EAST POINT ENERGY CENTER

Case No. 17-F-0599

1001.27 Exhibit 27

Socioeconomic Effects

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Exhibit 27: Socioeconomic Effects

This Exhibit will track the requirements of proposed Stipulation 27, dated August 20, 2019, and therefore, the requirements of 16 NYCRR § 1001.27.

The Project is located in the Town of Sharon in Schoharie County, which is part of the Central Region of New York. The current demographic profiles of the communities are presented in Table 27-1 below:

Table 27-1. Demographics[1]

Population	Town of Sharon	Schoharie County	New York
2010 Population[2]	1,846	32,729	19,378,124
2017 Population	1,918	31,611	19,798,228
Median Age	42.7	44.1	38.4
Foreign born population	3.5%	2.9%	22.7%
Veterans	10.2%	9.6%	4.9%
High school graduate or higher	90.7%	88.7%	86.1%
Rural/Urban, 2010[2]			
Inside Urban Area	0%	17.2%	87.8%
Inside Rural Area	100%	82.8%	12.1%
Race and Ethnicity			
White	95.9%	96.0%	63.8%
Black or African American	0.1%	1.6%	15.7%
American Indian/Alaska Native	0.0%	0.2%	0.4%
Asian	2.9%	0.9%	8.3%
Native Hawaiian/Other Pacific Islander	0.0%	0.0%	0.0%
Some Other Race	0.1%	0.3%	8.7%
Two or more races	1.0%	1.1%	3.0%
Hispanic or Latino (any race)	2.9%	3.0%	18.8%
Total housing units	983	17,465	8,255,911
Median household income (2017$)	$50,526	$51,842	$62,765
Individuals below poverty level	13.4%	13.9%	15.1%
Labor Force, ACS	1,007	15,364	10,176,202
Percent unemployed	7.1%	7.5%	6.8%

Population	Town of Sharon	Schoharie County	New York
Labor Force, BLS May 2019[3]	N/A	14,499	9,541,725
Unemployed, May 2019	N/A	547	360,661
Unemployment rate, May 2019	N/A	3.8%	3.8%

[1]Unless otherwise noted, data are from the US Census Bureau's 2013-2017 American Community Survey (ACS) 5-year estimates program.

[2]US Census 2010 decennial census.

[3]Bureau of Labor Statistics (BLS). Data are not available at the town level.

Economic Modeling

The Applicant used the Job and Economic Development Impact (JEDI) model to estimate a range of likely secondary socioeconomic effects of the Project. The JEDI model was developed by the United States Department of Energy's National Renewable Energy Laboratory to estimate the economic effects associated with the construction and operation of power projects at the local or state level. For the purposes of this study, economic impacts were evaluated using the JEDI model to capture the cumulative effects of the proposed project.

The JEDI model relies on economic multipliers derived from Minnesota IMPLAN Group's IMPLAN accounting software and state data files. The multipliers capture the influence of the project development and onsite labor impacts and the subsequent rounds of economic activity. For example, a project's salary expenditures result in local revenue and supply chain impacts on the economy as workers spend their wages or salaries on goods and services (e.g., dining at local restaurants), which consequently supports jobs in sectors that contribute to other industries (induced impacts).

JEDI addresses three measures of local economic impact:

- Jobs: The jobs measure reflects changes in employment attributable to the development of an energy project. Jobs are expressed in terms of year-long, full-time equivalent (FTE) positions (2,080-hour units of labor).

- Earnings: Earnings captures the wages or salaries that are associated with jobs attributable to the development of an energy project. Earnings are expressed in terms of

2019 dollars.[1] While earnings represent wages or salaries for workers, this expense is recorded as *payroll* for the project. For the purposes of this analysis, JEDI's earnings projections will be reported as payroll.

- Output: Output measures economic activity. It includes all expenditures that are estimated to take place in an economy as a result of the development of a project. Output differs from gross regional product (GRP) in that output includes the value of production in addition to the purchases of inputs, whereas GRP is a measure of the value of production. Output is expressed in terms of 2019 dollars.

JEDI results, in terms of jobs, payroll (earnings), and output, are provided across three categories:

- Project development/construction and onsite labor impacts: These impacts include labor costs during the development, construction, and operation and maintenance (O&M) of a project. Labor costs may be associated with engineers, permitting specialists, crane operators, electricians, field technicians, and others. Parts and materials are not included in these types of impacts.

- Local revenue and supply chain impacts: This category includes all materials and equipment necessary for the construction of a project that are purchased locally. This may include wiring, hard hats, replacement parts, and the supply chain of inputs required to produce these materials. Expenses such as land easements, bookkeepers, financing, insurance, and utilities are also included in this category.

- Induced impacts: Induced impacts encompass the jobs and economic impacts that arise from spending by workers in the first two categories.

Together, the above impacts form the total economic impacts calculated by the JEDI models.

The JEDI models' results include two distinct time periods: construction, and operations and maintenance. Construction jobs are presented in terms of FTE jobs. While a part-time or temporary job may be considered one job by other models, it would only constitute a fraction of a job under the JEDI framework. For example, a three-month engineering job would add 0.25 FTE jobs to total estimated effects of the solar project. Equipment manufacturing jobs, such as solar

[1] Conversions between dollar years were made based on the JEDI models' deflator factors. These conversions were necessary to present all monetary amounts in terms of 2019 dollars (2019$).

module manufacturing, are captured in the construction period. The operation period results, which cover the life of a project, are reported as annual FTE jobs and annual economic activity.

For this Project, economic impact analyses were performed using the JEDI Model to analyze the construction of the Project. A range of results is provided, representing +/- 5 percent (95% to 105%) of expected costs to reflect the uncertainty associated with multiplier-based, secondary impact estimates. Key assumptions for this Project included in the JEDI models include:

- construction of the Project in 2021;
- 74.17 megawatts of DC power; and
- construction in the State of New York.

The Applicant customized the JEDI Model using inputs specific to the proposed East Point Energy Center. These Project-specific inputs include expenditures, wage rates, and percentage of spending that is local to New York.

Limitations of the JEDI Model

As with most input-output screening tools, the JEDI models focus on the economic impacts directly related to Project construction and operation (gross economic impacts). The JEDI Model does not evaluate other economic impacts associated with the Project.[2] Examples of other potential impacts include:

- Potential increases or decreases in electricity rates resulting from investments in new electricity infrastructure;
- Impacts associated with the possible cancellation of new power plants made unnecessary by the added capacity of the proposed Project; and
- The displacement of some other type of economic activity due to investment in the proposed Project.

JEDI models do not calculate intangible or difficult to quantify effects associated with new projects. These types of effects include:

- Improvements in transmission or grid reliability;
- Changes in air or water emissions;

[2] See https://www.nrel.gov/analysis/jedi/limitations.html for more information.

- Changes in water use from power generation;
- Changes in land use; and
- Stability of electricity prices that might result from the reduced fuel price risk of renewable sources of electricity.

Based on the JEDI results, this exhibit presents a range of estimates of the annual secondary employment and economic activity likely to be generated in the vicinity of the Facility by the construction of the solar Facility, to reflect the uncertainty associated with such, possibly multiplier-based, secondary impact estimates. Limitations of the JEDI Model are discussed in more detail later sections of this exhibit.

27(a) On-Site Construction Work-Force Impacts

Based on prior industry experience, the Applicant estimates a total of 54.6 FTE jobs will be generated during construction. The majority of the workers will be laborers (18.5 FTE jobs) or Electricians (16.1 FTE jobs). Table 27-2 summarizes the Applicant's forecast of the employment by job type associated with the construction of the Project.

Table 27-2. Applicant's Forecasted FTE Jobs during Project Construction

Type of Job	Number of FTE Jobs[1] Created
Laborers	18.5
Electricians	16.1
Construction Managers	8.0
Equipment Operator	7.8
Foreman	4.2
Total FTE Jobs	*54.6*

Note: Construction is anticipated to take place in 2021.

[1]Jobs are expressed in terms of year-long, full-time equivalent (FTE) positions (2,080-hour units of labor).

Based on prior industry experience, the Applicant has evaluated the expected quarterly total level of labor that will be required during the construction phase of the Project. Table 27-3 summarizes the Applicant's forecast of the employment associated with the construction of the Project.

Table 27-3. Applicant's Forecasted Labor Force during Project Construction

Timing of Construction Activity	Construction Labor	Engineers and Other Professional Services	Total
2nd Quarter 2021, Average	74	12	86
3rd Quarter 2021, Average	93	12	105
4th Quarter 2021, Average	28	12	40
Peak Employment (June-August)	**111**	**12**	**123**

Note: Construction is anticipated to take place in 2021.

Peak employment is forecast to occur during the end of the 2nd Quarter through the second month of the 3rd Quarter (June – August), with employment averaging 123 jobs. During this period of peak employment, 111 jobs will be in the construction discipline and 12 jobs will be in the engineering and other professional services disciplines.

Although the exact mix of local and non-local workers cannot be accurately forecast, the Applicant anticipates a significant number of local hires will be made. The Project is located in Schoharie County, which is part of the Albany-Schenectady Combined Statistical Area (CSA). The CSA is home to almost 1.2 million people and has a labor force of 585,096.[3] A CSA is a larger region that reflects broader social and economic interactions. The large labor force in the area provides an expanded opportunity for the hiring of local labor.

The *2018 National Solar Jobs Census* (The Solar Foundation, 2018) found that 65.5% of field crew were hired within the regional or metropolitan area, with 12.9% hired outside of the region, but within the state. The report also highlights two engineering, procurement, and construction (EPC) firms. The one firm reported using 60% local labor on average, while the other reported using 90% local labor. Based on the findings of the report and the large regional labor force, it is estimated that during the peak construction period between 74 to 111 construction workers from the local region would be hired at the Project. Additional construction workers are expected to be hired from within New York.

[3] May 2019.

27(b) Construction Direct and Supply Chain Impacts

The Applicant estimated the construction payroll by trade for the anticipated 8-month construction period. As shown in Table 27-4, the Project's construction payroll is forecast to be $6.4 million. The payroll estimate includes wages and salaries, employer-paid insurance costs, paid leave, and payroll taxes. An estimated 60% to 90% of the total payroll is expected to be paid to workers in the region ($3.8 million to $5.7 million). Additional jobs and payroll will be generated during the permitting and engineering processes.

Table 27-4. Applicant's Forecasted Labor Force during Project Construction

Type of Job	Number of FTE Jobs[1] Created	Estimated Payroll[2]
Laborers	18.5	$ 1,510,097
Electricians	16.1	$ 1,795,592
Construction Managers	8.0	$ 1,674,137
Equipment Operator	7.8	$ 827,820
Foreman	4.2	$ 574,382
Total FTE Jobs	***54.6***	***$6,382,028***

Note: Construction is anticipated to take place in 2021.

[1]Jobs are expressed in terms of year-long, full-time equivalent (FTE) positions (2,080-hour units of labor).

[2]Payroll includes wages and salaries, benefits, and payroll taxes.

Table 27-5 below presents the expected total direct expenditures during construction of the Project. In-state (local) expenditures are also presented.

Table 27-5. Direct Expenditures during Development and Construction of the Project

	Cost (2019$)	Local NY Share	Local NY Spending
Installation Costs			
Materials & Equipment			
Mounting (rails, clamps, fittings, etc.)	[redacted]	[redacted]	[redacted]
Modules and Inverters	[redacted]	[redacted]	[redacted]
Electrical (wire, connectors, breakers, etc.)	[redacted]	[redacted]	[redacted]
Subtotal	[redacted]	[redacted]	[redacted]
Labor			
Installation	[redacted]	[redacted]	[redacted]
Other Costs/Development Costs			
Permitting[1]	[redacted]	[redacted]	[redacted]
Other Costs	[redacted]	[redacted]	[redacted]
Business Overhead[2]	[redacted]	[redacted]	[redacted]
Subtotal	[redacted]		[redacted]
Subtotal All Costs (without sales tax)	[redacted]		[redacted]
Sales Tax (Materials & Equipment Purchases)[3]	[redacted]	[redacted]	[redacted]
Total	[redacted]		[redacted]

Notes: Numbers shown may not sum to totals because of rounding.

Construction is anticipated to take place in 2021.

[1]Permitting includes the fees paid to local governments.

[2]Business Overhead includes engineering and environmental permitting costs.

[3]Assumes 8% local (Schoharie County) sales tax.

As shown above, the Applicant estimates the Project costs to be roughly [redacted]. These costs include [redacted] in labor costs. Permitting, a local expense, is anticipated to be [redacted]. Approximately [redacted] of Other Costs are anticipated to be spent locally. These Other Costs include materials such as concrete and gravel. Business overhead, which includes engineering and environmental permitting costs, is estimated to be [redacted], with [redacted] spent in-state ([redacted]). An additional [redacted] in sales taxes on materials and equipment purchases is

forecasted. Sales tax is a local expenditure. Total project expenditures within New York are projected to be over [redacted].

The JEDI Model provides additional detail on spending at the industry level. The largest New York expenditures during the construction phase of the Project will be in the construction/installation industry, with roughly $6.4 million spent locally. Table 27-6 presents this detail.

Table 27-6. Direct Local Expenditures by Industry during Project Development and Construction (2019$)

Industry	Local NY Expenditures[1]
Construction/Installations – Non-Residential	$6,382,028
Wholesale Trade	$ 211,339
Retail trade	$ 25,308
TCPU	$ 27,038
Office Services	$1,047,550
Architectural and Engineering Services	$ 252,000
Other services[2]	$ 789,677
Government	$ 97,796
-	**$8,832,736**

Note: Industries with no local NY expenditures are not shown.

27(c) Indirect (or Secondary) and Induced Impacts during the Construction Phase

Indirect and Induced Impacts

As discussed previously, the JEDI model was used to estimate the likely secondary socioeconomic effects of the Project's spending. The indirect impacts are economic effects associated with linked sectors in the economy that are upstream of the direct impacts, such as suppliers of hardware used to make the equipment installed onsite. For the purposes of this discussion, estimates are assumed to vary from 95% to 105% of the indirect, and induced impact estimates developed for this project. The range accounts for the small changes that take place over time in the IMPLAN multipliers used in the JEDI model. Estimates for New York are for the entire state including Schoharie County.

Table 27-7 below presents ranges of the indirect impacts estimated to be generated in the vicinity of the solar facility by its construction.

Table 27-7. Indirect Local New York Impacts by Industry during Development and Construction of the Project

Industry	Labor Impacts (FTE Jobs)	Earning Impacts (Millions 2019$)	Output Impacts (Millions 2019$)
Construction/Installations - Non Residential	13.5 to 14.9	$0.862 to $0.953	$2.211 to $2.444
Wholesale Trade	0.3 to 0.4	$0.028 to $0.031	$0.072 to $0.079
Retail trade	0 to 0	$0.003 to $0.003	$0.008 to $0.009
TCPU	0.1 to 0.1	$0.004 to $0.005	$0.012 to $0.013
Office Services	0.8 to 0.9	$0.07 to $0.078	$0.172 to $0.19
Architectural and Engineering Services	0.5 to 0.5	$0.042 to $0.046	$0.097 to $0.107
Other services[2]	1.2 to 1.3	$0.104 to $0.115	$0.271 to $0.3
Government	0 to 0	$0.004 to $0.004	$0.009 to $0.01
Total	**16.5 to 18.2**	**$1.118 to $1.235**	**$2.853 to $3.153**

Notes: Numbers shown may not sum to totals because of rounding.

Construction is anticipated to take place in 2021.

Industries with no local NY expenditures are not shown.

Indirect local impacts during the construction phase are estimated to be between 16.5 and 18.2 FTE jobs, payroll totaling between $1.1 million and $1.2 million, and output totaling between $2.9 million and $3.2 million. The construction/installation industry in New York is expected to experience the largest impact, with between 13.5 and 14.9 FTE jobs and between $0.9 million and $1.0 million in payroll and between $2.2 million and $2.4 million in output.

Induced impacts include the jobs and economic impacts generated from spending by workers whose jobs result from direct or indirect impacts of the Project. Table 27-8 presents ranges of the induced impacts likely to be generated in the vicinity of the solar Facility by its construction.

Table 27-8. Induced Local Impacts by Industry during Development and Construction of the Project

Industry	Labor Impacts (FTE Jobs)	Earning Impacts (Millions 2019$)	Output Impacts (Millions 2019$)
Construction/Installations - Non Residential	11.2 to 12.4	$0.789 to $0.872	$2.035 to $2.25
Wholesale Trade	0.4 to 0.4	$0.026 to $0.029	$0.068 to $0.075
Retail trade	0 to 0.1	$0.004 to $0.004	$0.009 to $0.01
TCPU	0 to 0	$0.003 to $0.003	$0.007 to $0.008
Office Services	3.2 to 3.5	$0.227 to $0.25	$0.585 to $0.646
Architectural and Engineering Services	0.7 to 0.8	$0.052 to $0.058	$0.135 to $0.149
Other services[2]	1.4 to 1.6	$0.107 to $0.119	$0.277 to $0.306
Government	0.2 to 0.3	$0.019 to $0.021	$0.05 to $0.055
Total	**17.3 to 19.1**	**$1.227 to $1.356**	**$3.166 to $3.499**

Notes: Numbers shown may not sum to totals because of rounding.

Construction is anticipated to take place in 2021.

Industries with no local NY expenditures are not shown.

As shown in Table 27-7 above, induced impacts in New York are estimated to be between 17.3 and 19.1 FTE jobs, payroll of between $1.2 million and $1.4 million, and output of between $3.2 million and $3.5 million. The construction industry is expected to experience the largest impact, with between 11.2 and 12.4 FTE jobs and between $0.8 million and $0.9 million in payroll.

Annual Net Secondary Effects

As discussed previously, the JEDI model addresses the gross economic impacts of the proposed Project. Annual net secondary effects from the Project's construction include consideration of the above modeled impacts, as well as other difficult to quantify considerations that may be associated with the Project. The JEDI model, for example, does not consider the following impacts that would occur as a result of the construction of the proposed Project:

- The displacement of some other type of economic activity due to investment in the proposed Project; and

- Changes in land use.

Economic displacement occurs when increases in economic activity in one business sector or geographic area leads, indirectly, to decreases in economic activity elsewhere. While displacement of some farming revenue will occur, it will be offset by lease payments to the landowners from the Applicant. In any event, even if there were a net loss, the overall impact on investment in New York is expected to be negligible, as the Gross Domestic Product (GDP) for the state as whole is $1.68 trillion and the GDP attributable to construction is $51.3 billion.[4]

Changes in land use are addressed in Exhibit 4. The land use analysis found that although the solar arrays will occupy a portion of active farmland, the impact on active farmland will be insignificant when considering farmland at both the town and county levels. The lease or purchase payments provided to landowners will stabilize revenues for local participating farms (as crop and dairy prices often fluctuate from year to year) and revenues paid to landowners are typically reinvested in the community, helping to create jobs and improve the local economy. This diversified income helps support the agricultural community base in the area.

27(d) Operation and Maintenance Employment Impacts

The Applicant has evaluated the expected annual level of labor that will be required during the operation and maintenance phase of the Project. The jobs presented here are expected to be performed by local New York workers. Table 27-9 summarizes the Applicant's forecast of the annual employment associated with the operation and maintenance of the Project.

Table 27-9. Applicant's Forecasted Annual Labor Force during Project Operation and Maintenance

Type of Job	Number of FTE Jobs Created	Payroll (2019$)[1]
Solar Technician (preventive and corrective maintenance)	2.0	$178,419
Site Manager	0.25	$ 41,587
High Voltage Technician	0.25	$ 39,551
Total	***2.5***	***$259,556***

Note: Construction is anticipated to take place in 2021.

[4] Source: Bureau of Economic Analysis (2019).

[1]*Payroll includes wages and salaries, benefits, and payroll taxes. These figures are consistent with the salary total of $177,277 presented in Attachment J of the NYSERDA application.*

Based on the Applicant's evaluation, the employment during the operation and maintenance phase will be 2.5 FTE jobs. Payroll associated with these jobs is expected to be $259,556 annually.

Table 27-10 below presents the expected total direct expenditures during the operation and maintenance phase of the Project. Labor costs were estimated by the Applicant based on anticipated employment levels, wage rates by worker type, and overhead (including insurance benefits, taxes, and unpaid leave). Materials and equipment costs were also developed by the Applicant specifically for the East Point Energy Center. The expected local shares of spending and local spending amounts are also included.

Table 27-10. Annual Direct Expenditures during Project Operation and Maintenance.

	Cost (2019$)	Local Share	Local Spending (2019$)
Labor: Technicians	$259,556	100%	$259,556
Materials and Equipment	$416,578	100%	$416,578
Subtotal All Costs (without sales tax)	**$676,135**		**$676,135**
Sales Tax (Materials & Equipment Purchases)	$ 33,326	100%	$ 33,326
Total	**$709,461**		**$709,461**

Notes: Numbers shown may not sum to totals because of rounding.

Construction is anticipated to take place in 2022.

As shown above, annual operation and maintenance costs are expected to be $0.7 million, with $0.3 million in labor costs, $0.4 million in materials and equipment costs, and $33,326 in sales taxes. While all of the personnel will be local, health benefits and payroll taxes will be spent outside the state. The annual expenditure of $0.4 million in materials and equipment costs is expected to be spent locally.

27(e) Secondary Operation and Maintenance Impacts

Indirect Impacts

As shown in Table 27-11 below, annual indirect local impacts during the operation and maintenance phase are expected to total between 1.1 and 1.2 FTE jobs, with payroll totaling between $94,000 and $104,000 and output totaling between $248,000 and $275,000. The wholesale trade industry is expected to experience the largest annual impact, with approximately 0.4 FTE jobs, between $33,000 and $37,000 in payroll, and between $84,000 and $93,000 in output.

Table 27-11. Annual Indirect Local Impacts by Industry during Project Operation and Maintenance

Industry	Labor Impacts (FTE Jobs)	Earning Impacts (Millions 2019$)	Output Impacts (Millions 2019$)
Manufacturing	0 to 0	$0 to $0.001	$0.001 to $0.001
Wholesale Trade	0.4 to 0.4	$0.033 to $0.037	$0.084 to $0.093
Retail trade	0.1 to 0.1	$0.005 to $0.005	$0.012 to $0.014
TCPU	0.2 to 0.2	$0.015 to $0.017	$0.043 to $0.047
Insurance and Real Estate	0.1 to 0.2	$0.012 to $0.013	$0.037 to $0.041
Finance	0 to 0	$0.001 to $0.001	$0.001 to $0.002
Other services[2]	0.1 to 0.1	$0.011 to $0.013	$0.03 to $0.033
Government	0.2 to 0.2	$0.016 to $0.017	$0.04 to $0.044
Total	**1.1 to 1.2**	**$0.094 to $0.104**	**$0.248 to $0.275**

Notes: Numbers shown may not sum to totals because of rounding.

Operation is anticipated to begin at the end of 2021.

Industries with no local NY expenditures are not shown.

Table 27-12 presents the annual induced local impacts by industry. Annual induced impacts are expected to generate between 2.0 and 2.2 New York FTE jobs, payroll of between $14,000 and $165,000, and output of between $386,000 and $426,000.

Table 27-12. Annual Induced Local Impacts by Industry during Project Operation and Maintenance

Industry	Labor Impacts (FTE Jobs)	Earning Impacts (Millions 2019$)	Output Impacts (Millions 2019$)
Manufacturing	0 to 0	$0 to $0	$0.001 to $0.001
Wholesale Trade	0.4 to 0.5	$0.031 to $0.034	$0.079 to $0.087
Retail trade	0.1 to 0.1	$0.005 to $0.006	$0.014 to $0.015
TCPU	0.1 to 0.2	$0.010 to $0.012	$0.027 to $0.030
Insurance and Real Estate	0.1 to 0.1	$0.009 to $0.010	$0.023 to $0.025
Finance	0 to 0	$0.001 to $0.001	$0.002 to $0.003
Other Professional Services	0 to 0	$0 to $0	$0.001 to $0.001
Other services[2]	0.2 to 0.2	$0.012 to $0.013	$0.030 to $0.034
Government	1.0 to 1.1	$0.081 to $0.089	$0.209 to $0.231
Total	**2.0 to 2.2**	**$0.149 to $0.165**	**$0.386 to $0.426**

Notes: Numbers shown may not sum to totals because of rounding.

Operation is anticipated to begin at the end of 2021.

Industries with no local NY expenditures are not shown.

Annual Net Secondary Effects

As discussed previously, the JEDI model results for the proposed Project address gross economic impacts. Annual net secondary effects from the Project's operation and maintenance include the impacts discussed above and other difficult to quantify impacts associated with the Project. The JEDI model, for example, does not consider the following impacts that are likely to occur as a result of the operation of the proposed Project:

- Potential increases or decreases in electricity rates resulting from investments in new electricity or fuel infrastructure;
- Stability of electricity prices that might result from the reduced fuel price risk of renewable sources of electricity.
- Impacts associated with the possible displacement of new power plants made unnecessary by the added capacity of the proposed project; and
- Improvements in transmission or grid reliability;

- Changes in air or water emissions;
- Changes in water use from power generation; and

The Project is projected to have a positive effect on zonal prices in the control area load zone in which it is located. NYISO Zone F,[5] which includes the majority of Schoharie County and all Montgomery County, is expected to experience a reduction in the average zonal prices of approximately $0.04/MWh in 2023. If this reduction helps keep retail electric rates lower than they would otherwise be, there would be additional positive impacts to New York's economy arising from the operation of the proposed Project. Conversely, higher retail rates would have a negative impact on the state's economy. The Project may also support increase stability in electricity prices by reducing the fossil fuel price risk.

The Applicant is not aware of any reliable method to determine if the Project's added solar capacity would result in the cancellation of new power projects. Rather, the Project is being driven by New York State law, NYPSC 's Clean Energy Standard and the NYS State Energy Plan. The additional solar capacity is vital to meeting the state's goals to have 70 percent of energy generation produced from renewable energy sources and to achieve a 40 percent reduction in greenhouse gas emissions from the 1990 level by 2030 (Climate Leadership and Community Protection Act of 2019). Positive impacts to air quality are also projected, with an anticipated reduction in annual statewide emissions by 5 tons of SO_2, 9 tons of NOx and 27,676 tons of CO_2 (see Exhibit 8).

As a solar power generating facility, the Project will not generate any water emissions. There is no public water supply interconnection required for the operation of the Project, as stated in Exhibit 38. The Project will provide power generation without using water, which is a benefit when compared to thermoelectric generating facilities.

27(f) School District Impacts during the Construction and Operation Phases

The Project is located within the Sharon Springs Central School District. The largest impact in terms of jobs would be during the construction period. Families do not, however, typically relocate for short-term constructions jobs. Further, it is anticipated that some portion of the workers during both the construction and O&M phases of the Project will be local hires. No negative impacts to school district, therefore, are anticipated during the construction phase of the Project.

[5] NYISO Zone F is also referred to as the Capital Zone.

During the O&M phase of the Project total annual impacts (direct, indirect, and induced) associated with employment are forecast to be between 5.6 and 5.9 FTE jobs. Long term population impacts in the school districts are anticipated to be minimal during the O&M phase of the Project. PILOT payments are anticipated to be paid to the Sharon Springs Consolidated School District during the O&M phase of the Project.

27(g) Municipal, Public Authority, and Utility Services Impacts during the Construction and Operation Phases

As described above, population impacts from the construction and operation of the Project are expected to be negligible. In addition, the cost of any services required by Project employees living within the local municipalities would be offset by property taxes and utility fees. Further, the Project construction and operation are not anticipated to place any burdens on local services, but will likely generate Payments in Lieu of Taxes (PILOT) revenue for the taxing jurisdictions.

27(h) Designated Tax Jurisdiction, Tax and Payment Impacts

The Project includes property within three taxing jurisdictions that are expected to receive PILOT revenues. The jurisdictions are:

- Schoharie County
- Town of Sharon
- Sharon Spring Central School District

These jurisdictions will benefit from a PILOT agreement as described in the following section, and from additional economic activity in the vicinity of the Project. New York State is also anticipated to benefit from additional tax revenue generated by the construction and O&M of the Project.

27(i) Incremental Amount of Annual Taxes and a PILOT

The Applicant anticipates executing PILOT agreements with Schoharie County, the Town of Sharon, and the Sharon Springs Central School District, which require annual PILOT payments for 15 years. While the specific terms of the PILOT agreements have not yet been negotiated, these agreements will increase the revenues of the local taxing jurisdictions and will represent a significant portion of their total tax levy. For the purposes of this Exhibit, annual PILOT payments are estimated to be $400,000 beginning in 2022.[6] Total PILOT payments over the 15-year

[6] Payments are anticipated to increase over time by 2.5% per year.

agreement period are estimated to total $7.2 million. Table 27-13 below details the anticipated PILOT payments to each taxing jurisdiction.

Table 27-13. Anticipated Annual and Cumulative PILOT Payments for Solar Energy Center

Taxing Jurisdiction	2022 Annual Payment	Cumulative (15-year) Payment
Schoharie County	$120,000	$2,151,831
Town of Sharon	$ 80,000	$1,434,554
Sharon Springs CSD	$200,000	$3,586,385
Total	**$400,000**	**$7,172,771**

Notes: CSD indicates Central School District.

Payments related to the solar energy center are anticipated to increase over time by 2.5% per year.

Numbers shown may not sum to totals because of rounding.

The Sharon Springs Central School District is anticipated to receive the largest payments, with a 15-year total of $3.6 million. The Town of Sharon is expected to receive $1.4 million over the 15-year period, with Schoharie County receiving a total of $2.2 million over 15 years.

27(j) Comparison of Fiscal Costs to Jurisdictions

As discussed previously, the Project is not anticipated to impose fiscal costs related to the services provided by the local taxing jurisdictions. Employment during the construction phase will be temporary and is not expected to result in the relocation of families. Job-related impacts during the O&M of the solar energy center are relatively small. With the expected payment of a PILOT agreement, the Project should result in positive fiscal impacts for the local jurisdictions.

27(k) Analysis of Local Emergency Response

Exhibit 18 outlines safety and security for the Project. Detailed information regarding the emergency response procedures for possible contingencies (such as a fire emergency) is found in the Emergency Response Plan (Appendix 18-2). The Emergency Response Plan includes information on local fire departments and local police/sheriff departments/offices. In the event of an emergency, the Site Leader will assess the situation and perform the proper actions and procedures as outlined in the Emergency Response Plan. This may include potential evacuation and contacting emergency services.

The Emergency Response Plan for the Project will be shared with local emergency response teams. There is currently an absence of an active fire chief in the Town of Sharon. The Applicant made attempts to reach former fire chiefs, but they were not in a position to provide a response. As of the time of the Application filing, no one is in an official capacity to address questions associated with the Emergency Response Plan (Appendix 18-2). The Applicant understands the importance of coordination with local fire, police, and other emergency services and will work to ensure that they are kept updated on the status of the Project and are made aware of potential safety and security emergencies. Preliminary introductions and discussions have been conducted with local fire and police as described in the Public Involvement Program (PIP) meeting log and additional discussions will occur prior to construction and prior to the start of operations. The Applicant will work with local emergency responders to coordinate any training that may be necessary. To the knowledge of the Applicant, no equipment not presently owned by the public fire department or other first responders will be needed to respond to emergencies at the Project either during the construction or operation of the Project.

27(l) Smart Growth Infrastructure Compliance Impacts

The Project is a privately-funded energy project and, as such, is not subject to New York Environmental Conservation Law Article 6, Section 107 (ECL § 6-107) requiring the construction of new or expanded "public infrastructure" to meet certain Smart Growth Criteria. New York State's Smart Growth Public Infrastructure Policy Act outlines 10 criteria for evaluating public infrastructure. An additional criterion was added at a later date. While not required, the Project's consistency with Smart Growth Criteria is addressed below for illustrative purposes. Under the statute, state infrastructure agencies shall not approve, undertake, or finance a public infrastructure project, unless the project, to the extent practicable, meets the relevant criteria set forth in the document (ECL § 6-107).

Criterion 1: To advance projects for the use, maintenance or improvement of existing infrastructure

The development of the Project will improve the State's existing energy infrastructure by creating an economically viable, solar-powered electrical-generating facility that provides renewable energy to the New York State power grid. The Project will generate up to 50 MW of renewable energy that will be provided to the New York State electric system that is managed by the New York Independent System Operator (NYISO). The Project will use the existing electric system for the distribution of electricity to end users. Existing transportation infrastructure will be used for the

conveyance of equipment and construction materials. No long-term impacts to the transportation infrastructure are anticipated.

Based on the contribution to the state electric system and the limited use of transportation infrastructure, the Project is consistent with Smart Growth Criteria 1.

Criterion 2: To advance projects located in municipal centers

New York State's Smart Growth Public Infrastructure Policy Act defines "municipal centers" as:

> *areas of concentrated and mixed land uses that serve as centers for various activities, including, but not limited to, central business districts, main streets, downtown areas, brownfield opportunity areas, downtown areas of local waterfront revitalization program areas, transit-oriented development, environmental justice areas, and hardship areas (ECL § 6-107)*,

as well as:

> *areas adjacent to municipal centers, which have clearly defined borders, are designated for concentrated development in the future in a municipal or regional comprehensive plan, and exhibit strong land use, transportation, infrastructure and economic connections to a municipal center; and areas designated in a municipal or comprehensive plan, and appropriately zoned in a municipal zoning ordinance, as a future municipal center (ECL § 6-107).*

The development of solar power projects requires a large land area. As such, solar projects, such as this, are incompatible with municipal centers. Therefore, compliance with this criterion is impracticable. Additionally, siting a utility scale solar project requires willing land owners and access to a point of interconnection in order to provide the electricity generated to the electric system that is managed by the New York Independent System Operator (NYISO).

Criterion 3: To advance projects in developed areas or areas designated for concentrated infill development in a municipally approved comprehensive land use plan, local waterfront revitalization plan and/or brownfield opportunity area plan

Solar projects require a large land area and, thus, are incompatible with infill development and waterfront revitalization. The proposed Project is not located in a designated brownfield area. Therefore, compliance with this criterion is impracticable. Additionally, siting a utility scale solar

project requires willing land owners and access to a point of interconnection in order to provide the electricity generated to the electric system that is managed by the New York Independent System Operator (NYISO).

Criterion 4: To protect, preserve and enhance the state's resources, including agricultural land, forests, surface and groundwater, air quality, recreation and open space, scenic areas, and significant historic and archeological resources

The Project is consistent with Criterion 4. Exhibits 4,17, 20, 21, 22, 23, and 24, and related studies, analyze the potential effects on agricultural land, forests, surface and groundwater, air quality, recreation and open space, scenic areas, and significant historic and archaeological resources. These analyses illustrate that the Project has avoided and minimized impacts to the relevant resources to the maximum extent practicable (based on the layout as currently proposed). Any remaining impacts are outweighed by the benefit provided by the Project's generation of up to 50 MW of renewable energy, which will enhance the state's air quality.

Criterion 5: To foster mixed land uses and compact development, downtown revitalization, brownfield redevelopment, the enhancement of beauty in public spaces, the diversity and affordability of housing in proximity to places of employment, recreation and commercial development and the integration of all income and age groups

The proposed Project is in the rural community of Sharon. The area is not conducive to mixed land uses, compact development, or the development of diverse and affordable housing in the proximity to places of employment, recreation and commercial development. Further, as mentioned previously, a solar project requires significant open space and, thus, is incompatible with downtown revitalization. The proposed location is not in a brownfield. Compliance with this criterion is impracticable. Additionally, siting a utility scale solar project requires willing land owners and access to a point of interconnection in order to provide the electricity generated to the electric system that is managed by the New York Independent System Operator (NYISO).

Criterion 6: To provide mobility through transportation choices including improved public transportation and reduced automobile dependency

The Project will not be designed to impact transportation choices in the area. Therefore, compliance with this criterion is impracticable.

Criterion 7: To coordinate between state and local government and intermunicipal and regional planning

The Applicant has been involved in public outreach to local government and planning agencies throughout the development and review of the Project, in accordance with the requirements of the Article 10 process and the PIP plan prepared specifically for the Project. The stakeholder list and information on the public coordination efforts are included in Exhibit 2 and its appendices.

Criterion 8: To participate in community-based planning and collaboration

The Applicant has conducted and will continue to conduct stakeholder outreach throughout the development and review of the proposed Project. These efforts have been conducted in accordance with the requirements of the PIP, which includes stakeholder consultation and other forms of engagement, public education, public meetings, ample notification periods, and public comment periods at key milestones (see Exhibit 2 and the PIP for more information). Information is also available to the community via the website www.eastpointenergycenter.com. These outreach efforts satisfy the criterion related to participation in community-based planning and collaboration.

Criterion 9: To ensure predictability in building and land use codes

The Applicant's Project will have no influence over building and land use codes in Schoharie County or in the Town of Sharon.

Criterion 10: To promote sustainability by strengthening existing and creating new communities which reduce greenhouse gas emissions and do not compromise the needs of future generations, by among other means encouraging broad based public involvement in developing and implementing a community plan and ensuring the governance structure is adequate to sustain its implementation

Solar power, a renewable energy source, generates electricity without the by-product of greenhouse emissions and can reduce the dependence on conventional power plants, thereby reducing the emissions of conventional air pollutants. In fact, the Project is expected to reduce NOx, SO_2 and CO_2 emissions from the power sector in New York. In 2023, the Project is expected to reduce the annual statewide emissions by 5 tons of SO2, 9 tons of NOx and 27,676 tons of CO2 (see Exhibit 8).

The Project will help the state achieve the 2030 goal of having 70 percent of energy generation produced from renewable energy sources and a 40 percent reduction in greenhouse gas emissions from the 1990 level (Climate Leadership and Community Protection Act of 2019). As this Project will expand the state's clean, renewable energy infrastructure and reduce greenhouse gas emissions, the Project is consistent with and will help the state achieve its goals in Criterion 10.

Criterion 11 (effective March 21, 2015): To mitigate future physical climate risk due to sea level rise, and/or storm surges and/or flooding, based on available data predicting the likelihood of future extreme weather events, including hazard risk analysis data if applicable

The Project is consistent with New York's efforts to expand reliance on renewable energy sources and reduce greenhouse gas emission. As described in *Climate Smart Communities Guide to Local Action: Taking Steps to Combat Climate Change*, reducing greenhouse gas emissions "will help stabilize atmospheric GHGs (greenhouse gas) at manageable levels and avoid severe climatic changes." The State recognizes that this action will "minimize the risks of climate change and reduce its long-term costs" (New York Department of Environmental Conservation 2017). Solar power, as a zero-emission, renewable energy source, not only expands available power generation capabilities without increasing greenhouse gas emissions, the addition of a solar power project will result in a decrease in existing greenhouse gas emission levels, as solar power displaces generation from fossil fuel facilities. Therefore, the Project is expected to have a positive impact on the mitigation of future physical climate risk, thereby supporting Smart Growth Criterion 11.

27(m) Feasibility of Providing Local Access to Energy Generation

If the Town of Sharon were to become Community Choice Aggregation (CCA), the local community could have access to energy generated by the Project. The purpose of a CCA is to allow participating local governments to procure energy supply service and distributed energy resources for eligible energy customers in the community. These customers would have the opportunity to opt out of purchasing power from the existing power provider, while maintaining transmission and distribution service from that utility.

CCA allows local governments to work together through a shared purchasing model to put out for bid the total amount of electricity and/or natural gas being purchased by eligible customers within

the jurisdictional boundaries of participating municipalities. Eligible customers have the opportunity to have more control to lower their overall energy costs, to spur clean energy innovation and investment, to improve customer choice and value, and to protect the environment, thereby fulfilling an important public purpose. NYSERDA has developed a toolkit to assist local governments and CCA Administrators to develop CCA programs in New York State.[7]

27(n) Statement on Actual Job Tracking and Tax Payment to Local Jurisdiction

The Applicant is committed to tracking and reporting the actual number of direct jobs created during the construction and operational phases of the Project. Additionally, tax payments to local jurisdictions made during the course of the Project will be recorded and reported.

27(o) Socioeconomic Impact Estimate Workpapers

Workpapers associated with the socioeconomic impact analysis presented in this Exhibit will be provided to DPS under separate cover.

[7] See https://www.nyserda.ny.gov/All-Programs/Programs/Clean-Energy-Communities/Clean-Energy-Communities-Program-High-Impact-Action-Toolkits/Community-Choice-Aggregation for additional information.

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