

Hoffman Falls Wind Project

Matter No. 23-00038

900-2.18 Exhibit 17

Consistency with Energy Planning Objectives

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EXHIBIT 17 CONSISTENCY WITH ENERGY PLANNING OBJECTIVES

This Exhibit demonstrates consistency with New York State energy policies, including Climate Leadership and Community Protection Act (CLCPA) targets and long-range energy planning objectives, as well as strategies contained in the 2015 State Energy Plan (SEP), as amended on April 8, 2020. This Exhibit summarizes the status of New York State energy policies that apply to the Facility and describes or includes by reference the assessment of potential impacts to reliability, fuel diversity, regional requirements for capacity, electric transmission restraints, and public health and welfare in accordance with current New York State energy policies. Based on the analysis of documentation and requirements referenced in this Exhibit, the Facility will be consistent with New York's energy planning objectives, including reliability, fuel diversity, regional requirements for transmission capacity and transmission constraints. Liberty Renewables, Inc. (the Applicant)'s development process considered the advantages and disadvantages of available alternative locations for development of wind, based on suitable available land for the proposed capacity and proximity to transmission, which are essential to operate in a manner that is viable both technically and economically. As demonstrated in this Application, renewable energy facilities such as the Hoffman Falls Wind Project offer significant environmental, public health, and community benefits and will aid the state in transitioning from carbon-emitting electric generation, which has negative impacts on wildlife, birds, and human health, toward a carbon-free energy future.

(a) Consistency with New York State Energy Policies

Section 900-2.18(a) of the Office of Renewable Energy Siting's regulations require an analysis of the Facility's consistency with New York State energy policies, including the CLCPA targets and long-range energy planning objectives and strategies contained in the most recent SEP at the time of filing. As demonstrated below, the Facility will contribute to the state's renewable electric generation capacity and advance important objectives of the CLCPA, the 2015 New York SEP, the Clean Energy Standard (CES), and other important state policies.

(1) Overview of State Energy Policies and Plans

New York State has adopted aggressive policies to combat climate change and improve the efficiency, affordability, resiliency, and sustainability of the electric system. These policies are reflected in the 2015 New York SEP and were codified by the state Legislature with the 2019 adoption of the CLCPA, which sets ambitious and comprehensive climate and clean energy goals, encompassing climate change impact adaptation, reductions in greenhouse gas (GHG) emissions, and investments in technology, as well as job creation and energy worker transitions and the protection of disadvantaged communities. The legislation establishes energy system resiliency goals and ensures fair transitions for workers and New York communities, while also focusing on transportation, agriculture, energy-intensive and trade-exposed industries, land use, and energy efficiency.

New York State Energy Law § 6-104 requires that the New York State Energy Planning Board (NYSEPB) adopt a SEP at minimum every 10 years. The SEP, among other things, accomplishes the following: forecasts New York State energy supply and demand and the state's ability to satisfy that demand;

projects GHG emissions; identifies and assesses energy supply source alternatives and emerging trends relating to energy supply, price, and demand; assesses current energy policies and programs and their contributions to achieving long-range energy planning objectives; analyzes energy security issues; and assesses the impacts of plan implementation on economic development, health, safety and welfare, environmental quality, and consumer energy costs. Under NY Energy Law § 6-102(5), these efforts must be guided by the following objectives: "improving the reliability of the state's energy systems; insulating consumers from volatility in market prices; reducing the overall cost of energy in the state; and minimizing public health and environmental impacts, in particular, environmental impacts related to climate change."

The NYSEPB issued the most recent SEP in 2015. The 2015 SEP sets forth a broad range of goals for New York's energy system, from attracting private investment in New York's energy sector and encouraging competition and innovation within the energy markets, to decarbonizing New York State's economy and putting the Empire State at the forefront in the battle against climate change, with the stated goal of, by 2030, reducing statewide GHG emissions by 40% and increasing renewable generation such that 50% of the state's electricity is generated by renewable sources.

To transform the aspirational goals of the SEP into action, the state undertook the Reforming the Energy Vision (REV) initiative. Launched in 2014, the REV represents a broad effort by the state to identify regulatory, infrastructure, and market-based barriers to achievement of the SEP's goals. REV also proposes reforms that better align the state's regulatory schemes, utility tariffs, energy markets, incentive programs, procurement strategies, and allocation of resources with the goals of the SEP. The specific short- and long-term goals of the REV initiative, as articulated on the rev.ny.gov website, include reducing GHG emissions by 40% from 1990 levels by 2030 and generating 50% of the energy consumed in New York through renewable sources by that same date (DPS, 2016). Additional goals include:

- Making energy more affordable for all New Yorkers;
- Building a more resilient energy system;
- Empowering New Yorkers to make more informed energy choices;
- Creating new jobs and business opportunities;
- Improving existing initiatives and infrastructure;
- Cutting GHG emissions 80% by 2050;
- Protecting New York's natural resources; and
- Helping clean energy innovation grow.

On April 8, 2020, the SEP was amended by the NYSEPB to incorporate the CLCPA goals and now incorporates the CLCPA targets including:

- 70% electricity generation from renewable energy resources by 2030;
- 100% carbon free electricity by 2040;

- 40% reduction in GHG emissions by 2030; and
- 85% reduction in GHG emissions by 2050.

The New York State Public Service Commission (NYSPSC) further built upon the progress of the SEP and REV by adopting the CES in August 2016. The CES, among several agenda items, imposes renewable procurement requirements on the state's electric utilities; establishes a system and market for awarding Renewable Energy Credits (RECs) to those projects injecting renewable or carbon-free power into the New York grid; directs certain changes to the ways in which New Yorkers are permitted to purchase or generate their own energy; and adopts a number of measures designed to send market signals to encourage investment by renewable developers and others in the state's energy sector with the goal of "transform[ing] the electric system" (NYSPSC, 2016, p. 70). "The chief focus of the CES initiative is on building new renewable resource power generation facilities" (NYSPSC, 2016, p. 78).

In June 2019, the New York legislature passed the CLCPA—ambitious climate protection legislation designed to combat climate change and set the state on a path to reach 100% zero-emission electricity generation by 2040 and 85% reduction in GHG emissions by 2050 (CLCPA, 2019). With the passage of the CLCPA, the New York State legislature made clear that New York's energy policy is focused on increased renewable energy generation in the state with the elimination of all fossil fuel-fired power plants in New York by 2040. The CLCPA requires that all state agencies consider whether their decisions regarding permits, licenses and other approvals are inconsistent with or interfere with achieving the CLCPA's statewide GHG limits and, if so, identify alternatives or GHG mitigation to be required. Achieving these aggressive renewable energy generation goals will require the development of thousands of megawatts of new utility-scale wind and solar generation.

The CLCPA created the Climate Action Council which released a draft Scoping plan in December 2021 to achieve the state's bold clean energy and climate agenda. The Scoping Plan evaluates technology and policy pathways across all sectors of the economy, including the energy sector, in order to identify the actions New York can take to meet the stated CLCPA goals. The final Scoping Plan, as well as required updates over time, will inform future policies and programming, including future State Energy Plans. Until the final Scoping Plan is issued, the state's energy goals and policy are still guided by the SEP, REV, CES and other important state policies.

The CLCPA also mandates that state agencies assess and implement strategies to reduce their greenhouse gas emissions and, when issuing permits, licenses or other administrative approvals and decisions, to consider whether such decisions would be inconsistent with attaining the statewide GHG emission limits. This requirement applies to the Office and recommendations by other state agencies during the 94-c permitting process.

In addition, the CLCPA requires that the Climate Action Council's Scoping Plan prioritize and maximize reduction of greenhouse gases and co-pollutants in disadvantaged communities. To accomplish this goal, the CLCPA established a Climate Justice Working Group (CJWG) charged with developing criteria to identify Disadvantaged Communities (DACs) in New York State to ensure that frontline and otherwise underserved communities benefit from the state's transition to cleaner sources of energy. Draft DACs

criteria developed by the CJWG was released for public comment on March 9, 2022. The CJWG identified the majority of DACs, at the census tract level, based on 45 indicators regarding “Environmental and Climate Change Burdens and Risks” and “Population Characteristics and Health Vulnerabilities.” The draft DAC list also included 19 census tracts that are federally designated reservation territory or state-recognized Nation-owned land. After a 120-day public comment period, which was extended to August 5, 2022, the CJWG voted to approve and adopt the final disadvantaged community criteria on March 27, 2023. The final DACs criteria will be used by state entities to direct clean energy and/or energy efficiency investments in a manner to ensure that DACs receive no less than 35% of the benefits (NYS CJWG, 2023).

Also in December 2021, NYSDEC issued for public comment draft revisions to NYSDEC’s Commissioner Policy (CP) 49, titled “Climate Change and DEC Action.” The proposed revisions seek to update CP-49 to consider the CLCPA and provide guidance on implementing the CLCPA so that state agencies can accommodate climate change into their departmental activities and consider future climate risks in all decisions and actions. CP-49 applies to all projects involving construction of energy production.

To further accelerate New York’s transition to renewables, in April 2020, the Legislature adopted the Accelerated Renewable Energy Growth and Community Benefit Act (the “Act”), which established Section 94-c of the New York Executive Law creating the Office of Renewable Energy Siting (ORES) and establishing a new process for permitting large renewable generation projects like the Hoffman Falls Wind Project. The purpose of the statute was to “dramatically speed up the permitting and construction of renewable energy projects, combat climate change and grow the state’s green economy.”¹ To ensure that the process can facilitate “a coordinated and timely review of proposed major renewable energy facilities to meet the state’s renewable energy goals while ensuring the protection of the environment and consideration of all pertinent social, economic and environmental factors in the decision to permit such facilities,”² ORES has promulgated regulations which establish, among other things, uniform permit conditions for all solar and wind facilities, as well as a process which aims to build more renewable generation faster than had occurred under Article 10 of the Public Service Law since its adoption in 2011.

On October 12, 2023, Governor Hochul announced a 10-Point Action Plan to Expand a Thriving Large-Scale Renewable Industry in New York. The 10-Point Plan affirms New York’s commitment to expanding clean energy and achieving the goals of the CLCPA. The 10-Point Actions are as follows:

Action 1: In the near future, NYSERDA will announce a historic suite of awards comprised of offshore and onshore renewable energy projects, along with major supply chain investments. These awards will mark one of the largest-ever renewable energy procurements by any state to date and will demonstrate New York State’s commitment to supporting renewable energy projects and promoting large-scale renewables.

¹ Governor Andrew Cuomo Announces Highlights of the FY 2021 State Budget (April 2, 2020) available at: <https://www.budget.ny.gov/pubs/press/2020/fy-2021-state-budget-highlights.html>.

² NY Executive Law Section 94-c(1).

Action 2: NYSDERDA will address the directives issued in the October 2023 Public Service Commission (PSC) Order and will assess the impacts on its large-scale renewables contracted portfolio in an expedited manner.

Action 3: NYSDERDA will launch an accelerated renewable energy procurement process for both offshore and onshore renewable energy projects, aiming to backfill any contracted projects which are terminated. The process will be guided by core principles, including prioritizing competition, simplifying bid requirements, incorporating inflation indexing, applying critical labor protections and collaborating with industry to optimize the accelerated procurement timing, all while coordinating with ongoing transmission planning initiatives.

Action 4: New York will continue to actively engage with the Federal government to bring forward market solutions, from establishing a Memorandum of Understanding (MOU) with the U.S. Department of Energy (DOE) Loan Programs Office to access low-cost financing for large-scale renewable projects, to advocating for updated guidance on clean energy tax credits and a Federal-State revenue-sharing program.

Action 5: New York is investing in, and actively planning, a historic buildout of transmission infrastructure across the state including \$4.4 billion in 62 local transmission projects to support clean energy integration in upstate areas; \$4.1 billion in transmission upgrades to integrate offshore wind and increase reliability for Long Island and New York City; soliciting additional solutions to meet New York City's offshore wind transmission needs; and collaborating with other states and federal agencies on interregional transmission to reduce costs.

Action 6: New York is supporting the establishment and growth of a supply chain ecosystem to help the market scale, gain efficiencies, and reduce costs. The state is investing \$700 million in offshore wind supply chain infrastructure while also working with other states and federal agencies to collaborate and reduce costs through a shared vision for a U.S. supply chain.

Action 7: New York is committed to building and expanding its clean energy workforce. NYSDERDA has thus far committed more than \$170 million for workforce development and training initiatives, which prioritizes benefitting priority populations, disadvantaged communities, and transitioning fossil fuel workers to clean energy careers. Starting in 2024, the New York Power Authority (NYPA) will further reinforce this commitment by contributing up to \$25 million annually to the Department of Labor for renewable energy job training, ensuring a Just Transition for energy workers. Moreover, NYSDERDA is at the forefront of prioritizing workforce development, inclusion, and equity within New York's large scale renewables industry.

Action 8: New York launched the Offshore Wind Master Plan 2.0 in 2022, which will provide a plan for the future of offshore wind development, including in deeper waters, that will allow for the expansion of the industry and ability to meet regional development targets. By planning for and seeking an increase in available lease areas, New York would expand access to necessary offshore areas to host

projects, increase competition in the market and widen the pool of developers, while introducing new ideas and innovations to reduce costs.

Action 9: New York is actively engaging with industry stakeholders and will increase such outreach following the PSC order through roundtable discussions to receive input in shaping our clean energy strategy.

Action 10: New York is deeply committed to fostering public engagement, transparency, and collaboration recognizing the importance of involving various stakeholders in shaping our clean energy initiatives.

(2) General Consistency with State Policies

The foregoing documents, policies and legislation are collectively meant to encourage progress toward diverting New York away from the fossil fuel-based utility market and toward a cleaner, more diverse, and more reliable renewable energy landscape. The success of these policies and laws relies on large scale renewable energy projects like Hoffman Falls. The Applicant draws on significant, historic experience supporting the development of renewable energy projects across the United States, including New York, and seeks to leverage its extensive renewable energy development experience and capabilities to support the continued transformation of New York's future energy sector, consistent with the goals of the CLCPA, SEP and CES. The proposed Facility aligns with state policies that encourage the development of renewable energy projects, seek solutions to fight climate change, and emphasize the need to transition New York's energy markets away from a reliance on fossil fuels for electricity generation.

The proposed Facility will play a key role in advancing this market transformation and signifies the responsiveness of the private sector to the state's articulated goals. The Applicant will contribute to meeting the following clean energy and climate targets:

- **70% electricity generation from renewable energy resources by 2030:** The Facility will provide up to 100 megawatts (MW) of wind capacity; will safely generate enough clean, renewable electricity to power an estimated 17,968 New York households; and will contribute directly to the goals of 70% electricity generation from renewable energy resources by 2030. The Facility has the potential to diversify the energy sector in New York and make a critical contribution toward meeting these goals.
- **100% carbon-free electricity by 2040:** As a source of renewable, carbon-free electricity to be installed before 2030, the Applicant will contribute directly to the goals of 100% carbon-free electricity by 2040.
- **Reduction in GHG emissions:** By replacing fossil fuel generation of electricity, the Facility will also contribute to the reduction of GHG emissions by 40% by 2030 and 85% by 2050.

The 2015 SEP plan states that “conversations about the energy system of tomorrow often start with renewable energy production, and renewable resources will indeed play a critical role in shaping New York’s energy future, providing resilient power, reducing fuel cost volatility, and lowering GHG emissions” (NYSEPB, 2015, p. 69). Accordingly, the SEP emphasizes the need to encourage additional “large-scale renewables” (LSRs) in New York (NYSEPB, 2015, p. 70-72). The immediate benefits of LSRs identified include economic development and jobs, greater stability in customer bills, and cleaner air (NYSEPB, 2015, p. 71). Additional direct and indirect benefits include increased property tax revenues, growth of related industries and service-based businesses, investments in modernized infrastructure, and job creation and innovation in related fields, such as training programs, manufacturing, and other new opportunities in the green energy sector.

The Applicant currently plans to sell the power generated by the Facility into the state’s competitive wholesale market. Not only will the Facility provide additional renewable power for possible consumption by New Yorkers, the Facility will contribute renewable capacity to the growing competitive electricity market in New York, likely displace more expensive and less efficient units, reduce the amount of power the state needs to import to meet its needs, increase reliability by providing additional generation capacity which the New York Independent System Operator (NYISO) can draw on in order to address congestion or ramp down other units, diversify the state’s energy supply to reduce overdependence on natural gas generation, and provide the state with additional capacity that does not depend on imported fuels subject to price volatility and disruptions in supply, as discussed further below.

As discussed in greater detail in Section (c) below, the Facility is consistent with New York’s policy of increasing fuel diversity. Currently, approximately 80% of the state’s electricity is generated by fossil fuel-fired or nuclear generating facilities. The Facility will add up to 100 MW of wind energy to the state’s generation capacity and contribute to diversification of the state’s energy resources.

Finally, as a generation facility that does not rely on fuels which must be sourced and delivered from other parts of the country or the world, the Facility can generate energy consistently and unencumbered by transportation problems, extraction-related complications or delays, or political unrest in foreign countries—all potential issues for traditional fossil fuel facilities which rely on price-volatile commodities sourced from outside New York. This improves system resiliency and allows the state to recover more quickly from significant disruptions to the grid, such as large storms or other incidents. As noted in the SEP, siting facilities throughout the state that are capable of rapid recovery during periods of disruption allow those facilities to operate independently of the central grid until the rest of the system can recover.

To assess the Facility’s consistency with the CLCPA’s goal to ensure DACs receive the benefits of transitioning to a clean energy economy, the Applicant reviewed the CJWG’s draft DACs criteria and interactive map³ to identify DACs within the vicinity of the Facility Site and evaluate potential benefits which may be received by DACs as a result of the proposed Facility. The closest DAC, census tract

³ CJWG Interactive Map of Communities that Meet the Draft Disadvantaged Communities Criteria is available at: <https://climate.ny.gov/resources/disadvantaged-communities-criteria/>

36053030600, includes the Village of Munnsville as well as adjacent areas (see Figure 17-1). This census tract includes much of the Facility Site. According to the CJWG draft DAC data, this census tract has a reported environmental burden higher than 6% of census tracts statewide, as well as a population vulnerability higher than 44% of census tracts statewide. It is expected that the operation of the Facility will result in long-term environmental and economic benefits, including to the communities located in the vicinity of the Facility that are within census tract 36053030600. The overall environmental benefits inherent to a wind energy generating facility, including improved air quality and a reduced dependence on traditional fossil fuels, are expected to result in long-term benefits to the region. Furthermore, the proposed Facility is anticipated to have local, countywide, and statewide economic benefits. Specifically, utility-scale wind energy development, like other commercial development projects, can support a wide range of socioeconomic benefits including job creation, purchases of local materials and services, and direct revenue to local municipalities in the form of Payment in Lieu of Taxes agreements and Host Community Agreements. Additionally, income generated from direct employment during the construction and operation phases of the Facility would be used to purchase community goods and services, further expanding the local economy. As a result, development of the Facility in its proposed location would support the CLCPA's goal of prioritizing and maximizing the benefits of renewable energy projects and associated reductions of greenhouse gases and co-pollutants in disadvantaged communities. Please see Exhibit 18 for additional information on the potential socioeconomic effects of the proposed Facility.

(b) Impact on Reliability

The Applicant has contracted PowerGEM to conduct a System Reliability Impact Study (SRIS) for the Facility. The SRIS found that the Facility does not result in any degradation of system reliability or noncompliance with the North American Electric Reliability Corporation, Northeast Power Coordinating Council, or New York State Reliability Council reliability standards. See Exhibit 21 for a discussion of system reliability issues.

Additionally, according to the SEP, renewable energy facilities will improve system reliability. The SEP stresses the need to install new technology to replace New York State's aging generation fleet to make the grid more reliable and resilient, and the Facility will assist in that regard (NYSEPB, 2015, p. 34–35). The SEP explains that "promoting the development of clean, local energy resources" will "strengthen and improve the reliability of the grid" (NYSEPB, 2015, p. 36).

(c) Impact on Fuel Diversity

The Facility will increase fuel diversity in New York State by increasing the amount of electricity produced by non-fuel dependent wind power. According to the NYISO, "[m]aintaining and improving fuel diversity in New York will lead to less volatile electric prices, improved reliability, and positive environmental impacts" (NYISO, 2008). In the last decade, New York's generating capability from power plants using coal and oil has declined while the generating capacity of natural gas has grown (NYISO, 2020). Likewise, alternative forms of electric generation such as solar, hydro, wind and other renewables have grown in the last decade and are becoming increasingly important to maintain fuel diversity. Renewable resources are selected to operate in wholesale market auctions more frequently than older and less efficient fossil units (NYISO, 2018).

Despite development of wind energy facilities over the past decade, wind energy currently comprises less than 5% of the total generating capacity in New York State (NYISO, 2020).

The Facility will increase the amount of wind generation in New York, which is also consistent with the SEP and other related state policies that encourage the development of more renewable generation. Development of the Facility would add to the existing renewable sector, helping to diversify New York's energy economy and ease New York's overdependence on natural gas and other polluting fossil fuels.

(d) Impact on Regional Requirements for Capacity

The NYISO manages regional capacity through a comprehensive system planning process and has successfully balanced generation retirements and the addition of new sources in the upstate region, as well as in the downstate region, which has seen greater growth in total capacity needs. The vast majority of new electricity generation in the past two decades has been installed in the eastern and southern regions (Zones F through K), where demand is the highest. New York's wholesale electricity market design, which includes locational-based pricing and regional capacity requirements, encourages investment in these areas. Other additions to New York's power-producing resources resulted from upgrades to existing power plants or the interconnection of new renewable resources sited in upstate regions based on physical factors, such as the suitability of wind conditions for energy production. Consistent with the SEP, NYISO must prioritize renewable and carbon-free sources, such as wind, that meet the SEP and CLCPA goals, while also meeting regional capacity needs as fossil fuel sources are retired. Exhibit 21 of this Application describes in detail if and/or how the Facility will impact regional electricity and capacity demands.

(e) Impact on Electric Transmission Constraints

The Facility will interconnect to the New York power grid via a point of interconnection (POI) switching station that will connect to the existing Fenner - Cortland 115-kV transmission line, owned and operated by National Grid. At this time, the Facility will not result in new electric transmission system constraints and current infrastructure has been shown to be sufficient to allow addition of the Facility, as discussed in Exhibit 21.

However, the Facility is located in NYISO Zone C, the most congested transmission area in New York State, according to NYISO's 2019 Congestion Assessment and Resource Integration Study. These transmission constraints will continue to exist regardless of whether the Facility is constructed. Other aspects of the CLCPA are intended to address some of these congestion problems by studying the state's existing distribution and transmission infrastructure and identifying necessary upgrades and bulk transmission investments, any progress realized through those efforts will only enhance the benefits of the Facility to the electric system.

(f) Comparison of Advantages and Disadvantages of Proposed and Alternative Locations

Hoffman Falls Wind LLC is a private applicant and does not have the power of eminent domain to procure alternative wind sites. As a part of site selection, preliminary evaluations were undertaken to consider factors

to confirm the suitability of the selected Facility Site to meet the Applicants' development objectives. In preliminary evaluations to confirm site suitability, the Applicant focused on the following criteria:

- Adequate wind resource – Across New York State, the wind resource varies based on topography, prevailing wind direction, and location. Large-scale wind power projects can only be built in certain areas that are conducive to wind energy production. The higher the wind speed at a site, the more desirable a site is, as the energy produced by a given turbine is a function of the cube of the wind speed.
- Proximity of adequate electrical interconnection – Adequate access to the bulk power transmission system from the standpoints of proximity and ability of the system to accommodate the interconnection and accept and transmit the power from the Facility.
- Compatible land use – The Facility requires contiguous areas of available land and limited population/residential development to facilitate compliance with applicable setbacks.
- Willing landowners and host communities – Sufficient acreage was secured at the Facility Area to allow for the Facility.
- Limited environmental and engineering constraints – Initial screening review was conducted based on readily available public data to evaluate such issues as mapped wetlands (as shown in Exhibit 14), indicating that considerable usable area potentially existed within the Facility Area pending more detailed field evaluations.

Given the unique nature and constraints associated with siting wind-powered electric generation facilities, this Application does not include a fully developed evaluation of the comparative advantages and disadvantages of alternate locations. It is not practicable to procure land contracts, perform environmental and engineering studies, enter and progress through multiple interconnection permit processes, and conduct community outreach for alternative locations. The Facility Site presented in this Application meets the factors identified above and the layout has been extensively refined to minimize the impact on sensitive resources (see impact avoidance discussions in Exhibits 3, 11, 13, 14, and 15).

During the design process, the Applicant avoided and minimized impacts to public health, ecological resources, cultural resources, water resources (e.g., wetland and streams), and agricultural resources resulting from the construction, operation, and maintenance of the Facility, as described throughout the exhibits in this Application.

General measures were undertaken to avoid and minimize impacts to sensitive resources within the Facility Site, including relocating Facility components, collocating Facility components (e.g., access roads and collection lines), routing Facility components along previously disturbance corridors (e.g., farm roads), reducing the size of the Facility Site, designing access roads to work with the native topography (e.g., avoiding steep slopes), precluding construction in flood-prone areas where possible, and committing to the strategic use of trenchless technologies, such as horizontal directional drilling and/or jack and bore, when installing buried collection lines beneath high quality water resources.

Where wetland avoidance was not practicable, impacts were minimized by selecting narrow and/or previously disturbed portions of the wetlands for crossing locations. Impacts to undisturbed wildlife habitat have been minimized by siting access roads and collection lines in or adjacent to agricultural land, which generally provides habitat for only a limited number of wildlife species. In addition, these areas are already subject to regular periodic disturbance in the form of mowing, plowing, harvesting, etc.

(g) Why the Proposed Location and Source Best Promotes Public Health and Welfare

The proposed Facility will promote public health and welfare by properly balancing siting constraints to avoid, minimize, and mitigate impacts to the degree practicable, while also providing the socioeconomic and public health benefits associated with wind energy generation. Electricity generated from zero-emission wind energy facilities like the proposed Facility can displace the electricity generated from conventional power plants, reducing emissions of conventional air pollutants, such as mercury, sulfur, nitrogen oxides, and GHGs (e.g., carbon dioxide).

Electricity delivered to the grid from wind energy projects can reduce New York's dependency on the combustion of fossil fuels, mitigate growth of fossil-fuel-fired power plants, and reduce the negative consequences on public health and the atmosphere from pollutants (NYSEPB, 2015). Fossil fuel-fired power plants are stationary sources of air pollution that result in significant health repercussions for nearby residents. When a renewable energy facility generates power, electricity supplied from fossil fuels decreases, eliminating the associated emissions. In adopting the CLCPA, the legislature characterized climate change as an existential threat to the "economic well-being, public health, natural resources, and the environment of New York" (CLCPA § 1(1)). The environmental and social harms posed by global climate change have long motivated the state's aggressive clean energy policies—as have the potential economic harms, which have gained recent attention in NYSDEC's efforts to estimate the value of carbon as part of the agency's implementation of the CLCPA.

According to the NYSPSC, "[f]or New York, the need and ability to take steps to combat climate change is immediate." (NYSPSC, 2016). "Climate change will cause not only sea level rise, heat waves, and extreme weather events, but also threatens massive economic and lifestyle disruption from damage to agriculture, water resources, public health, energy and communication systems, and the natural ecosystems that define and support communities" (NYSPSC, 2016, pp. 4). The Facility contributes toward the state's overall strategy for combating climate change and the many public health and environmental threats anticipated to result from climate change. Overall, the Facility is anticipated to have long-term beneficial effects on the environment as a consequence of reduced fossil fuel use. By helping to reduce the need for the state's most polluting fossil fuel-burning plants, the Facility will help New York continue the fight to reduce harmful air emissions, from GHGs driving climate change to the toxic compounds sickening millions of people.

All power generation results in some environmental impact. Yet the environmental impact of constructing new renewable power generation must be balanced against the environmental benefits of transitioning from fossil fuel generation to renewables, and the extent to which the contribution of renewables toward the state's fight against climate change outweighs those impacts which are anticipated from an individual facility. Climate change is a real threat to New York's environment and economy. According to a recent

study by the Audubon Society, climate change could result in the mass extinction of an estimated 389 species of birds. Further, some estimates posit that fossil fuel power generation results in approximately 9.4 bird fatalities per gigawatt hour of power produced—a significant existing threat to birds which would be mitigated by the transition to renewable energy generation. Climate change has also been shown to have potentially harmful effects on agricultural lands throughout New York State. According to *A Profile of Agriculture in New York State*, the effects of climate change are wide-ranging and will affect various agricultural practices (New York State Comptroller, 2019).

Air pollution, water pollution and climate change have both short-term and long-term adverse effects on public health and the planet. Electricity generated from zero-emission wind energy facilities like the proposed Facility will assist in combating climate change and have a positive impact on the environment, public health and welfare. Based on the U.S. Environmental Protection Agency’s (EPA’s) Avoided Emissions and Generation Tool (AVERT),⁴ the Facility’s load profile will displace 217,320,000 kWh of fossil fuel generation in the New York Region over the course of a year (EPA, 2023). For reference, according to the EPA’s AVERT Web Edition, this equals the annual electricity consumed by 17,968 average homes in the United States.⁵ This electricity generation will displace the electricity generated from conventional power plants, thereby reducing emissions of conventional air pollutants, such as sulfur and nitrogen oxides, and GHGs (e.g., carbon dioxide). Annual particulate emissions changes estimated by AVERT for the New York region power sector resulting from the operation of the Facility are summarized in Table 17-1.

Table 17-1. Annual Emissions Changes Estimated by AVERT for the New York Region Power Sector Resultant from the Operation of the Facility.

Particulate	Emissions Changes Estimated by AVERT
CO ₂	-111,010 tons
SO ₂	-51,600 lbs
NO _x	-92,180 lbs
PM2.5	-27,360 lbs
VOCs	-13,200 lbs
NH ₃	-13,590 lbs

Wind Facilities also avoid water pollution that can result from the extraction, disposal, and transportation of fuels, and avoid thermal pollution to waterways typical of other traditional power plants, such as the nuclear facility at Indian Point in Westchester County, New York. Further discussion of the public health benefits of renewable energy, particularly as it relates to air emissions, is included in Exhibit 6.

⁴ AVERT Web Edition is a publicly accessible model that is capable of evaluating how the operation of a new renewable energy project can change the emissions of common air pollutant at a county, state, or regional level. Available at: <https://www.epa.gov/avert/avert-web-edition>.

⁵ State-specific information for this metric is not provided by AVERT.

REFERENCES

Climate Leadership and Community Protection Act (CLCPA). 2019. *New York State Climate Act*. Available at: <https://climate.ny.gov/> (Accessed August 2023).

New York State Department of Public Service (DPS). 2016. *Staff White Paper Summary of REV*. March 2016. Available at: <https://www.ny.gov/sites/ny.gov/files/atoms/files/WhitePaperREVMarch2016.pdf> (Accessed August 2023).

Environmental Protection Agency (EPA). 2023. Avoided Emissions and Generation Tool AVERT. <https://www.epa.gov/avert/avert-web-edition> (Accessed August 2023)

New York State Independent Systems Operator (NYISO). 2008. *Fuel Diversity in the New York Electric Market, A NYISO White Paper*. Available at: <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B552F2777-5024-4638-9F1C-10F78A100A71%7D> (Accessed August 2023).

NYISO. 2018. *2018 Power Trends Report*. Available at: <https://www.nyiso.com/documents/20142/2223020/2018-Power-Trends.pdf/4cd3a2a6-838a-bb54-f631-8982a7bdfa7a?msclkid=35b2463ba62111eca0cb7f012c259a5a> (Accessed August 2023).

NYISO. 2020. *Power Trends Report 2020*. Available at: <https://www.nyiso.com/documents/20142/2223020/2020-Power-Trends-Report.pdf/dd91ce25-11fe-a14f-52c8-f1a9bd9085c2>. (Accessed August 2023).

NYS CJWG. 2023. Interactive Map of Communities that Meet the Draft Disadvantaged Communities Criteria. Available at: <https://climate.ny.gov/resources/disadvantaged-communities-criteria/> (Accessed August 2023).

New York State Energy Planning Board (NYSEPB). 2015. *2015 New York State Energy Plazan*. June 25, 2015. Available at: <https://energyplan.ny.gov/Plans/2015.aspx>

New York State Public Service Commission (NYSPSC). 2016. *Order Adopting a Clean Energy Standard (CES Order)*. Case 15-E-0302, Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard. August 1, 2016.