NORTH SENECA
SOLAR PROJECT

North Seneca Solar Project

ORES Permit Application No. 23-00036

1100-2.18 Exhibit 17

Consistency with Energy Planning Objectives

REVISION 1

TABLE OF CONTENTS

LIST OF FIGURES

EXHIBIT 17 CONSISTENCY WITH ENERGY PLANNING OBJECTIVES

(a) Consistency with New York State Energy Policies

According to a September 2022 report by the New York Independent System Operator (NYISO), New York State will need to bring an estimated 20 gigawatts (GW) of additional renewable generation into service before 2030 to meet the targets set by the Climate Leadership and Community Protection Act (CLCPA) (NYISO 2022a). Further, by 2040, New York State will need to bring online an additional 111 to 124 GW of total generating capacity online from renewable or emissions free sources to achieve the CLCPA emissions-free mandate. As of March 2023, New York has approximately 37 GW of total generating capacity (from a combination of renewable, fossil fuel, and nuclear generation sources), of which 12.4 GW have been developed since deregulation of the state's electric markets in 1999 (NYISO, 2022a, 2023). These additions represent an enormous and rapid investment in new renewable generation capacity—nearly doubling over the next eight years what the state had achieved in new generation across the past 22 years—an effort that will require substantial expansion of large-scale renewable energy generation projects. Projects like the North Seneca Solar Project (the Project) will play an important role in ensuring New York is on track to meet these targets.

The Article VIII regulations require an analysis of the Project's consistency with New York State energy policies, including CLCPA targets and long-range energy planning objectives and strategies contained in the 2015 New York State Energy Plan (SEP) (i.e., the most recent energy plan at the time of filing). As demonstrated in the following subsections, the Project, proposed to be constructed by North Seneca Solar Project, LLC (the Applicant), will be a beneficial addition to the state's electric generation capacity and advance the objectives of important state energy policies including the New York State Climate Action Council (NYSCAC) Scoping Plan, the CLCPA, the 2015 SEP,[1] the Reforming the Energy Vision (REV) initiative, the Clean Energy Standard (CES), and the Accelerated Renewable Energy Growth and Community Benefit Act.

(1) Overview of State Energy Policies and Plans

New York has adopted proactive policies to combat climate change and modernize the electric grid, and to improve the efficiency, affordability, resiliency, and sustainability of the system. These policies are reflected in the 2015 SEP, issued June 25, 2015, and amended April 8, 2020; the Public Service Commission's REV initiative, which includes the Clean Energy Standard proceeding; and, most recently, the CLCPA adopted in June 2019 and Article VIII that went into effect in April 2020.

State Energy Plan

New York State Energy Law §6-104 requires the New York State Energy Planning Board (NYSEPB) to adopt a SEP at minimum every 10 years. The SEP forecasts New York State energy supply and demand

[1] As amended on April 8, 2020.

and the state's ability to satisfy that demand; projects greenhouse gas (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 New York Energy Law §6-102(5), these efforts must be guided by "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, which sets forth goals for New York's energy system. These include attracting private investment in New York's energy sector, encouraging competition and innovation within the energy markets, decarbonizing New York State's economy, and reducing statewide GHG emissions 40% by 2030. Again, these have been accelerated by the CLCPA, which calls for 100% generation of electricity from renewable energy sources by 2040. On April 8, 2020, the NYSEPB amended the SEP to incorporate the following CLCPA goals:

- 70% electricity generation from renewable energy resources by 2030
- 40% reduction in GHG emissions by 2030
- 100% carbon free electricity by 2040
- 85% reduction in GHG emissions by 2050.

In addition, pursuant to the CLCPA, the Scoping Plan will now inform the New York State Energy Planning Board's adoption of an updated SEP in accordance with §6-104 of the Energy Law.[2] The first SEP to be issued after the Scoping Plan will incorporate the recommendations found in the Scoping Plan,[3] which will ensure that New York continues to reduce GHG emissions while maintaining an affordable and resilient energy system (NYSCAC, 2022).

Reforming the Energy Vision Initiative

The New York State Public Service Commission (NYSPSC) launched the REV initiative in 2014 to identify regulatory, infrastructure, and market-based barriers to executing the SEP. Representing the combined efforts of the Governor's Office, the NYSPSC, and NYSERDA, it also proposed reforms that better aligned the state's regulatory schemes, utility tariffs, energy markets, incentive programs, procurement strategies, and allocation of resources with the goals of the SEP.

[2] ECL § 75-0103(11).
[3] *Id.*

The specific short- and long-term goals of the REV initiative 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 (NYSDPS, 2016c). Additional goals include the following:

- Make energy more affordable for all New Yorkers.
- Build a more resilient energy system.
- Empower New Yorkers to make more informed energy choices.
- Create new jobs and business opportunities.
- Improve existing initiatives and infrastructure.
- Cut GHG emissions 80% by 2050.
- Protect New York's natural resources.
- Help grow clean energy innovation.

As noted above, on April 8, 2020, the SEP was amended for consistency with the CLCPA, and the Scoping Plan will now inform future updates to the SEP.

Clean Energy Standard

In August 2016, the NYSPSC adopted the CES to ensure that the SEP and REV Initiative goal of reaching 50% renewable energy consumption in New York by 2030 is achieved. The CES imposes mandatory renewable procurement requirements on the state's electric utilities; establishes a system and market for awarding Renewable Energy Credits (RECs) and Zero-Emissions Credits to those 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, 2016a).

The CES encourages development of large-scale, economically viable renewable projects that can compete with all other generation sources in the electric market. All eligible renewable fuel types can participate in New York's new REC market—bidding to receive one REC for each megawatt hour of renewable energy generated that contributes to the state's targets—and each REC will be of more or less equal value as a commodity regardless of the fuel or project type. A solar, wind, or biomass project would each receive the same REC price, as set by the market, for each megawatt hour of energy participating in the program, regardless of how much it costs each project sponsor to produce that power. Thus, project sponsors will be incentivized to keep their costs as low as possible and to achieve as many large-scale efficiencies as possible in order to sell power profitably.

Climate Leadership and Community Protection Act

In June 2019, New York passed one of the most ambitious climate protection acts in the country, the CLCPA, which is designed to combat climate change and set the state on a path to reach 100% zero-emission electricity by 2040, an 85% reduction in statewide GHG emissions from 1990 levels by 2050,

and net-zero emissions economywide by 2050 (CLCPA, 2019). The CLCPA requires all state agencies to consider whether their decisions regarding permits, licenses and other approvals are consistent with or interfere with achieving the CLCPA's statewide GHG reduction and green energy generation goals. In addition, the CLCPA requires the elimination of fossil fuel-fired power plants in New York by 2040—a goal toward which the state has already made progress when New York's last coal-burning plant officially shut down in April 2020.[4] The state has set aggressive renewable energy generation goals and achieving these goals will require the deployment of thousands of megawatts (MW) of new utility-scale wind and solar generation to help transition New York to a net-zero GHG emission energy portfolio.

With the passage of the CLCPA, the New York State legislature has made it clear that New York's energy policy is focused on increased renewable energy generation in the state. New York State relies on a suite of public policy planning tools to guide state actions and initiatives in the energy field, and to meet renewable energy generation and GHG emissions reductions targets. These tools and targets will continue to evolve as the state transitions to a net zero emissions future under the CLCPA.

The CLCPA mandates that 70% of New York's end-use energy consumption be served by renewable energy by 2030, including specific technology-based targets for distributed solar (6,000 MW by 2025). In September 2021, Governor Kathy Hochul announced a call for the expansion of the highly successful NY-Sun program to achieve an expanded goal of at least 10 GW of distributed solar installed by 2030. Given the scope of the state's renewable energy needs, New York cannot meet its renewable targets through distributed solar alone. Significant additional large-scale renewable generation will be critical to meeting the CLCPA mandates. Large-scale projects like North Seneca Solar are important contributors toward that goal.

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 (DAC) in New York State to ensure that frontline and otherwise underserved communities benefit from the state's transition to cleaner sources of energy. The CJWG voted to approve and adopt the final DAC criteria during a meeting on March 27, 2023. The CJWG identified the majority of the DAC, at the census tract level, based on 45 indicators regarding "Environmental and Climate Change Burdens and Risks" and "Population Characteristics and Health Vulnerabilities." The DAC list also includes 19 census tracts that are federally designated reservation territories or state-recognized Nation-owned land. New York State entities will use the DAC criteria to direct clean energy and energy efficiency investments to ensure that DAC receive no less than 35% of benefits (NYS CJWG, 2022).

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

[4] https://news.wbfo.org/post/somerset-power-plant-shuts-down-idling-52-workers

decisions, to consider whether such decisions would be inconsistent with the attainment of the statewide GHG emission limits. This requirement applies to the Office of Renewable Energy Siting and Electric Transmission (ORES and recommendations by other state agencies during the Article VIII permitting process.

In December 2022, the New York State Department of Environmental Conservation (NYSDEC) revised their Commissioner Policy (CP) 49, titled "Climate Change and DEC Action."[5] The revisions reflect requirements under 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.

Accelerated Renewable Energy Growth and Community Benefit Act

In April 2020, the legislature adopted the Accelerated Renewable Energy Growth and Community Benefit Act, which established Article VIII of the New York Public Service Law, creating ORES and establishing a new process for permitting large renewable generation projects like North Seneca Solar. 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."[6] 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,"[7] 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.

Climate Action Council Scoping Plan

The CLCPA created the Climate Action Council (CAC) which released the final Scoping Plan on January 1, 2023, to provide the framework for how New York will reduce greenhouse gas emissions and achieve net-zero emissions, increase renewable energy use, and ensure all communities equitably benefit in the clean energy transition. 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 CLCPA goals. The Scoping Plan, with required periodic updates, will inform future policies and programming, including future SEPs.

[5] See CP-49/Climate Change and DEC Action (Last Revised: December 14, 2022) available at https://www.dec.ny.gov/regulations/64558.html.
[6] 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.
[7] NY Public Service Law Article VIII (1).

The Scoping Plan highlights the significance of a zero-electricity sector as a fundamental element to ensuring New York can achieve the GHG emissions limits and net zero emissions targets of the CLCPA. The CAC notes in the Scoping Plan that while current programs have made significant progress, New York "must continue to aggressively deploy clean resources while continually evaluating the effectiveness of the programs and policies and amending them if renewable energy is not deployed at the pace necessary to achieve the requirements" (NYSCAC, 2022). To ensure achievement of the CLCPA, the Scoping Plan identifies the following as key strategies for the electricity sector:

- Retirement and/or repurposing of fossil fuel fired facilities
- Accelerating growth of large-scale renewable energy generation
- Facilitating distributed energy resources
- Supporting clean energy siting and community acceptance
- Promoting community choice aggregation
- Deploying existing storage technologies
- Investment in transmission and distribution infrastructure upgrades
- Improving reliability planning and markets
- Advancing demand side solutions
- Exploring technology solutions.

The Scoping Plan identifies components deemed necessary to accomplish the desired outcome of the electricity sector strategy specific to sector strategy "E.2 Accelerate Growth of Large-Scale Renewable Energy Generation." These components include, but are not limited to, directing the NYSPSC to continue to evaluate and adjust policies and procurement targets as needed to achieve the CLCPA requirements to deploy renewable energy systems including solar; recommending that NYS continue to support successful programs and regulatory changes to ensure rigorous but efficient timely procurement and permitting; directing the ORES to establish a non-binding metric or goal with respect to annual MWs permitting in an amount complementing the Tier 1 request for proposals procurements; and recommending, as part of clean energy infrastructure development, that workforce development actions include local and targeted hiring with a focus on hiring of workers from disadvantaged communities and displaced or transitioning workers (NYSCAC, 2022).

(2) General Consistency with State Policies

The aforementioned planning documents and policies, which are interrelated and interdependent, are collectively meant to spur progress toward diverting New York away from the monopolistic, regulated fossil fuel-based utility market and toward a cleaner, greener, cheaper, more diverse, more flexible, and more reliable market-based renewable energy future. Renewable energy facilities such as the Project will play a key role in advancing this market transformation and signify the responsiveness of the private sector to the state's goals and promised reforms. The Applicant seeks to participate in transforming New York's energy sector consistent with the goals of the CLCPA and SEP. Through the proposed Project, the Applicant seeks to contribute to New York State's growing green economy and to play a role in the state's renewable energy future.

As discussed in the following subsections, the proposed Project is consistent 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 Project will play a key role in advancing this market transformation and signify the responsiveness of the private sector to the state's articulated goals and promised reforms by adding up to 90 MW of clean, green, New York-based renewable power into the grid. The Project thus will aid in advancing the CLCPA goals, including increasing renewable energy generation to 70% by 2030 and 100% carbon-free electricity by 2040. The Project also will protect New York's natural resources, aid in public health protection efforts to reduce air pollution from the energy sector, help grow clean energy innovation, and create new jobs and business opportunities.

Increasing Renewable Energy Generation

A core initiative in the CLCPA and SEP is the new generation of renewable energy. The SEP notes 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). Not only does the SEP envision continued public investment in renewables, such as through existing or new financing programs or NYSERDA solicitations—it ultimately aims to enact regulatory reforms that increase the competitiveness of renewable energy within the market, attracting companies willing to invest private dollars in New York because it makes financial sense to do so (NYSEPB, 2015).

The aggressive pursuit of renewable generation also positions New York as a model among states in the region and across the country. The SEP emphasizes the need to encourage additional large-scale renewables in New York (NYSEPB, 2015), noting that while small-scale renewable distributed generation sources were a major focus of the REV strategy, "central generation and transmission will continue to serve as the backbone of [the State's] power grid" (NYSEPB 2015). The Scoping Plan also emphasizes the important role of large-scale renewable energy generation in ensuring New York can achieve the CLCPA targets, and further stresses the importance of getting these resources efficiently deployed (NYSCAC, 2022).

The immediate benefits of large-scale renewables include economic development and jobs, greater stability in customer bills, and cleaner air (NYSEPB, 2015). More mature electricity sectors, including solar, are projected to contribute to strong workforce growth between 2019 and 2040, with the solar industry adding up to over 28,000 jobs across the state (NYSCAC, 2022; JTWG, 2021). 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, as well as a number of health co-benefits associated with the transition away from fuel combustion (NYSCAC, 2022). Like the SEP, the CES will rely primarily on large-scale renewables to achieve its goals relating to energy production from renewable sources.

As the state works towards achieving the CLCPA 70 by 30 and 100 by 40 targets, it will also be simultaneously working towards achieving the net zero emissions economywide by 2050 target. This will require, among other strategies, transition of the transportation and building sectors to electric, contributing to a substantial increase in electricity demand impacting the amount of renewable electric generation capacity that must be operational to meet the 70 by 30 and 100 by 40 targets. Electricity demand is anticipated to increase by 100% to 110% by 2050 (NYSCAC, 2022). To meet this increase in demand, significant expansion in renewable energy generation capacity is required across the state. by 2050, across all modeled pathways, over 60 gigawatts of solar capacity (both utility-scale and distributed resources) must be installed to meet projected electricity demand (NYSCAC, 2022). As proposed, the Project would be constructed and operational by the end of 2026, which will help support the achievement of shorter-term incremental renewable capacity targets.

To assess the Project's consistency with the CLCPA's goal ensure DAC receive the benefits of transitioning to a clean energy economy, the Applicant reviewed the CJWG's list of Disadvantaged Communities[8] to identify DAC within the vicinity of the Project Site and evaluate potential benefits which may be received by DAC as a result of the proposed Project. According to the CJWG's list of Disadvantaged Communities, the Project Site is not located within a designated DAC. There are four designated DAC 9504 areas located within five miles of the Facility Site: (1) Census Tracts 217 (GEOID 36117021700), (2) Census Tract 9502 (GEOID 36099950200), (3) Census Tract 9503 (GEOID 36099950300), and (4) Census Tract 9504 (GEOID 36099950400). It is expected that the operation of the Project will result in long-term environmental and economic benefits to the local communities, including the identified DAC.

Moreover, it is expected that operation of the Project will result in long-term environmental and economic benefits to the communities located in the vicinity of the Project, including nearby DAC. The overall environmental benefits inherent to a solar 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. Traditional fossil-fuel power generation has resulted in disproportionate adverse environmental impacts—particularly regarding air quality—in DAC, particularly in urban areas and communities of color. The state's transition to renewables will benefit those previously burdened communities by reducing the number and usage of fossil generation facilities, replacing them with cleaner, greener generation sources spread more broadly across the state.

Electricity delivered to the grid from solar energy projects reduces New York's dependency on the combustion of fossil fuels, mitigates growth of fossil-fuel-fired power plants, and reduces the negative consequences on public health and the atmosphere from pollutants (NYSEPB, 2015). Experts estimate that air pollution and climate change cost each American an average of $2,500 per year in health care costs, the burden of which falls disproportionately on vulnerable communities. Liu et al. (2012) looked

[8] CJWG List of Communities that Meet the Disadvantaged Communities Criteria is available at: https://climate.ny.gov/resources/disadvantaged-communities-criteria/

at hospitalization rates due to respiratory diseases across New York State based on proximity to fossil-fuel-generating power plants and found significant increases in estimated rates of hospitalization for asthma (11%), acute respiratory infection (15%), and chronic obstructive pulmonary disease (17%), respectively, among individuals living in a postcode containing a fuel-fired power plant compared with one that had no power plant. Operation of the proposed Project and increasing renewable energy generation will not only contribute toward the reduction in use of fossil fuels and elimination of the associated emissions, but also support the state goals for improved health and welfare for environmental justice communities.

Furthermore, the proposed Facility is anticipated to have local, countywide, and statewide economic benefits. Specifically, utility-scale solar energy development, like other commercial development projects, can support a 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 construction and operation of the Project would be used to purchase community goods and services, further expanding the local economy, and income received by local landowners through lease or easement agreements can be reinvested in their communities. As a result, development of the Project would support the CLCPA's goal of prioritizing and maximizing reduction 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.

Market Animation, Competition, and Innovation

Contemporary state energy policies and initiatives represent efforts to transform and animate regional energy markets, diversify energy supplies, overhaul regulations, and invest in the future of New York State and its communities. Two of the guiding principles of the REV initiative's targeted actions are market transformation and private sector investment, both of which are advanced by introducing projects like the Facility into the state's energy market.

The CES reiterates the REV initiative's guiding principles by encouraging fundamental changes in the state's energy markets to stimulate private sector investment and activity, increase competition, and send market signals that attract investment in New York's energy system (NYSPSC, 2016a). In particular, the CES order encourages production of new, clean generation regardless of how and where that energy will ultimately be sold (NYSPSC, 2016a). The goal of REV/CES is to develop "large-scale, self-sustaining, private sector-driven clean energy markets" able to drive further investments on their own (NYSDPS, 2016b).

New York's State Energy Law §6-102(5) specifically requires the state take steps to "reduce the overall cost of energy in the state." To that end, both the REV initiative and SEP stress the need to move toward a market-based future where participants see the right price signals and decide to invest private capital into the system without the need for direct governmental or utility procurement of generation, thus increasing competition, building a dynamic energy market, driving efficiencies and, ultimately, reducing

costs. "Enabl[ing] private capital investment to drive self-sustaining independent clean energy markets" will allow New York State to "deliver true scale to the clean energy sector, which in turn is an essential component for meaningful economic development" (NYSEPB, 2015). As NYSERDA states:

> "in-state renewable energy investments help keep New Yorkers' money in the State, fueling economic growth and the creation of... jobs.... It is critical to note that generation displaced by the operation of new renewable energy facilities is the most expensive generation, which sets the prices for the entire market. By displacing this generation, the wholesale electricity price paid by in-state ratepayers is reduced." (NYSERDA, 2013)

The Scoping Plan also makes clear that renewable energy resources, including solar, which will deliver safe and reliable electricity to New Yorkers, will end New Yorker's vulnerability to fossil fuel energy price volatility (NYSCAC, 2022).

The price of RECs will be determined by the market. This will encourage consistency and competition in the price of RECs among renewable developers and across state lines—in theory, driving down the costs and opening up competition to a broader pool of projects across the region. Each project will need to compete on its own in the electric markets, and a developer's profits will be directly tied to its ability to contain costs so that it can offer its power on the market, or in a contract, at a competitive price. Greater competition among all types of project developers and owners will likely result in lower-cost projects, reducing electric rates for residents, businesses and industries, and freeing up capital for other purposes. Ultimately, the intention of the REV and CES is to drive additional capital investment in New York and participation in New York's energy market—precisely what the Applicant seeks to do in proposing the Facility.

In addition, the SEP commits the state to developing "[n]ew mechanisms to facilitate voluntary market activity," and market signals to encourage innovation and investment by private investors in New York's economy—an objective that is reflected and refined in the CES (NYSEPB, 2015). This will increase competition, drive down the cost of renewable projects and energy, usher in modernization of the grid, achieve additional economies of scale through increased deployment, and put large-scale renewables "on a path to grid-parity" with other energy sources (NYSEPB, 2015).

The necessary investor confidence and certainty in the renewable energy markets can only be achieved if investors are able to compete freely across the market to win the best contracts or prices for their products, without the imposition of artificial and arbitrary constraints on market activity between states. Thus, despite whether the Project receives RECs through a NYSERDA solicitation, or cannot find a suitable energy buyer in New York, its investors will still be able to look to the broader regional market, such as among New York's Regional Greenhouse Gas Initiative (RGGI) counterparts, to sell some or all of its output. This increased certainty—both that New York recognizes the monetary value of the renewable attributes of green energy and that the shift toward a more open market creates multiple opportunities for projects to succeed—will encourage companies like the Applicant to make these

investments here and voluntarily participate in the expanding New York market, precisely as the Scoping Plan, SEP and REV intended.

Projects like the proposed Project will continue to position New York as a leader in clean energy technology, innovation, and production, while helping to reduce costs and stimulate the markets to drive further private investments. Although these projects will be eligible to bid into the New York REC market to obtain contracts to purchase the renewable attributes of their power, they also will compete with other renewable generators for favorable power purchase agreements or to sell their electricity on the wholesale market in competition with other energy generators. Consistent with the market-based vision of the Scoping Plan, SEP, REV, and CES, renewable developers like the Applicant will be provided an incentive to pursue efficient, reliable, and cost-effective projects that can perform well in a market setting in order to earn a reasonable rate of return. In designing the Project, the Applicant will have significant incentives to innovate, draw on the latest technology and advancements in infrastructure and project design, and carefully explore the quality of the solar resource to develop the most marketable proposal. An environment which promotes such innovation by the private sector also will be ripe for secondary economic and intellectual development in New York, as related businesses, service industries, vocational programs, and research institutions are drawn here, and existing industries and tech firms are provided with new market opportunities, jobs for skilled workers, and a pool of market participants eager to invest in future advances.

Adding to the State's Generation Capacity

The Applicant currently plans to sell the power generated by the Project into the state's competitive wholesale market, which will result in a positive addition to the state's renewable generation capacity. Not only will the Project provide additional renewable power for consumption by New Yorkers, the Project will contribute renewable capacity to the growing competitive electricity market in New York, 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 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 in the following subsections.

Fuel Diversity, Resiliency and Reliability

Another important SEP core initiative and REV goal is building a more sustainable, modern, and resilient energy system—one that can respond to rapidly changing weather and consumption patterns, recover quickly from problems, and does not depend excessively on a single fuel source to fulfill all of its needs. New York's energy supply system suffers from "an over-dependency on natural gas" which can create significant financial and other problems for customers during cold weather events or other times of natural gas price volatility (NYSPSC, 2016a). Additions to the state's—and region's—renewable capacity diversifies fuel sources, increases grid reliability and resiliency, and supports the modernization of grid infrastructure (NYSPSC, 2016a).

As discussed in greater detail in Section (c), the Facility is consistent with New York's policy of increasing fuel diversity. In 2022, approximately 73% of the state's electricity is generated by fossil fuel-fired or nuclear generating facilities (NYISO 2023). The Facility will add up to 90 MW of solar to the state's generation capacity and so 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 Project has the ability to recover quickly, and generate energy 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.

The SEP's core sustainable and resilient communities' initiative stresses the need to ensure a more modern, reliable, and resilient energy grid. Approximately 81% of the state's power generators are more than 16 years old, and 60% are more than 35 years old (NYSEPB, 2015). Renewable energy facilities like the Project represent a significant opportunity to deploy new technology in an otherwise rapidly ageing and often outdated energy system. As noted in the SEP, "promoting the development of clean, local energy resources" will "strengthen and improve the reliability of the grid" (NYSEPB, 2015). In an emergency, the availability of local solar energy may offer opportunities to restore power to the community until connections to the central generation grid are reestablished.

(b) Impact on Reliability

A System Reliability Impact Study (SRIS) has been prepared for the solar component of the Project. No adverse impact on reliability is anticipated because of the Project. The SRIS found that the Project 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, sections (b) through (e) for a discussion of system reliability issues.

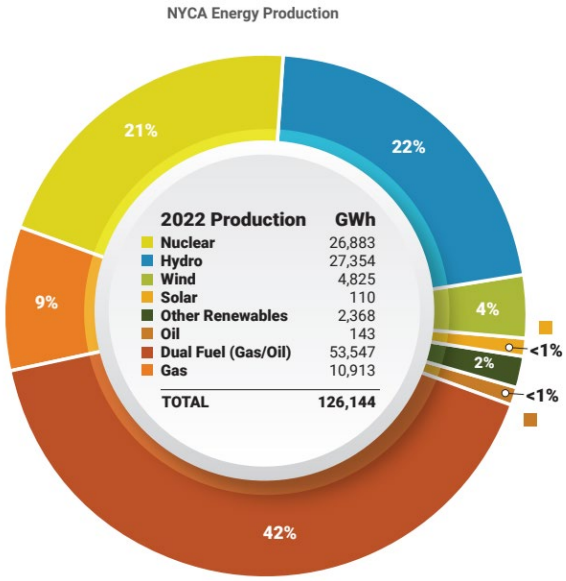
(c) Impact on Fuel Diversity

The proposed Project will improve fuel diversity within the state by increasing the amount of electricity produced by non-fuel dependent solar 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, 2022b). 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. Figure 17-1, from the

NYISO's 2023 Power Trends Report (Figure 21 of the Report), graphically depicts the 2019 statewide electric energy production by fuel type in New York (NYISO, 2023).

Figure 17-1: New York State Energy Production by Fuel Source

FIGURE 21: **2022 ENERGY PRODUCTION (GWh) BY FUEL SOURCE - STATEWIDE, UPSTATE, & DOWNSTATE NEW YORK**



Despite development in solar energy facilities over the past decade, currently solar energy comprises only 2% of the total generating capacity in New York State. Meanwhile, the CES order identifies the state's "over-dependency on natural gas" as a significant risk to the system, particularly during cold weather events or other times of natural gas price volatility.[9] Additions to the state's—and region's—renewable capacity diversifies fuel sources, increases grid reliability and resiliency, and supports the modernization of grid infrastructure.[10] This advances the state energy planning objectives of "improving the reliability of the state's energy systems,... insulating customers from volatility in market prices" and "reducing the overall cost of energy in the state," as outlined in NY Energy Law §6-102(5). Development of the Project would add up to 90 MW to the existing renewable sector, helping to diversify New York's energy economy and ease New York's dependence on natural gas and other polluting fossil fuels.

[9] See Order Adopting a Clean Energy Standard, in New York State Public Service Commission Case 14-M-0101, Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard (August 1, 2016) at p. 76)
[10] *Id* at 76-77.

(d) Impact on Regional Requirements for Capacity

Since 1999, private power producers and public power authorities have added more than 12.9 GW of new generating capacity in New York State (NYISO, 2022b). This additional generation represents more than 35% of New York's current generating capacity. Over 80% of that new generation is located in the eastern and southern regions of New York, where power demand is greatest. New York's wholesale electricity market design, which includes locational-based pricing and regional capacity requirements, encourages investment in areas where the demand for electricity is the highest. 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 solar conditions for energy production.

The Facility's addition of 90 MW of renewable generation capacity within the region will not adversely affect regional requirements for capacity. Operation of the Facility will allow for the replacement of fossil fuel use with (renewable) solar energy, thereby promoting goals identified in the SEP. The peak demand hour in New York Control Area's Summer Coincident Peak varies from year to year but typically occurs in the late afternoon when the Project is expected to be generating electricity (NYISO 2024).

A System Reliability Impact Study (SRIS) was completed for the Facility and is included as Appendix 21-A to this Application, but will be filed separately under confidential cover, as NYISO requires the SRIS to remain confidential due to Critical Energy Infrastructure Information Regulations. The SRIS Study results indicate that the Facility has no significant adverse impact on the reliability of the regional, New York State Transmission System. Exhibit 21, sections (b) through (e), of this Application describe the results of the SRIS study and how the Facility will impact regional electricity and capacity demands.

(e) Impact on Electric Transmission Constraints

As noted elsewhere herein, locational requirements dictate placement of renewable resources and, as such, much of the state's renewable power is and will be provided by projects located in the western and northern portion of the state, with the southeastern region remaining host to power plants fueled primarily by natural gas. According to the NYISO, three main issues must be addressed with respect to system reliability before SEP and CES goals can be achieved: (1) additional transmission capability necessary to reliably transport energy from renewable resources developed in remote areas, mainly western and northern New York, to New York's southeast load centers, (2) additional energy and ancillary service requirements necessary to maintain system reliability with the level of intermittent resource penetration required by the CES, and (3) the state's resource adequacy requirements resulting from the significant additional intermittent resource penetration required by the CES (NYISO, 2016).

Therefore, achieving New York's public policy objectives will require additional transmission capacity to deliver renewable resources to the bulk electric grid. Much of the renewable power is provided by hydroelectric projects and wind farms located in western and northern localities, while the southeastern region hosts power plants fueled primarily by natural gas. Therefore, most of New York's existing and

proposed renewable generation is located in Upstate New York (i.e., NYISO Zones A-F), and most of the demand (consumers of energy) is downstate (NYISO Zones F-K). The increasing renewable resource mix and geographic distribution of energy resources are expected to dramatically change power flows. Taking full advantage of statewide fuel diversity will require upgrades and enhancements of the transmission system (NYISO, 2022a). These transmission enhancements will help move energy from upstate regions with a surplus of generating capacity to more populous areas with higher power demands, such as the Hudson Valley, New York City, and Long Island (NYISO, 2022b).

The Facility is located in NYISO Zone C (Central) which, according to NYISO's Congestion Assessment and Resource Integration Study (2019), includes constrained transmission pockets, primarily of 115 kilovolt lines in the Finger Lakes area. However, these transmission constraints will continue to exist regardless of whether or not the Project is constructed, and, 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.

The following solutions have been proposed to address these congestion problems (NYISO, 2022b):

- Use energy storage resources such as batteries, flywheels, pumped storage, and compressed air storage. Energy storage resources have unique capabilities that can help grid operators meet demand, manage the variability of intermittent resources, and potentially defer transmission upgrades.
- Under the NYISO's public policy transmission planning process, interested entities propose, and the NYSPSC identifies transmission needs driven by public policy requirements. In response to a declared public policy need, the NYISO requests that interested entities submit proposed solutions and evaluate the viability and sufficiency of those proposed solutions to satisfy each identified need. Following NYISO staff ranking of proposed solutions, the NYISO Board may select the more efficient or cost-effective transmission solution to each identified need. Two of the selected projects are as follows:
    - In October 2017, a proposal from NextEra was selected to address the public policy need for new transmission in Western New York, which is planned to enter service by June 2022.
    - In April 2019, a proposal was selected to relieve congestion on the Central East (Segment A) and the interfaces between upstate and southeastern New York (Segment B), which run from central New York, through the Capital Region, to the lower Hudson Valley. These projects will add significant transfer capability to deliver renewable resources from upstate to meet the power needs of downstate New York and are planned to enter service by December 2023.

The NYSPSC has also established Tier 4 of the CES, under which NYSERDA has issued contracts to two major transmission projects—the Clean Path NY Project, which includes a new 175-mile underground transmission line between Delaware County's Fraser Substation and New York City, and the Champlain Hudson Power Express Project, a new 339-mile underground transmission line running from Quebec, Canada to New York

City. Both projects aim to expand available transmission capacity to bring more renewable energy to the state's largest load center.

Any progress realized through these efforts will enhance the state's electric system, which will help the Facility provide additional benefits as well.

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

Given the unique nature and constraints associated with the siting of solar-powered electric generation facilities (i.e., adequate, and available land, willing land lease participants and host communities, and adequate access to the bulk power transmission system), the availability of alternatives to the Project are limited. Below is a brief discussion of alternatives, including a no action alternative.

Because climate change presents a unique and urgent challenge to conventional environmental impact assessment, a "no action" alternative to taking aggressive action to address climate change will have dramatic and far-reaching impacts (NY State Senate Bill S6599, 2019). Unlike for a shopping mall or residential housing development—where not proceeding with development equates to maintaining the status quo—the state acknowledges that significant negative impacts from climate change will result from New York exercising a no action alternative. Therefore, New York State intends to transition from fossil fuel to renewable power generation by siting and constructing significant new utility-scale renewable generation capacity—the environmental impacts of which will be weighed against the significant environmental harms of doing nothing.

The following criteria should be considered when siting a utility-scale solar project:

1. Proximity to a transmission line with existing capacity in an area of the state where there is a demand for renewable energy.

2. Land suitable for photovoltaic (PV) modules that is available at a price and opportunity cost that does not make the project uneconomical.

3. A combination of a receptive community and suitable environment.

These criteria ensure that clean renewable energy from a facility may be introduced into the electric system without incurring prohibitive cost or risk to public or environmental resources.

Given the siting constraints for a privately owned Facility, the Applicant is only able to evaluate alternatives on lands currently owned, under option to, or leased by the Applicant or its affiliates. The Applicant does not have the power of eminent domain and must work with landowners willing to participate in the proposed Project. Consequently, the Applicant does not have the unfettered ability to locate components in any area or on any parcel of land. The Applicant has nevertheless taken many critical steps to minimize potential impacts to ecological and cultural resources within the Facility Site that could be affected by construction or operation of the Facility, while maintaining the economic viability of the Project. These steps

include studying and minimizing impact to sensitive resources such as wetlands and cultural resources, siting components to minimize noise and visual impacts, incorporating visual screening, burying collection lines, as is discussed elsewhere in this Application.

To determine where best to site PV arrays, the Applicant considered existing land cover, proximity and number of nearby potentially sensitive receptors, slope and aspect, accessibility, agricultural resources, and potential wildlife habitat, wetland, stream, visual, and cultural resource impacts.

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

As stated in the Scoping Plan, the impacts of climate change are already being felt globally and across New York, with evidence of New York's economic well-being, public health, natural resources, and environment already being adversely affected by climate change. The Scoping Plan states that "warming trends and incidences of intense heat waves will contribute to greater localized heat stresses; heavy rainfall events that exacerbate localized flooding will continue to impact food production, natural ecosystems, and water resources; and sea-level rise will increasingly threaten sensitive coastal communities and ecosystems" (NYSCAC, 2022). The Project contributes toward the state's overall strategy for climate change mitigation and the many public health and environmental threats anticipated to increase in severity if substantial GHG emissions reductions are not made. Overall, the Project is anticipated to have long-term beneficial effects on the environment because of reduced fossil fuel use. By helping to reduce the need for the state's most polluting fossil fuel-burning plants, the Project will help New York reduce harmful air emissions and greenhouse gases driving climate change.

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.

According to a recent study by the Audubon Society (Grand et al., 2019), 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. Additionally, 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).

Generally, the Project will promote public health and welfare by reducing New York's dependency on the combustion of fossil fuels (NYSEPB, 2015). Air pollution, water pollution and climate change have short- and long-term adverse effects on public health and the planet. Electricity generated from zero-emission solar energy facilities like the proposed Project will assist in combating climate change and have a positive impact on the environment, public health, and welfare by displacing the electricity generated from conventional

power plants, thereby reducing emissions of conventional air pollutants, such as mercury and sulfur and nitrogen oxides, and GHGs (e.g., carbon dioxide).

The Applicant has used the following assumptions to calculate the amount of carbon emissions that will be avoided as a result of the Project: (1) there are 8,760 hours in one year, (2) the Project will generate 90 MW of electricity, (3), the capacity factor of the Project, as determined by the Production Profile of the Facility is 0.22, (4) a conversion factor of 1,000 kilowatt hours/megawatt hour. Using this information, it was estimated that 173,448,000 kilowatt hours of fossil-fuel generated electricity would be displaced by operation of the Project annually. This number was inputted into the EPA Avoided Emissions and Generation Tool calculator, which estimated that 121,169 metric tons of carbon emissions would be avoided annually as a result of Project operation (EPA, 2024). For reference, this is equivalent to the carbon emissions from the annual energy usage of 15,802 households.

PV 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. Further discussion of the public health benefits of renewable energy, particularly as it relates to air emissions, is included in Exhibit 6.

Likewise, the proposed location is best suited to promote public health and welfare because it properly balances the siting constraints discussed herein, while providing the environmental and public health benefits associated with renewable energy generation and aiding the state in achieving the CLCPA goals. Despite the significant amount of undeveloped land in upstate New York, most of it is unsuitable for utility-scale solar development. Optimally, as with the case of the proposed Project, utility-scale solar projects should be sited on available, open land while minimizing impacts to sensitive resources. Areas within 5 miles of the Project are predominantly used for rural residences, agricultural use, or are defined by the New York State Office of Real Property Services as vacant land. Features in the general vicinity of the Project include the Waterloo Outlet Mall, Montezuma National Wildlife Refuge, and Seneca Lake State Park (see Exhibit 3 for a more detailed analysis).

In addition to matching the rural agricultural character in terms of land use, the Facility is consistent with the surrounding land use goals of the host communities because it will advance green energy options, will support the local economy, and landowner payments will allow some farms in the area to continue active operations outside the Project Site. See Exhibit 24 for additional discussion of the Project's consistency with local laws. Furthermore, utility-scale solar projects must be located in proximity to a suitable point of interconnection with the local utility to minimize interconnection costs. Significant interconnection costs can easily render a solar project uneconomic. Exhibit 6 provides further information regarding how the proposed Project promotes public health and welfare.

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