 3.2 Comparison to 2030 target language

We turn now to the language of PSL §66-p(2), which directs the Commission to establish a renewable energy program to require New York State's power sector to achieve two distinct targets. That subdivision describes each target in relation to a scope of application against which progress toward the target is to be measured. The language describing each scope of application is distinct.

For the 2030 target, the scope of application is "the state wide electric generation secured by jurisdictional load serving entities [LSEs] to meet the electrical energy requirements of all end-use customers in New York State." Staff has interpreted this language in the course of conducting the CES Biennial Review.[23] In broad strokes, that scope of application encompasses the following resources: generation and energy storage units interconnected to the bulk power system in the New York Control Area (NYCA); power imported through inter-regional transmission interties; and generation and energy storage units in the NYCA that are interconnected at the local transmission and distribution system level,[24] both in front of and behind the meter. Thus, whereas resources that operate behind-the-meter, but have metered outputs, come within the scope of application, that scope excludes, for instance, combined heat and power units and gas- and diesel-fired backup generation that are not metered.

The language describing the scope of application for the 2040 target, namely "statewide electrical demand system," differs from the language describing the scope for 2030, but the differences between the two do not clearly prescribe inclusion or exclusion of particular resources from the scope of application for the 2040 target. The clearest point of distinction is that the 2040 scope does not mention LSEs, and so arguably encompasses resources – in addition to those encompassed by the scope of application for the 2030 target – that deliver power to end-users without the intermediation of an LSE. However, this potential expansion is tempered by the use of "system" in the 2040 scope of application. If the Climate Act phrased the 2040 target as pertaining to "statewide electrical demand," then the scope of application of that target could be unbounded, encompassing everything that generates electricity consumed in New York State.

---

[23] See, CES Biennial Review, pp. 53-59.

[24] In general, the bulk power system includes resources operating on transmission lines of 230kV and above; local transmission covers resources interconnected to lines of between 115 and 138kV; and the distribution system operates at 69kV and below.

This could potentially include all combined heat-and-power systems and all other forms of distributed generation, such as backup generators fired by gas or diesel, regardless of whether they are the subject of transmission- or distribution-level interconnection agreements. However, because the Climate Act says that the 2040 target pertains to the "statewide electrical demand *system*" (emphasis added), there is a meaningful limit to the category of electricity generating resources for which inclusion is appropriate. In sum, Staff reads the legislature's use of "system" as reflective of an intent to not encompass every power-generating resource in the state, but only those that participate in the operation of the statewide electric grid and do so in a routinized or systematic way.

## 3.3 Imports

Staff recommends that the scope of application the Commission adopts for the 2040 target should incorporate imports of electricity, because this interpretation would be consistent with the Climate Act and would facilitate coordination among the several agencies whose work bears upon progress toward both targets. However, Staff also notes that the inclusion of imports in the scope of application for the 2040 target is not as straightforward as the inclusion of generation and energy storage resources within the NYCA. It is made somewhat complex by limits on the Commission's jurisdiction under the federal Constitution, the Commission's various obligations under State law, and the administrative features of sound and policy-consistent energy and emissions accounting across multiple regions.

### 3.3.1 Statutory interpretation

Excluding imports from the scope of application for the 2040 target would be inconsistent with the Climate Act, which defines "[s]tatewide greenhouse gas emissions" as "the total annual emissions of greenhouse gases produced within the state from anthropogenic sources *and* greenhouse gases produced *outside of the state that are associated with the generation of electricity imported into the state* and the extraction and transmission of fossil fuels imported into the state."[25] This definition pertains to all provisions of the Climate Act, including those that are to be codified in the PSL as well as the ECL. It expressly and without exception makes

[25] ECL §75-0101(13) (emphasis added).

cognizable to agencies charged with implementing the Climate Act the greenhouse gas emissions arising from the generation of imported electricity. It also informs how the Climate Act defines "[g]reenhouse gas emission limit," namely "the maximum allowable level of *statewide greenhouse gas emissions*, in a specified year, . . ."[26] Further, the Climate Act expressly prescribes, consistent with these definitions, inclusion in the annual greenhouse gas emissions report of "an estimate of greenhouse gas emissions associated with the generation of imported electricity . . . which shall be counted as part of the statewide total."[27] These foundational features of the Climate Act make it clear that greenhouse gas emissions that arise from the generation of imported electricity cannot be ignored.

Furthermore, ignoring those emissions would create a potent perverse effect, inviting the State's power sector to "comply" with emissions limits by merely ensuring that all emissions occur outside of New York's borders. This would be wholly at odds with the logic of the Climate Act, which recognizes the global nature of the climate damage resulting from greenhouse gas emissions,[28] and also the need for action in other jurisdictions as well as New York in order to limit the severity of damage to the climate from anthropogenic emissions.[29]

### 3.3.2 Limits on Commission authority

The legislature, through the Climate Act, authorized the Commission to take a variety of actions to pursue the 2030 and 2040 targets, but the authority it conferred is limited by both federal and state law. Federal limits on Commission authority root in the U.S. Constitution, which grants federal law supremacy over conflicting state laws and also grants the federal government exclusive authority over interstate commerce.[30] Federal courts have articulated the implications of these features of the Constitution for state energy and climate policy in numerous cases, including several involving New York.[31] These constitutional features limit whatever

---

[26] Id. §1(8) (emphasis added).

[27] Id. §75-0105(3).

[28] Id. §1(1)

[29] Id. §1(2).

[30] U.S. Const. art. I §8 (Commerce Clause), art. IV §2 (Supremacy Clause).

[31] See, Coalition for Competitive Electricity v. Zibelman, 906 F.3d 41 (2nd Cir. 2018); FERC v. New York (2002).

restrictions the Commission might impose on either out-of-state emitting generation resources from which electricity is imported into New York,[32] or in-state resources that wish to export electricity to other states.[33]

State law gives the Commission a limited jurisdiction and, further, charges the Commission with balancing several competing priorities with respect to the systems that fall within its jurisdiction. Among those priorities, hitting the 2040 target is just one. New York law does not give the Commission power to govern the siting, construction, or operation of interconnected bulk power system generation resources outside New York. And it does not make the Commission responsible for regulating the operation of grids or transactions for energy outside of New York. Thus, the Commission, in its decisions about imported electricity, cannot regulate generators directly or ignore the effects of access to imports, which support the reliability of New York's electricity system and its resilience to disruption, and which greatly reduce its costs from what they would be if New York had to rely entirely on domestic generation to serve load.

## 3.4 BTM resources

A variety of electricity generating resources are owned by customers or non-utility third-parties and operated "behind-the-meter." The electricity these resources generate is potentially entirely consumed where it is generated rather than flowing to another premises across the distribution or transmission system. Some BTM resources participate in grid operations, sending generation in excess of what the resource owner consumes onsite out onto the grid to be consumed by others. Such participation requires an interconnection agreement with the local distribution utility, which makes that resource's existence known to the utility and its operations

[32] Compare, Energy & Env't Legal Inst. v. Epel, 793 F.3d 1169 (10th Cir. 2015) (dismissing challenge to Colorado's renewable energy standard because its restriction on consumption of electricity generated by greenhouse gas-emitting resources did not discriminate against out-of-state resources), with State of North Dakota, et al., v. Heydinger, et al., 825 F.3d 912 (8th Cir. 2016) (holding that Minnesota's restrictions on importing electricity generated using coal violated the dormant Commerce Clause).

[33] See, New England Power Co. v. New Hampshire, 455 U.S. 331 (1982) (striking down a New Hampshire law that prohibited the export of hydropower to another state).

"visible" for the purposes of monitoring and maintaining a balance of supply and demand and a high level of power quality. Participation in such programs generally involves compensation.

As described above, the Commission's jurisdiction extends to some but not all BTM resources. Any resource that is subject to an interconnection agreement and potentially participates directly in grid operations is covered. It also has at least some measure of authority over resources whose generation of electricity is compensated through a Commission-authorized program, such as net energy metering, the Value of Distributed Energy Resources program, or utility-operated demand response programs. Thus, backup generation that is not interconnected and not directly involved in metered transactions that rely on the grid as a conduit for the delivery of electricity is beyond the Commission's jurisdiction.

Staff therefore recommends that the scope of application for the 2040 target with respect to BTM resources be coterminous with the Commission's jurisdictional reach. In practical terms, this eliminates ambiguity about the status under the 2040 target for all but a small subset of resources. That small subset includes only those that are owned and used by participants in a Commission-jurisdictional program, but that are not interconnected to the distribution or transmission grid. This subset might include, for instance, a gas-fired backup generator that is owned by someone who participates in a demand response program but who may or may not use the backup generator to enable their program participation by substituting it for grid power. Staff does not believe that such program participation is enough to bring a backup generator within the scope of application for the 2040 target and recommends that the Commission exclude such resources from what it deems to participate in the statewide electrical demand system. While such resources serve some amount of electrical demand in the State, they cannot be said to be part of an interconnected system. Further, even if this did result in a perverse incentive for owners of backup generation to use demand response programs as opportunities to arbitrage emitting backup power for cleaner grid-based power – and it is not certain to do so – program rules could be updated to eliminate the incentive.

# 4 Zero Emissions

The Commission's interpretation of this term will lay the foundation for decisions about planning, investments, and more in the run-up to 2040. That interpretation must address several issues: whether non-greenhouse gas emissions count; which aspects of a resource's emissions

profile to count; whether and how to count emissions from fuel production processes that arguably occur outside the power sector; whether the emissions attributed to a resource should be counted on a gross basis or on a net basis that recognizes the potential for use of particular feedstocks to reduce or wholly avoid emissions that would occur otherwise; how "zero" should be applied as a threshold; and the significance of the Climate Act's categorization of a fuel cell that does not consume fossil fuels as a "renewable" resource.

## 4.1 Non-greenhouse gas emissions

Staff recommends that the Commission interpret "zero emissions" to refer to greenhouse gases only and not to emissions of other air pollutants. Several points argue in favor of this interpretation. In New York, "*unless a contrary intent is clear*, lawmakers employ words as they are commonly or ordinarily employed."[34] Some commenters argue that no ordinary usage of "zero emissions" can be read to exclude particular pollutants, because ordinary usage would specify which are at issue if the intent was to include only some.[35] But, in this instance, at least three aspects of the Climate Act reflect a contrary intent on the part of the legislature. Those are: (1) the Climate Act's legislative findings; (2) several of its definitions; and (3) its references to "co-pollutants." As other commenters note, these point to the same conclusion, namely that the legislature's primary focus in the Climate Act is on the regulation of greenhouse gas emissions, and that it refers to co-pollutants for specific and discrete purposes that complement the regulation of greenhouse gases.[36]

*Legislative Findings*. Section I of the Climate Act presents 12 legislative findings, none of which refers to local air pollution, and *all* of which refer to climate change or the greenhouse gases responsible for it. The first two findings discuss the harms of climate change; the third asserts that reducing greenhouse gases from New York emissions sources will help address global levels of greenhouse gases; the fourth establishes a goal for New York to reduce greenhouse gases; and so on. Notably, even the seventh finding, which recognizes that

---

[34] People v. Holz, 35 N.Y.3d 55, 59, 148 N.E.3d 513 (2020) (emphasis added).

[35] Comments of Sierra Club and Earthjustice (filed Aug. 2023), pp. 3-4.

[36] E.g., Comments of Institute for Policy Integrity (filed Feb. 20, 2024), pp. 3-8; Comments of Joint Utilities (filed Feb. 20, 2024), pp. 4-7.

disadvantaged communities are especially vulnerable to climate change and states that "[a]ctions undertaken by New York State to mitigate greenhouse gas emissions should prioritize the safety and health of disadvantaged communities," mentions greenhouse gases but not other air pollutants. In sum, the legislature's findings, which articulate the Climate Act's basic purpose, discuss greenhouse gas emissions and not other forms of pollution.

*Definitions*. The Climate Act generally refers to non-greenhouse gas pollutants that are cognizable under the Act using the term "co-pollutants." It defines that term to mean "hazardous air pollutants produced by greenhouse gas emissions sources."[37] The "co-" in co-pollutant is significant and weighs in favor of reading references to non-greenhouse gases as meaningful but secondary considerations. This reading is corroborated by the definition of "emissions reduction measures" to mean "programs, measures and standards, authorized pursuant to this chapter, applicable to sources or categories of sources, that are designed to reduce *emissions of greenhouse gases*."[38] Here, the generic term "emissions" refers to greenhouse gases only. Similarly, the Act's eleventh definition indicates that the terms "[g]reenhouse gas emission source" and "source" are synonymous, and both refer to "any anthropogenic source or category of anthropogenic sources of greenhouse gas emissions, determined by the department."[39] Thus, *all* sources of emissions cognizable under the Climate Act are sources of greenhouse gas emissions, and co-pollutants from such sources are of concern because their emission is incidental to the emission of greenhouse gases.

*References to "co-pollutants."* Apart from the first definition noted above, the Climate Act refers to "co-pollutants" nine times; all of those references, without exception, reflect that the Climate Act treats "co-pollutants" as an important consideration but one that is secondary or incidental to greenhouse gases. While co-pollutants are cognizable under the Climate Act, co-pollutants are never the determining factor of the Act's core requirements. Instead, they are to be considered when choosing among programmatic options developed for another, primary purpose, such as greenhouse gas emissions reduction, renewables deployment, or designation of Disadvantaged Communities. Thus, the Climate Act identifies co-pollutants as a factor to weigh

---

[37] ECL §75-0101(3).

[38] Id. §1(6) (emphasis added).

[39] Id. §1(11).

when choosing among regulatory measures but not the source of an independent requirement for the Commission.

## 4.2 Emissions from some activities count

In addition to interpreting which types of pollutants are cognizable under the 2040 target, the Commission must also interpret what scope of activities related to a given generation resource are cognizable under that target. This is because greenhouse gas emissions potentially attributable to a generation resource originate from different a range of activities, from construction to operation to decommissioning at the end of the resource's useful life.[40] The New York State Department of Environmental Conservation (DEC), in accordance with the Climate Act, has adopted an approach for New York's Statewide Greenhouse Gas Emissions Report that counts emissions arising from a subset of the activities related to power generation resources and production of the fuels they consume from which greenhouse gas emissions might arise. Staff recommends largely aligning application of the 2040 target with this approach but also reads the Climate Act as requiring the Commission to supplement it in one respect: also recognize emissions arising from fuel production for certain non-fossil fuels as well as fossil fuels.

As a general matter, Staff's view is that aligning this aspect of the definition of "zero emissions" with the letter and spirit of the Climate Act means adopting a scope that is neither so narrow that it leaves a regulatory gap, invites gaming, or creates perverse incentives, nor so broad that it causes the Commission to regulate activities beyond the power sector. Measuring only operation-related emissions would be too narrow because it could allow resources reliant on greenhouse gas emissions-intensive fuel production processes to be dubbed "zero emissions." Staff views this possibility as directly in conflict with the purpose of the Climate Act, as it could perversely enable power sector emissions to plateau or even climb as clean energy transition ostensibly proceeds in formal alignment with key targets. On the other hand, the law does not require the Commission to incorporate the emissions arising from *all* activities relating to a given

[40] See, National Renewable Energy Laboratory (2021), Life Cycle Greenhouse Gas Emissions from Electricity Generation: Update, p.1 (citing Sathaye, Jayant, et al. (2011), Renewable Energy in the Context of Sustainable Development, *in* O. Edenhofer et al., (eds.), Renewable Energy Sources and Climate Change Mitigation: Special Report of the Intergovernmental Panel on Climate Change (pp. 707-790). Cambridge: Cambridge University Press, p. 730, fig. 9.7. (showing comprehensive list of activities potentially resulting in emissions)).

resource – from facility construction to decommissioning – into its emissions standard, and the Commission should not do so. Under both the Climate Act and the Public Service Law, the Commission's charge with respect to the power sector is focused on the activities directly related to the conversion of primary energy sources into electricity.[41] Therefore, when applying the 2040 target, the Commission should treat as cognizable emissions from both a resource's operations and its fuel production process.

Staff notes that this approach is broadly consistent with the greenhouse gas emissions inventorying principles employed by the Intergovernmental Panel on Climate Change,[42] the U.S. Environmental Protection Agency,[43] as well as DEC, and recommends that the Commission should not seek to regulate energy use or environmental impacts with respect to transportation, manufacturing, or construction activities related to the energy resources at issue in this proceeding. In addition to this being conventional, the Climate Act did not expressly or implicitly expand the Commission's jurisdiction to cover these areas. This is not to say that New York State should be indifferent to the emissions impacts of, for instance, manufacturing processes that result in relatively high and avoidable levels of embodied emissions. But this Commission proceeding, which focuses on the Climate Act's 2040 target for the statewide electrical demand system, is not the proper regulatory context for establishing a framework that translates the Climate Act's economy-wide emissions limits into proscriptions on emissions-intensive activities beyond the core function of the power sector.

Notably, administrative considerations also weigh in favor of considering greenhouse gas emissions from generation resources' operations and fuel production processes only. First and

---

41 See generally, PSL §§64-77. Consistent with this rubric, Staff suggests that the Commission not count emissions from sources that are embodied in or ancillary to the operation of electricity facilities, such as the sulfur hexafluoride used as a gas insulator in high-voltage transmission and distribution equipment, diesel-powered mobile backup generation units used by utilities during outages, and mobile and stationary backup generation units at power plants to help respond to emergencies. Notably, sulfur hexafluoride, which is embodied in power sector equipment, is the subject of DEC's proposed 6 NYCRR Part 495, which would regulate leak reduction and prompt a transition to alternative forms of gas insulation.

42 See Intergovernmental Panel on Climate Change, 2006 IPCC Guidelines for National Greenhouse Gas Inventories, vol. 2: Energy §§1.2, 1.3, 1.4.1.1.

43 See Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions Sources and Sinks 1990-2022, §§3.1, 3.7, 3.10.

foremost, doing so would align with the approach DEC has taken to inventorying greenhouse gas emissions, and so would not create new or dissonant reporting requirements for regulated entities.[44] It would also leave activities that fall outside the power sector to the regulatory competency of other agencies that are better equipped to craft measures to reduce emissions from, for instance, manufacturing, construction, and transportation activities.

However, as noted above, Staff does recommend supplementing DEC's inventory, which – guided by provisions of the Climate Act codified in the ECL – does not count emissions arising from the out-of-state fuel production process for non-fossil fuels potentially used to generate electricity.[45] Failing to recognize the fact of such emissions, in Staff's view, would create unacceptable blind spots with regard to the emissions of the production processes for hydrogen, ammonia, and potentially other fuels as well. Therefore, to ensure consistency with the legislature's directive to the Commission codified in PSL §66-p(2)(b), Staff proposes treating a specified class of such fuels as "energy carriers" rather than primary energy sources. Before explaining this proposal more fully, Staff briefly describes several key features of DEC's Statewide Greenhouse Gas Emissions Report here.

DEC divides New York's economy into four sectors and various categories of activity and tracks the emissions of seven specified greenhouse gases from each.[46] To avoid double-counting, emissions from a given source are only attributed to a single sector and category. For instance, DEC attributes emissions from CHP facilities to Residential, Commercial and Industrial Fuel Combustion and not Electricity Generation, reasoning that generating heat is the primary activity for CHP and generating electricity is secondary.[47] In keeping with this sectoral

---

[44] NYSERDA (2023). Energy Sector Greenhouse Gas Emissions under the New York State Climate Act: 1990–2021, https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/Energy-Analysis/23-27-Energy-Sector-Greenhouse-Gas-Emissions-Under-the-NYS-Climate-Act-1990-2021.pdf; NYSERDA (2023). New York State Oil and Gas Sector: Methane Emissions Inventory, https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/Energy-Analysis/3-28-2021-Inventory-New-York-State-Oil-and-Gas-Sector-Methane-Report.pdf.

[45] See, ECL §75-0101(13).

[46] DEC, 2023 NYS GHGI, p. vi, tbl.ES.3.

[47] DEC, 2023 NYS GHGI Report - Sectoral Report #1: Energy, p. 5 ("This category addresses emissions from facilities whose primary activity is to generate electricity that will be

approach, and guided by the Climate Act's definition of "statewide greenhouse gas emissions," DEC captures emissions from these activities if they are in-state, but does not attribute the fuel production emissions from biofuel or hydrogen feedstocks – whether in-state or out – to the electricity sector. This was a deliberate and thoughtful choice, guided by DEC's interpretation of the Climate Act,[48] and made as part of the adoption of a universal rubric for inventorying statewide emissions, not for tracing emissions related causally to particular resources.[49]

DEC counts emissions related to the generation of electricity that is imported into New York,[50] but does so in the same way as it counts in-state electricity emissions. That is, guided by provisions of the Climate Act codified in the ECL, DEC does not count emissions from the out-of-state production of non-fossil fuels such as biofuels or hydrogen nor attribute emissions from in-state production of those fuels to electricity generation that consumes them. This results in the same problematic blind spot for the Commission's purposes with respect to electricity imports as the one mentioned above.

---

transmitted via the electricity grid. Per IPCC approach, this category does not include electricity generated for local use, or distributed sources of generation such as industrial facilities or combined heat and power (CHP) facilities (a form of industrial fuel combustion).").

[48] NYSERDA, Energy Sector Greenhouse Gas Emissions under the New York State Climate Act: 1990–2020, p. 18 ("Upstream fuel cycle emissions for fossil fuels are accounted for in order to ensure compliance with the Climate Act. Inclusion of upstream fuel-cycle factors for non-fossil fuels (e.g., biofuels) is not required by the Climate Act, and these non-fossil fuels are excluded from the out-of-State upstream fuel-cycle analysis.").

[49] See, 6 NYCRR part 496, p. 35, https://dec.ny.gov/sites/default/files/2023-12/6nycrrpart496adopted2020.pdf.

DEC did not consider the merits of different fuels or consider the ways in which future policies would be needed to promote specific fuels or even ensure emission controls. Many additional policies will be needed to achieve the statewide emission limits, and these issues may be addressed by the Department, the [Climate Action] Council, and the State as part of the consideration and implementation of various policies to meet the requirements of the [Climate Act].

[50] DEC, 2023 NYS GHGI, pp. 2-3 ("The CLCPA also requires that this report include emissions that occur outside of the state that are associated with imported electricity and imported fossil fuels. These emissions are not typically included in governmental greenhouse gas emission reports or the IPCC approach."); 14-17; see also NYSERDA, Energy Sector Greenhouse Gas Emissions under the New York State Climate Act: 1990–2020, p. 19, fig. 1 (depicting boundary of activities for which out-of-state emissions are counted).

Staff recommends that the Commission adopt a two-step analysis: *first*, any power sector fuel source to which DEC's inventory attributes emissions cannot be counted as "zero emissions" under PSL §66-p(2)(b); and *second*, a resource to which DEC's inventory does not attribute emissions, but that serves principally to store energy for subsequent use, is to be viewed as taking on the character of its feedstock with respect to greenhouse gas emissions. Put another way, Staff proposes to include out-of-state emissions from the production of non-fossil fuels and to modify DEC's approach by combining emissions from production and combustion when considering the zero emissions characteristic of a fuel source in the power sector. In contrast to DEC's inventory, which would not treat the combustion of any form of hydrogen to generate electricity as emitting greenhouse gases, Staff's proposed approach would distinguish between hydrogen derived from fossil fuels versus hydrogen derived from electrolysis powered by clean electricity.

Staff believes that this adjustment to DEC's inventory is necessary because if the Commission were to ignore emissions from fossil fuel feedstocks of energy carriers it would invite shifting emissions across accounting categories but not actually reducing them – an unacceptable result that would be at odds with the basic greenhouse gas emission reduction aims of the Climate Act as well as the "zero emissions" term in PSL §66-p(2)(b). Practically speaking, application of this approach would not require the Commission to construe an alternative emissions inventory. Rather, it would require a facility that consumes fuels deemed "energy carriers" by the Commission to verify and attest that those fuels' production process not yield greenhouse gas emissions. Detailed protocols for compliance should be developed by Staff in consultation with DEC and NYSERDA.

## 4.3 Zero and net zero

Assessing compliance with an emissions standard requires specifying a quantitative threshold, which, in this instance, requires interpreting how the Commission should translate the term "zero" into a measure of emissions from resources that serve the statewide electrical demand system. This specification requires addressing whether the Commission should employ a gross accounting of emissions or allow for netting. For the reasons explained below, Staff recommends interpreting "net zero" as distinct from "zero." The Climate Act uses the term "net

zero emissions" in some places and "zero emissions" in others. It does not define either term. Its two uses of "net zero emissions" refer to an economy-wide status resulting from the reduction of emissions by at least 85% from 1990 levels and the offsetting of whatever emissions remain through carbon sinks and resources potentially authorized to be counted as emissions-reducing through an alternative compliance mechanism.[51] Two of its three uses of "zero emissions" are in PSL §66-p(2) and (3) and refer to the 2040 target and resources capable of complying with that target; the third usage relates to vehicles.[52] A textual and structural reading of the Climate Act both support the same conclusion, namely that "net zero" can only be read as meaningfully distinct from "zero."

New York courts have held that "[w]hen different terms are used in various parts of a statute or rule, it is reasonable to assume that a distinction between them is intended."[53] This is consistent with two principles of statutory interpretation. The first holds that there is no surplusage in a statute (*verba cum effectu sunt accipienda*), meaning that no word should be ignored, and every word and provision should be given effect. The second holds that saying one thing in statutory language implies the exclusion of others (*expresio unius est exclusio alterius*), meaning that the legislature's inclusion of one thing and omission of another should be read as indicative of legislative intent to exclude what was omitted. Applying these principles to the term "zero emissions" (in light of "net zero emissions" being present elsewhere) involves asking what meaning the legislature intended to add by including "net" in one place and omitting it in another. And the answer simply cannot be that the legislature meant for "net zero" – the result of subtracting emissions avoided or reduced in one place or time from the accounting treatment of some volume of emissions released at another place or time – to be the same as "zero" emissions.

A structural reading of the Climate Act, consistent with the principle that a statute should be read as a whole and not as separate sections, reinforces this conclusion. While the Climate Act

---

[51] ECL §§75-0103(11), 75-0109(4)(a) ("The department may establish an alternative compliance mechanism to be used by sources subject to greenhouse gas emissions limits to achieve net zero emissions.").

[52] Climate Act §6(c) (referring to "zero-emission and low-emission" transportation options).

[53] Batavia Townhouses, Ltd. v. Council of Churches Hous. Dev. Fund Co., Inc., 38 N.Y.3d 467, 474, 195 N.E.3d 503, 506–07 (2022) (quoting (Matter of Albano v. Kirby, 36 N.Y.2d 526, 530, 369 N.Y.S.2d 655, 330 N.E.2d 615 [1975]).

does not prescribe exactly how the Commission should distinguish between "net zero" and "zero," the Act's formulation of – and exclusions from – the "alternative compliance mechanism" for greenhouse gas emissions reductions imposes a clear limit on the Commission's interpretive discretion. The alternative compliance mechanism is the Climate Act's sole potential means of pursuing an economy-wide greenhouse gas emissions objective by doing something other than abating those emissions. It is meant to cover sources of emissions that are especially challenging to transition to non-emitting alternatives by 2050. It allows for such sources to offset their unabated greenhouse gas emissions, and limits offset projects to those that "represent greenhouse gas equivalent emission reductions or carbon sequestration that are real, additional, verifiable, enforceable, and permanent."[54] The volume of emissions that can be offset in this way is limited to 15% of 1990 statewide emissions levels.[55] In addition to limiting the volume of emissions that can be offset through use of this mechanism, the Climate Act also excludes several relevant categories of resources from such use: "[s]ources in the electric generation sector," "waste-to-energy resources," and "biofuels used for energy . . . purposes."[56] These exclusions indicate that the legislature meant for emissions from these resources to be regulated pursuant to the 2050 emissions limit and not using a mechanism that counts offsetting emissions reductions as reducing gross emissions.

Some commenters argue that the Commission should not be guided by the provisions of the Climate Act that authorize adoption of an alternative compliance mechanism, which are codified in the ECL and directed to DEC. Those commenters suggest that the Commission should use its discretion to read "zero emissions" as compatible with an accounting treatment that allows for netting the attribution of greenhouse gas emissions to a resource, depending on the feedstock it uses.[57] New York City's comments adopt a narrow version of this reading,

---

54 ECL §75-0109(3)(b).

55 ECL §§ 75-0107(1)(b), (4).

56 ECL §§ 75-0109(4)(f), (g)(i), (g)(ii).

57 E.g., Comments of Independent Power Producers of New York (filed Feb. 20, 2024), pp. 8-9 ("The Commission should not distinguish between 'zero emissions' and 'net zero emissions.'"); Comments of Independent Power Producers of New York (filed Aug. 16, 2023), p. 14 ("Zero emissions sources can therefore be defined as systems, other than renewable energy systems, that can individually, or in combination, deliver net zero GHG

focused on biogenic methane gathered from wastewater resource recovery facilities (WRRFs).[58] The City points out that "[m]ethane produced from controlled decay, such as in a [WRRF], is often flared into the atmosphere to convert it into carbon dioxide and lower its GHG emissions potential."[59] The City argues that because methane captured from a WRRF would otherwise have been vented or flared, yielding carbon dioxide and co-pollutant emissions, using that methane to generate electricity would not increase emissions from the WRRF *or* the electricity generator and might even reduce them. From this it follows, according to the City, that the electricity generator can qualify as a "zero emissions" resource because its consumption of methane adds zero emissions to the atmosphere, albeit on a net basis.

Staff agrees with the City that the language of PSL §66-p gives the Commission some discretion. However, Staff disagrees that the Commission can simply ignore the Climate Act's contrasting uses of "net zero emissions" and "zero emission," as well as the Act's express exclusion of power sector resources from the sole mechanism that could authorize net emissions accounting for a given source. Several canons of statutory construction pertain and all point in the same interpretive direction. In short, Staff's legal analysis concludes that the Climate Act did not give the Commission discretion to adopt net emissions accounting for power sector resources or resources that generate energy by consuming primary fuels in a way that involves the avoidance or reduction of emissions at another time or place or in another sector.

Administrative considerations reinforce this conclusion. While DEC has not interpreted PSL §66-p, it has, pursuant to the Climate Act's requirement that it establish an emissions inventory, adopted an economy-wide greenhouse gas emissions accounting framework.[60] That framework counts emissions from greenhouse gas emitting sources on a gross basis. The netting done under that framework does not obscure the fact of emissions from emitting resources; it

---

equivalent electricity."); Comments of Mainspring Energy (filed Feb. 20, 2024), p. 4 ("Zero emissions and net-zero emissions do not need to be read as distinct in the PSL."); Comments of Multiple Intervenors (filed Feb. 20, 2024), p. 6 ("Multiple Intervenors does not believe that the Commission must interpret "zero emissions" and "net zero emissions" as distinct terms, but it would be within its discretion to do so.").

58 Comments of City of New York (filed Feb. 20, 2024).

59 Id., p. 3.

60 See generally, 6 NYCRR part 496.

merely arrives at an economywide total by subtracting emissions sinks from sources. *All* emissions from *all* covered sources of greenhouse gas emissions are counted in the first instance and no netting may be done for individual sources outside of the alternative compliance mechanism.[61]

While the Commission is not legally bound to adopt this framework, departing from it, whether expressly or by implication, would mean departing from the rubric that is basic to compliance with all Climate Act implementing regulations adopted by DEC. Should the Commission opt to treat emissions sources differently from DEC, it would thereby introduce complexity and could potentially introduce tension or even conflict into Climate Act compliance for entities covered by both DEC regulations and Commission orders. Such entities are the rule, not the exception: most of the major sources of emissions that are subject to Commission jurisdiction are also regulated by DEC or rely on infrastructure regulated by DEC.

## 4.4 Imports

The Climate Act defines "statewide greenhouse gas emissions" to include "the total annual emissions of greenhouse gases produced within the state from anthropogenic sources and greenhouse gases produced outside of the state that are associated with the generation of electricity imported into the state . . . ."[62] While there is no question that the "zero emissions" standard must be applied to electricity imports, how exactly it can and should be applied is not a simple matter. Staff recommends an approach that largely aligns with how DEC has managed the challenges of tracking and limits on controlling emissions related to electricity imports, modified somewhat to be consistent with practices used in the Climate Action Council's Scoping Plan published in 2022. Thus, Staff's recommendation would not result in a novel approach. The rest of this section explains the approach taken by DEC, and the nature of and reasons for Staff's recommended amendments to that approach.

---

[61] As of this writing, DEC has not adopted an alternative compliance mechanism.

[62] ECL §75-0101(13).

### 4.4.1 New York's present approach to estimating emissions related to imported electricity

Keeping count of greenhouse gas emissions arising from sources of imported electricity presents administrative challenges, owing to technical and legal factors. Since passage of the Climate Act, DEC and the Climate Action Council each adopted broadly similar approaches to this task – DEC for the purpose of producing an annual emissions inventory, the Climate Action Council for the purpose of modeling the power sector and wider economy to facilitate planning toward the clean energy transition contemplated by the Climate Act. DEC's approach entails the following steps: (1) assign an emissions factor to electricity generation in each of the four regions to which the New York Control Area is connected by transmission lines, namely Ontario, Quebec, New England (ISO-New England), and the Mid-Atlantic (PJM); (2) tally the net flow of energy between those regions; and (3) apply the appropriate emissions factors to the volume of net imports, if they exist, to calculate emissions attributable to imports from each region. The first step incorporates an estimate of upstream emissions arising from the production of fossil fuels consumed to generate electricity. Consistent with the description of DEC's inventory in section 4.2 above, it does not incorporate an estimate of emissions from the production of non-fossil fuels. It is important to note that the netting of power flows involved here does not run afoul of DEC's gross emissions accounting approach, discussed in section 4.3 above. This is because emissions from electricity generation that occurs in New York State, regardless of whether that electricity is exported elsewhere, is attributed to New York State-based resources. This accounting assumption ensures that all greenhouse gas emissions arising from generating facilities within New York's borders are counted. Thus, the netting calculation is not employed to offset emissions resulting from electricity generation at a particular New York facility or using a particular fuel source.

### 4.4.2 Adjustments to implement the 2040 target

While this treatment, which New York State agencies have employed for years, is broadly appropriate for the purpose of the emissions inventory, it is not fully reflective of the operation of the electricity system and its particular constraints. The New York electricity system is fundamentally inextricable from a broader regional system made up of the Eastern Interconnection and the Quebec Interconnection as well. Physical and legal limitations prevent New York from making its piece of that broader electricity system an island, cut off along

political boundaries. Generation in any part of the Eastern Interconnection and Quebec has an impact on the energy balance in its other parts, and regional and interregional generation coordination is required to keep the broader system operational. In addition, New York State relies on the New York Independent System Operator, Inc. (NYISO) to administer bulk power system operation and transactions, including imports and exports, and NYISO is subject to oversight by the Federal Energy Regulatory Commission under the Federal Power Act. Thus, even if New York eliminates particular generation resource categories or greenhouse gas emissions from its own generation mix, it cannot dictate whether emitting generation is still present and operating as part of the broader interconnection within which New York coordinates the operation of its statewide electrical system.

These factors bear upon how the Commission can apply the 2040 target to imports. Most fundamentally, they show it to be an unavoidable fact that power will flow between New York and its neighbors. Further, they show that it would not be practicable for the Commission to comply with the 2040 target by devising and employing impediments to cross-border flows of electricity. However, if the state relies on net imports to meet its energy needs and those imports are generated in part by emitting resources, then the statewide electrical demand system cannot be said to be "zero emissions."

To be clear, compliance with the "zero emissions" standard can only be achieved by generating or otherwise securing enough zero-emission electricity to meet New York's own needs. Consistent with the practice adopted in the Scoping Plan's Integration Analysis and adapting somewhat DEC's inventory approach, this requires ensuring that either net imports of non-zero-emissions generation into the NYCA are zero or that New York is a net exporter of clean energy. In sum, the state is to measure its annual imports, subject to adjustments described below, and compare them to annual power exports, and so long as exports of compliant electricity equal or exceed imports, then the electricity demand system can be said to be "zero emissions."

One further aspect of the application of the 2040 target to imports requires consideration and decision, namely treatment of the imports of zero emission electricity. New York benefits today from imports of clean power from neighboring regions, and these clean imports are likely to increase as renewable and other clean generation grows in those regions. Just as New York cannot realistically make itself an island as a matter of electrical engineering, neither should New

York energy consumers be burdened by limiting access to energy imports that comply with the 2040 target. So, in instances where New York imports zero emissions energy from a neighbor, Staff recommends that that portion of imports should, wherever possible, be excluded from the analytical rubric for compliance articulated above. At present, this primarily has implications for imports from Quebec, but it could come to apply to others in the foreseeable future as well.

New York has historically imported electricity from the province of Quebec, whose generation capacity is predominantly zero emission, and principally hydropower. In Quebec, baseload generation – the level of generation required to meet load at all hours of the year, even the minimum – is zero emissions. While the volume of power New York imports from Quebec fluctuates from year to year, generators' planning assumes a roughly constant level of export. That is, generators treat exports to New York as part of the minimum level of demand that informs "baseload" levels of generation in Quebec. Notably, when Quebec's hydropower generation is lowest, the amount of electricity imported into New York declines as well. Therefore, imports from Quebec can be deemed to be zero emissions and not counted against New York's total imports for that year. Should the generation mix in Quebec shift and the role of emitting generation increase, this assumption about compliance with the zero emissions standard would not hold. Such a shift should prompt the Commission to revisit this treatment and make adjustments to preserve the zero emission character of electricity consumption in New York.

Likewise, it is likely that generators of renewable or other electricity that meets the 2040 target in neighboring geographies may choose to sell power into New York. New York should be able to benefit from this kind of regionality because it meets the spirit and the letter of the Climate Act while reducing costs to comply with it. As such, when a resource in another jurisdiction that meets the 2040 target can be shown to have dispatched into New York,[63] it should also not be counted against imports into New York.[64]

---

[63] NYGATS, the system used to track emissions for the purposes of complying with the allowance-purchasing requirements of the Regional Greenhouse Gas Initiative, can track unit-specific dispatch for tracking sales of power and environmental attributes in New York State.

[64] No unit of electricity can be treated as compliant with the 2040 standard if its clean energy characteristics are claimed by someone else. That is, if the non-electricity attributes of electricity claimed as consumed in New York are separated and claimed elsewhere, then that electricity must be included in the above import total.

In summary, because imports into New York State cannot be prohibited physically or legally, Staff recommends adoption of an approach that ensures the state has reliable access to enough clean energy to meet its needs. More specifically, it recommends that the Commission find in a given year that imports are in compliance with the 2040 target if adjusted net imports are equal to or less than 0.

$$0 \geq I_a - E$$

$$I_a = I - I_0$$

*Where*

$I_a$ = *Adjusted Imports*

$E$ = *Exports*

$I$ = *Total Imports*

$I_0$ = *Compliant Imports*

### 4.4.3 How to build on the present approach

Staff acknowledges that, because emissions and resource attribution for cross-border electricity transactions is complicated, the approach described above would yield approximate results. But Staff also recognizes that DEC and the Climate Action Council have taken this approach for at least two reasons that are equally valid for the Commission's purposes in this proceeding. One reason is intractably complex administrative circumstances. Emissions data from the diverse electricity generation facilities operating outside New York are available from a variety of sources. Data reporting varies across facility type and data outputs vary across jurisdictions. Those outputs also generally lag real-time changes in electricity demand and supply by meaningful durations, ranging from hours to weeks, depending on the resource and its host jurisdiction. The other 20 or more subnational jurisdictions that potentially export electricity to New York each have distinct energy policies and New York State agencies have no authority to direct entities in those jurisdictions to adopt different parameters or schedules for their generation and emissions reporting, much less energy policy measures. These ministerial challenges are compounded by the fact that, because the electrons flowing from each out-of-state facility mix with those generated by other facilities before being carried into New York, it is generally impossible to trace imported power to a particular facility. Consequently,

characterizing the emissions profile of imports into New York at any given time requires estimation based on the emissions profile of numerous resources across a control area.

Another reason for adopting an approach that yields such approximate results is that more granular information would not necessarily be more useful to the Commission. The Climate Act does not direct New York agencies to change the electricity sectors of other jurisdictions, only to steer New York's electricity sector toward cleaner resources. And few if any practicable and legally permissible policy measures could translate data on hourly or 15-minute-interval changes in neighboring regions' marginal emissions rates into lower greenhouse gas emissions from New Yorkers' consumption of electricity. Thus, even if it were administratively possible to build a high-resolution, real-time model of neighboring regions' electricity systems, it is not clear that doing so would better serve any practical purpose than Staff's proposed approach would do.

For the foregoing reasons, Staff encourages the Commission to treat application of the 2040 target to electricity imports as an important indicator for planning purposes, and not as a hard restriction to be used to impose limits – whether on either dirty electricity imports or clean exports – to try to offset emissions attributable to net electricity imports. Staff also observes that neighboring control areas are getting cleaner, and any attempt to mothball interregional grid connections pending eventual alignment at a low emissions threshold would be misguided and legally difficult to support.

## 4.5 Fuel cells

PSL § 66-p(1)(b) defines "fuel cells which do not utilize a fossil fuel resource in the process of generating electricity" as a "renewable energy system." This definition interacts with both the 2030 and 2040 targets. In its 2020 Order Adopting Modifications to the Clean Energy Standard, the Commission interpreted PSL§66-p(1)(b) to mean that "fuel cells that use biomass, biogas, hydrogen, or other non-fossil fuels" should remain eligible for renewable energy procurements and should be counted as "renewable" for purposes of assessing progress toward the 2030 target.[65] The Commission further explained that "we interpret the term 'utilize a fossil

[65] Case 15-E-0302, Order Adopting Modifications to the Clean Energy Standard (issued October 15, 2020), pp. 20-12 (CES Modification Order). This modified the prior characterization of fuel cells, which were considered eligible technology for the customer-

fuel' broadly to require that the non-fossil fuel inputs to otherwise eligible fuel cells be produced and/or manufactured through a process that does not include the combustion or electrolysis of fossil fuels, or the use of fossil fuel or non-renewable grid power in the conversion process."[66]

In this proceeding, the Commission must determine how the definition in PSL §66-p(1)(b) interacts with the 2040 target's "zero emissions" standard. This interaction is straightforward for a fuel cell that consumes hydrogen made using only clean energy: the Climate Act, as already interpreted by the Commission, defines that resource as a "renewable energy system" and the resource emits zero greenhouse gas emissions when it generates electricity. However, the interaction is less straightforward for a fuel cell that consumes biofuels, even if those biofuels are produced using only clean energy, because that resource, which uses no fossil fuels, is also defined as a "renewable energy system" but emits greenhouse gases when it generates electricity.

Staff's interpretation begins by "read[ing] the statute literally . . . and determin[ing] whether the language of the statute is unambiguous and clearly expresses the Legislature's intent."[67] Staff notes here (as it did above) that "*unless a contrary intent is clear*, lawmakers employ words as they are commonly or ordinarily employed."[68] Although a literal reading of the words "zero emissions" would seem to exclude biofuel-fed fuel cells from satisfying the 2040 target, Staff believes that it would misread the legislature's intent to read these words out of the context of PSL §66-p(1) & (2). In other words, the legislature made clear that it had a contrary intent. To guide its interpretation of that intent, Staff notes that, in New York State, "a statute must be construed as a whole and its various sections must be considered together and with reference to each other."[69] Put another way, when interpreting a statute, one "is under a duty to

---

sited tier under the RPS and PSL 66-j. Case 03-E-0188, supra, Order Regarding Retail Renewable Portfolio Standard (Issued September 24, 2004); PSL §66-j(1)(g).

66 CES Modification Order, p. 21.

67 McCulloch v. New York State Ethics Comm'n, 285 A.D.2d 236, 239 (3d Dep't 2001) (internal citations omitted).

68 People v. Holz, 35 N.Y.3d 55, 59, 148 N.E.3d 513 (2020) (emphasis added).

69 Avella v. City of New York, 29 N.Y.3d 425, 434, 80 N.E.3d 982, 987 (2017) (quoting Matter of New York County Lawyers' Assn. v. Bloomberg, 19 N.Y.3d 712, 721, 955 N.Y.S.2d 835, 979 N.E.2d 1162 (2012) (ellipses omitted).

give as much effect as possible to all the words in the statute and read them in harmony with each other."[70] The words "zero emissions" are just one component of directions to the Commission to establish and design a "renewable energy program," which is to be guided by targets for 2030 and 2040. That program, as its name indicates, is meant to cause New York's power sector to become reliant mainly on renewable resources, and the legislature prescribed which resources are to be considered "renewable energy systems." The statutory definition of "renewable energy system" includes fuel cells that do not consume fossil fuels, which encompasses biofuel-fed fuel cells. Further, PSL §66-p(2) is structured so that achievement of the 2030 target will precede and undergird the pursuit of the 2040 target, which implies that resources that count toward satisfaction of the 2030 target are to be permanent features of the mainly-renewable power sector; they should not cease counting toward satisfaction of Climate Act targets in 2040.

In sum, then, Staff recommends that the Commission interpret the interaction between PSL §66-p(1)(b)'s definitions and §66-p(2)'s "zero emissions" standard as allowing fuel cells fed by non-fossil fuels, including hydrogen and biofuels, to operate in compliance with the 2040 target's "zero emissions" standard, so long as the production of those fuels does not involve fossil fuels.

# 5 Reviewing Progress Towards Achieving the 2040 Target

Staff believes that it is timely to interpret provisions of PSL §66-p that authorize the Commission to consider impacts of the zero emissions by 2040 target on safe, reliable, and affordable electric service in the state.

## 5.1 Timeliness

Pursuing the 2040 target will require the deployment of novel technologies and their integration into a changing grid. Further, as recent experiences with pandemic, supply chain disruptions, inflation, changes to interest rates, the effects of federal policy on domestic manufacturing, and revised expectations about load growth have made plain, progress toward the

[70] Spellmans Marine Inc. v. HC Composites L.L.C., 77 Misc. 3d 318, 178 N.Y.S.3d 379, 385 (N.Y. Sup. Ct. 2022) (quoting Loehr v. New York State Unified Ct. Sys., 150 A.D.3d 716, 720, 57 N.Y.S.3d 40, 45 (2d Dept. 2017)).

target will be heavily contingent on pressures beyond New York State's control. Staff believes the 2040 target must be interpreted and implemented without compromising resource adequacy, reliability standards, and affordability.

The following items inform Staff's perspective on the 2040 target and the "zero emissions" standard: insights gleaned from the December 2023 technical conference and subsequently filed comments; further insights from the ongoing Coordinated Grid Planning Process being undertaken by Staff, NYSERDA, the Joint Utilities, and others; and consideration of a recent dispute over the NYISO's valuation of capacity resources that highlighted ambiguity in the statutory language establishing the 2040 target. Before discussing those items in more detail, Staff notes that it has received comments from several parties cautioning that the pursuit of the 2040 target should not distract attention or divert resources from pursuit of the 2030 target, which focuses on the buildout of renewables.[71] This caution is appropriate, in Staff's view, as the Climate Act clearly envisions a power sector in which renewables predominate. But Staff does not read this caution as at odds with its analysis or recommendation below.

*Technical conference*. The experts who participated in the December 2023 technical conference hosted by Staff and NYSERDA discussed the potential for New York State's available clean electricity supply in 2040 to fall short of what will be necessary to reliably meet demand. They also discussed various energy technologies that are not commercially available at present but could, if widely deployed, avert the emergence of such a gap. There was broad agreement on the first point, namely that if present supply and demand trends persist in the power sector and greenhouse gas-emitting generation is required to cease operating after 2040, a large gap would very likely open up between supply and demand.[72] This view was grounded in analysis of load growth that included the expected electrification of buildings and

---

[71] Comments of Natural Resources Defense Council (filed Feb. 20, 2024), pp. 1-2; Comments of Advanced Energy Economy and Alliance for Clean Energy New York (filed Feb. 20, 2024), pp. 3-4; Comments of Earthjustice and Sierra Club in Response to Comments of Roger Caiazza (filed July 18, 2024), p. 4.

[72] A recording of the Technical Conference can be accessed at: https://youtu.be/H8cDf0bRetQ?t=1144 (Characterizing the potential 'gap' with respect to resource adequacy, transmission security, and grid stability arising from shuttering fossil fuel-fired resources).

transportation,[73] but, notably, did not reflect more recent indications of potential upward pressure from new large loads introduced by new or revamped commercial and industrial facilities.[74] Comments filed since the December 2023 technical conference have highlighted the importance and analytical challenges of estimating the size of a potential reliability gap.[75] Staff does not endorse a specific estimate of the potential 2040 gap, but it does take the view that the trends on the supply and demand sides of New York State power sector's make likely a gap that would require at least 10 to 20 GW of clean firm generating capacity to fill. This view is informed in part by the draft analysis, recently published by Staff and NYSERDA, of recent global disruptions and other factors' delaying effects on large-scale renewables deployment in New York.[76] As for new technologies that could be deployed in the coming years to help New York hit the 2040 target, panelists at the December 2023 technical conference described how several show promise, but panelists and commenters also noted diverse factors that make deployment at the locations and scale required uncertain.

*Ongoing research*. The Coordinated Grid Planning Process (CGPP) presently being undertaken by Staff, NYSERDA, the Joint Utilities, the NYISO, and members of the Energy Policy Planning Advisory Council (EPPAC) in accordance with the Accelerated Renewable Energy Growth and Community Benefit Act is examining, among other things, what scale of resources New York needs to deploy in order to avert a gap between power sector supply and demand after 2040. That process recently estimated that 17 GW of clean, firm generation

---

[73] Kenji Doering, C. Lindsay Anderson, and Scott Steinschneider (Feb. 2023), Evaluating the intensity, duration and frequency of flexible energy resources needed in a zero-emission, hydropower reliant power system, *Oxford Open Energy* 2, pp. 1-15; NYISO (Sept. 2022), 2021-2040 System & Resource Outlook; NYSERDA & DEC, New York State Climate Action Council Scoping Plan, Appendix G: Integration Analysis Technical Supplement, pp. 41-51.

[74] See, NYISO (July 2023), 2023-2042 System & Resource Outlook, pp. 33-36; CGPP Energy Policy Planning Advisory Council Supporting Documents: "GB Large Loads Forecast," https://dps.ny.gov/eppac-supporting-documents.

[75] E.g., Sierra Club and Earthjustice's Comments in Response to December Technical Conference (filed June 14, 2024), pp. 6-9.

[76] See generally, CES Biennial Review.

capacity will be needed.[77] This estimate, which is based on modeling conducted specifically to support the CGPP, largely confirms the conclusion of the NYISO and academic researchers regarding a looming need. Notably, the CGPP estimate is substantially below the 20-40+ GW range estimate published by NYISO in its 2023-2042 System and Resource Outlook.[78] In any event, there is no consensus among CGPP participants about the technologies that could be deployed to meet the estimated 17 GW need.

*NYISO capacity market dispute*. In addition to the research findings noted above, a case recently decided by the D.C. Circuit Court of Appeals serves to highlight the nearness of 2040 and the need for clarification from the Commission regarding the language in PSL §66-p regarding the power sector targets.

In its decision, the court denied the Commission's challenge to a decision by FERC approving recalibration of NYISO capacity market prices for the 2021-2025 period.[79] That recalibration interpreted the Climate Act's 2040 target as a hard cutoff for the useful life of the hypothetical fossil-fired simple-cycle gas turbine facility used by NYISO as the basis for construing capacity prices. Because the prices that emerge from NYISO's capacity market construct hinge on cost recovery for this "proxy unit," the NYISO decided that the proxy unit should complete the recovery of all its costs before 2040 as it would presumably not be allowed to continue operating and emitting greenhouse gases thereafter. This resulted in roughly $225 million of additional annual capacity payments that will flow from ratepayers to generators – mainly incumbent, fossil-fired generators – for the remainder of the four-year period.[80]

The D.C. Circuit panel was divided on the proper outcome of the case, but the majority and the dissent both noted the following points: PSL §66-p is ambiguous with respect to what exactly is meant to happen in 2040; the Commission is to play a crucial clarifying role in interpreting and steering implementation of those provisions; and a key ambiguity that requires clarification is the language in subdivisions (2), (3), and (4) about how the Commission will

---

77 NYISO, Capacity Expansion State Scenario Results (June 2024), p. 8, accessible at CGPP Energy Policy Planning Advisory Council Supporting Documents, https://dps.ny.gov/eppac-supporting-documents.

78 NYISO (July 2023), 2023-2042 System & Resource Outlook, pp. 47-48.

79 NYS PSC v. FERC, case no. 23-1192 (D.C. Cir., June 14, 2024).

80 Request of the New York State Public Service Commission for Rehearing of the July 17, 2023, Compliance Order, FERC Docket ER21-502-006, p. 20.

evaluate the impacts of the "zero emissions" targets on resource adequacy and affordability.[81] This dispute demonstrates that 2040 is now well within the formal planning horizon for the power sector. The Commission's interpretation is needed to clarify the meaning of the language in PSL §66-p.

### 5.2 Ambiguities in PSL §66-p(2)

Staff finds that the Commission's authority under PSL §66-p(2) to design a program to achieve the 2040 target is ambiguous in several respects. In particular, Staff believes that clarification is needed to determine how and when the Commission should "consider and where applicable formulate the program to address impacts of the program on safe and adequate electric service in the state under reasonably foreseeable conditions," as called for by the legislature. While this proposal does not examine this issue, Staff finds that continued proactive evaluation and comparative analysis of potential technologies will play a beneficial role in informing the implementation of PSL §66-p(2).

## Conclusion

The definitions proposed here would bring much needed clarity to this process rests. Staff's proposals reflect an analysis of the Climate Act's language as well as key features of the operational and regulatory context in which the language of PSL §66-p is to be implemented. As explained above, Staff finds that the Commission has substantial legal and practical discretion with respect to some issues, and relatively little with respect to others. Staff anticipates that the comments filed in response to the proposal will assist the Commission in its decision making process.

[81] Compare *PSC v. FERC*, pp. 9-10, 13 with id. (dissent), pp. 1-3.