Bear Ridge Solar Project

Matter No. 21-02104

900-2.19 Exhibit 18

Socioeconomic Effects

REDACTED

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EXHIBIT 18 SOCIOECONOMIC EFFECTS

On behalf of Bear Ridge Solar, LLC (the Applicant), Environmental Design & Research, Landscape Architecture, Engineering & Environmental services D.P.C (EDR) has conducted a socioeconomic analysis that quantifies the potential socioeconomic effects of the Facility based on current socioeconomic conditions of the area. The Facility is located within the Towns of Cambria and Pendleton, Niagara County, New York. Population, educational attainment, and economic conditions within these host communities is summarized in Table 18-1.

Over the past 20 years nationwide, domestic coal production declined by more than 37% while renewable energy production increased by approximately 89%. Energy employment trends generally reflect these changes in energy production. More specifically, solar power generation employment increased by approximately 45,200 jobs nationwide since 2015, resulting in a growth rate of approximately 15%.[1] On a state level, electric power generation employs approximately 47,772 people in New York State. Solar makes up the largest segment of electric power generation employment, with approximately 12,735 New York State employees. The solar industry consists predominantly of construction workers (e.g., photovoltaic (PV) installers and electricians). Construction jobs account for 53% of nationwide solar employment, followed by professional services at 14% and manufacturing at 13% (NASEO, 2020a; NASEO 2020b).

The proposed Facility is anticipated to have local, countywide, and statewide economic benefits. Utility-scale solar energy development, like other commercial development projects, can support a wide range of socioeconomic benefits to the local, countywide, and statewide economies, including job creation, purchases of local materials and services and direct revenue to local municipalities in the form of Payment in Lieu of Taxes (PILOTs) agreements and Host Community Agreements (HCAs). Additionally, income generated from direct employment during the construction and operation phases of the solar facility is used to purchase community goods and services, further expanding the local economy. This Exhibit has an initial focus on the socioeconomic profile of host communities subsequently followed by the methodology of the analysis and estimate of socioeconomic effects. Effects reported in this Exhibit include direct employment estimates, as well as estimates of the incremental costs and benefits to the host communities resulting from the construction and operation of the Facility.

Socioeconomic Profile

Niagara County is in the Western region of New York. The towns of Cambria and Pendleton are rural communities, making up 2.7% and 3.1% of the county population, respectively. Over the past few years, the county has undergone slight population decline while both towns and the state have seen population

[1] The global COVID-19 pandemic resulted in significant job losses in the U.S. energy industry; however, the energy sector lost a smaller proportion of jobs compared to other sectors of the economy (e.g., tourism, hospitality and recreation, and retail). From June through December 2020, the energy industry reemployed approximately 324,000 workers nationwide but remains approximately 9% below the 2019 peak employment levels (NASEO 2020b). Please note that 2019 demographic information presented within this report does not reflect COVID-19 conditions and therefore may not represent current economic conditions impacted by the global pandemic at the time of this report's publication.

increases over the past 20 years. Both the Town of Cambria and Niagara County have significantly lower median housing values and median household income than New York State. The Town of Pendleton also has a lower median housing value compared to the state, although a significantly higher median household income than that of the state. Meanwhile, both the percent of individuals below the poverty level and the unemployment rate are lower in the towns and county than in New York State.

Table 18-1. Demographic Information

	Town of Cambria	Town of Pendleton	Niagara County	New York State
Population				
2019 ACS 5-year population estimate	5,773	6,700	210,820	19,572,319
% Annual Change (2000-2019)	+0.04%	+0.06%	-0.02%	+0.2%
% of population ages 15-64	64.1%	69.3%	64.9%	66.6%
Educational Attainment				
% High school graduate or higher	94.9%	97.6%	91.2%	86.8%
% Bachelor's degree or higher	26.6%	37.4%	24.6%	36.6%
Housing and Income Conditions				
Median Housing Value	$170,100	$202,200	$125,600	$313,700
Median household income	$72,411	$97,123	$55,522	$68,486
Individuals below poverty level	4.9%	3.2%	13.5%	14.1%
Labor Force Characteristics				
Unemployment Rate	4.5%	4.1%	5.0%	5.5%
Labor Force Participation	3,016	3,998	106,234	10,069,219

Source: 2015-2019 American Community Survey (ACS) 5-Year Estimates, Decennial census, Tables S0101, P001, S1501, DP04, S1701, S2503, and DP03. The 2020 Decennial Census data was not available at the time of this analysis.

While similar to New York State in its primary employment sectors, Niagara County is characterized by a robust manufacturing sector. In decreasing order, the top five employment sectors in New York State are 1) Health Care and Social Assistance, 2) Educational Services, 3) Retail Trade, 4) Professional, Scientific, and Technical Services, and 5) Accommodation and Food Services (US Census Quarterly Workforce Indicators, 2020). This compares with the five dominant employment sectors in Niagara County, which are which are similar yet heavier in manufacturing than the statewide average. The top five employment sectors within Niagara County include 1) Health Care and Social Assistance, 2) Retail Trade, 3) Manufacturing, 4) Accommodation and Food Services, and 5) Educational Services (US Census Quarterly Workforce Indicators, 2020). Although not captured by total employment numbers, agriculture is an important employment sector when it comes to land use. Niagara County has 140,259 acres of farmland, which is 42.0% of the county's total land area (USDA Census of Agriculture, 2017). There are about 690 farm operations in Niagara County, which collectively amounts to 1,172 producers countywide[2] (USDA NASS, 2017).

[2] The 2017 Census of Agriculture term "producer" describes those involved in making decisions for the farm.

Through 2028, overall employment in the Western New York region, which includes the Facility Site, is projected to grow at 7% from what it was in 2018, a slightly lower rate than the 10% projected for New York State as a whole. This increase will be concentrated differently across employment sectors. The five fastest growing sectors forecasted for Western New York are mostly service-related industry sectors and consist of Healthcare Support Occupations, Personal Care and Service Occupations, Healthcare Practitioners and Technical Occupations, Community and Social Service Occupations, and Computer and Mathematical Occupations (NYSDOL, 2018).

Understanding the fiscal health of communities in which a project will be located is essential to assessing the potential economic impacts or benefits of that project. The general fiscal profile for any municipality includes its revenues, expenditures, and long-term debt obligations. Most of the revenue collected is through real property taxes, sales taxes, and state aid. Municipalities (towns, villages, and counties) and school districts, as independent taxing jurisdictions, are responsible for providing specific services and facilities to those who live and work within their boundaries and for levying the taxes needed to pay for those services/facilities. In assessing the economic impact of the Facility, it is informative to review local property tax levies and tax rates for each affected taxing jurisdiction, as municipalities have the most direct control over these revenue sources. The taxing jurisdictions affected by the Facility are Niagara County, Town of Cambria, Town of Pendleton, and Starpoint Central School District.

Annual municipal expenditures are recovered in large part through each municipality's tax levy, which is borne by taxable properties. Real property taxes are determined by each property's assessed value, multiplied by the tax rate established by each taxing jurisdiction. Table 18-2 summarizes the most recent data available for municipal and county property tax levies and rates in the county and towns.

Table 18-2. Property Tax Levy and Municipal Tax Rate

	Levy year 2019 (roll year 2018)			Levy year 2020 (roll year 2019)		
	Property Tax Levy[3]	Tax Rate per $1000 Full Value	Eq. Rate	Property Tax Levy	Tax Rate per $1000 Full Value	Eq. Rate
Niagara County	$93,208,070	8.02	73.92	$95,454,054	7.68	70.82
Town of Cambria	$2,585,788	5.85	100.00	$2,280,159	4.85	95.00
Town of Pendleton	$1,362,988	2.09	80.00	$1,420,752	2.00	74.00

Source: New York State Office of Real Property Tax Services, 2020

[3] Property tax levy reflects the amount of revenue required by the municipality through the property tax base and is equal to total municipal spending minus aid and other revenues. Tax base is equal to the sum of taxable parcel values. Municipal tax rate is determined by dividing the levy by the tax base, such that each taxable parcel produces that amount of property tax per $1,000 assessed value. For a $100,000 property in the Town of Cambria, property tax liability = (5.85 / 1000) * 100,000, or $585. Equalization rate is the state's measurement of a municipality's level of assessment (LOA). An equalization rate of 100 means that the municipality is assessing property at 100 percent of market value. An equalization rate lower than 100 means that the municipality's total market value is greater than its assessed value.

Another significant source of revenue for the county and town is local sales tax revenue. The current sales tax rate for Niagara County is 8% (4% local tax plus 4% state tax) (New York State Department of Taxation and Finance, 2020). In 2019, the total sales tax revenue for the county was $129,265,429 (New York State Comptroller, 2019).

An overview of the balance of a municipality's revenues, expenditures and indebtedness reveals its general fiscal health. As illustrated in Table 18-3, from 2018 to 2019, the revenues and expenditures in Niagara County increased, while debt decreased. Both the towns of Cambria and Pendleton had an increase in revenues, although the Town of Cambria decreased slightly while the Town of Pendleton increased expenditures. The Town of Cambria also decreased debt and the Town of Pendleton showed no change. (see Table 18-3). While cutting expenditures is one avenue towards a balanced fiscal budget, it is beneficial to combine this with a strategy to increase local revenues.

Table 18-3. Municipal Budgets

	2018	2019
	Niagara County	
Total Revenues & other sources	$416,557,801	$421,502,961
Total Expenditures & other uses	$409,609,216	$431,799,702
Total Indebtedness	$89,763,800	$83,538,165
	Town of Cambria	
Total Revenues & other sources	$5,918, 998	$5,919,785
Total Expenditures & other uses	$5,177,978	$5,166,173
Total Indebtedness	$687,000	$433,000
	Town of Pendleton	
Total Revenues & other sources	$5,379,555	$7,665,211
Total Expenditures & other uses	$5,274,725	$7,605,780
Total Indebtedness	$0	$0

Source: New York State Comptroller, 2020, (x= no data available), Tables FX51, H51, FX910, and FX48.

School districts in New York are subject to a separate budgeting process. The Facility is located within one school district, the Starpoint Central School District. The budgets for all school districts are shown in Table 18-4. From 2018 to 2019, the Starpoint Central School District decreased their revenues, expenditures, and debt. (New York State Comptroller, 2020).

Table 18-4. School District Budget

	2018	2019
	Starpoint Central School District	
Total Revenues & other sources	$72,451,114	$56,754,871
Total Expenditures & other uses	$57,709,347	$56,695,340
Total Indebtedness	$26,892,614	$22,459,561

Source: New York State Comptroller, 2021, Tables W411 and AM411.

In the face of budget shortfalls and a statewide property tax cap, municipalities may find it advantageous to maximize other, less traditional forms of revenue. As discussed in greater detail below, solar projects provide direct benefits to local taxing jurisdictions through Payments in Lieu of Taxes (PILOTs) and Host Community Agreements (HCAs). In addition, solar projects such as the proposed Facility, generally have other local, regional, and statewide economic benefits. Solar power development, like other commercial development projects, can expand the local, regional, and statewide economies through both direct and indirect means.

(a) Construction Workforce

The socioeconomic effects of the Facility were evaluated, in part, using the Job and Economic Development Impact (JEDI) photovoltaics model (Release Number: PV05.20.21). The JEDI model was created by the National Renewable Energy Laboratory (NREL)—a government-owned, contractor-operated laboratory funded by the U.S. Department of Energy—to assess the economic impacts of proposed solar energy generating facilities during both the construction and operation phases (USDOE NREL, 2021). This model allows users to estimate jobs, earnings, and economic output by using facility-specific data provided by the Applicant and geographically defined multipliers. These multipliers are produced by IMPLAN Group, LLC using a software/database system called IMPLAN (IMpact analysis for PLANning), a widely-used and widely-accepted general input-output modeling software and data system that tracks each unique industry group in every level of the regional data (IMPLAN Group, 2020). This analysis utilized the 2019 IMPLAN multiplier data, as that was the most recent data readily available at the time of the initial analysis (December 2020). More specifically, the JEDI model was utilized in estimating the number of direct construction and operation and maintenance (O&M) jobs as well as the direct project expenditures generated as a result of the construction and operation of the Facility.

This analysis concentrates on the socioeconomic impacts from onsite labor and other project expenditures that the proposed Facility may have on the statewide economy and within the host communities. Onsite labor impacts are the direct impacts experienced by the companies/individuals residing in New York State engaged in the onsite construction and operation of the Facility. These values represent expenditure of dollars on labor (wages, salaries, and associated expenses) of onsite construction personnel, as well as O&M personnel. Furthermore, onsite labor impacts can be measured in terms of jobs (as expressed through the increase in employment demand), and the amount of money earned through those jobs (measured by the wages and salary compensation paid to employees). For the purposes of this analysis, the term "jobs" refer to the total number of year-long full-time equivalent (FTE) positions created by the Facility, assuming a 40-hour work week for 52 weeks of the year. Persons employed for less than full time or less than a full year are included in this total, each representing a fraction of an FTE position (e.g., a half-time, year-round position is 0.5 FTE).

Calculating the number of jobs and earnings estimated to be generated by a proposed facility using the JEDI model is a two-step process. The first step requires facility-specific data inputs (e.g., year of construction, size of facility, PV module material, and location). These facility-specific data are used to provide a baseline set of assumptions to produce a conservative estimate of the total positive jobs and

economic impacts likely to be produced by the Facility. For purposes of the JEDI model, the Applicant has assumed the following inputs:

- Location: Niagara County, New York
- Year of Construction: 2022-2023[4]
- System Application: Utility
- Solar Cell/Module Material: Crystalline Silicon
- System Tracking: Single Axis Tracker
- Total Project Size (DC Nameplate Capacity): 130,000 kWdc
- Base Installed System Cost ($/kWdc): **BEGIN CONFIDENTIAL INFORMATION** < [redacted] > **END CONFIDENTIAL INFORMATION**
- Annual Direct Operations and Maintenance Cost ($/kWdc): **BEGIN CONFIDENTIAL INFORMATION <** [redacted] > **END CONFIDENTIAL INFORMATION**
- Money Value (Dollar Year): 2020

Using the facility-specific data provided as well as the IMPLAN multipliers and statewide/municipal population census data, the JEDI model creates a list of default values, which include facility cost values, default financial parameter values, default tax values, default lease payment values, and default local share of spending values. These default values are derived from research on utility-scale solar facilities by NREL and stem from various sources, including interviews and surveys of leading project owners, developers, engineering and design firms, and construction firms active in the solar energy sector.

The second step of the JEDI model methodology requires the review and, if warranted, the customization of default facility cost values and financial parameter values to reflect the most accurate estimates. The Applicant reviewed the default facility cost values, statewide shares, and host community shares (subtotaled by categories in the JEDI model) to determine whether they were on par with the real costs as experienced by the Applicant's team of development and financial experts. The Applicant's team then made specific adjustments to improve accuracy (see Table 18-5).

[4] For the purposes of the JEDI analysis, which assumes one year for construction, the start year of construction (2022) was used. Actual construction is anticipated to be a 15-month period occurring over 2022 and 2023.

Table 18-5. Adjustments Made to JEDI Model Cost Inputs

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Project Expenditure Categories	JEDI Default Value	Adjusted Value	Change
Construction Materials & Equipment Costs	< [redacted] >	< [redacted] >	Decrease
Construction Labor Total Costs	< [redacted] >	< [redacted] >	Increase
Construction - Other Costs	< [redacted] >	< [redacted] >	Increase
Construction Materials and Equipment Sales Tax	< [redacted] >	< [redacted] >	No Change
Operating/Maintenance Labor Costs	< [redacted] >	< [redacted] >	No Change
Operating/Maintenance Materials and Services	< [redacted] >	< [redacted] >	No Change
Operating/Maintenance Materials/Equip. Sales Tax	< [redacted] >	< [redacted] >	No Change
Local Property Tax Payments	< [redacted] >	< [redacted] >	Increase
Payroll Parameters Construction Worker Hourly Wage	< [redacted] >	< [redacted] >	Increase
Payroll Parameters O&M Technician Hourly Wage	< [redacted] >	< [redacted] >	Increase
Payroll Parameters Construction Worker Employer Overhead	< [redacted] >	< [redacted] >	Decrease
Payroll Parameters O&M Technician Employer Overhead	< [redacted] >	< [redacted] >	Decrease

Source: Jobs and Economic Development Impact Model (USDOE NREL, 2021); Costs verified by the Applicant in September 2021.

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Based upon JEDI model computations, it is anticipated that construction of the proposed Facility will generate employment of an estimated 243.8 FTE onsite Project Development and Onsite Labor positions for New York State residents, 182.2 of which will be for Construction and Installation Labor and 61.7 of which will be Construction-Related Services (Engineers and Other Professional Services). At the County level, the Facility is estimated to generate employment of an estimated 103.3 FTE on-site Project Development and Onsite Labor positions for Niagara County residents, 82.9 of which will be for Construction and Installation labor and 20.4 of which will be Construction-Related Services. These positions have been verified as reasonable by the Applicant based on job numbers at other facilities in New York.

The Applicant has further evaluated the estimated peak of 243.8 FTE statewide construction jobs and 103.3 FTE countywide construction jobs to provide the following estimated distribution of average work force, by discipline, for each quarter during the construction year 2022-2023. These quarterly labor averages were developed by estimating the monthly FTE job value based on the seasonal fluctuations experienced in New York State and averaging the months together by quarter. For the purposes of this analysis, the summer months of June, July, and August were assumed to be the peak construction season and the winter months of January, February, and March were assumed to be the off-peak construction season. The results are summarized in Table 18-6 and 18-7.

Table 18-6. Estimated Quarterly Statewide Labor Averages by Discipline

Quarterly Period	Construction and Installation Labor Quarterly Average FTE Jobs	Construction-Related Services (Engineers and Other Professional Services) Quarterly Average FTE Jobs
Q4 '22 (Oct-Dec)	182.2	61.7
Q1 '23 (Jan-Mar)	30.4	10.3
Q2 '23 (Apr-Jun)	151.8	51.4
Q3 '23 (Jul-Sep)	364.4	123.4
Q4 '23 (Oct-Dec)	182.2	61.7

Source: Jobs and Economic Development Impact Model (USDOE NREL, 2021), Quarterly Averages verified by the Applicant in September 2021.

Table 18-7. Estimated Quarterly Countywide Labor Averages by Discipline

Quarterly Period	Construction and Installation Labor Quarterly Average FTE Jobs	Construction-Related Services (Engineers and Other Professional Services) Quarterly Average FTE Jobs
Q4 '22 (Oct-Dec)	82.9	20.4
Q1 '23 (Jan-Mar)	13.8	3.4
Q2 '23 (Apr-Jun)	69.1	17.0
Q3 '23 (Jul-Sep)	165.8	40.8
Q4 '23 (Oct-Dec)	82.9	20.4

Source: Jobs and Economic Development Impact Model (USDOE NREL, 2021), Quarterly Averages verified by the Applicant in September 2021.

(b) Construction Payroll

The JEDI model estimates a total of $26.2 million for annual earnings of the 243.8 onsite construction jobs for New York State residents, $10.0 million of which is the estimated annual earnings of the 103.3 on-site construction jobs for Niagara County residents. Estimated earnings represent total wages and salary compensation paid to New York State employees (i.e., wages plus average annual overhead costs including social security insurance [SSI], Medicare, workers' compensation, and disability). Project Development and Onsite Labor earnings are realized by New York State residents and Niagara County residents who are engaged in the construction of the Facility, including the Construction/Installation, Office Services, and Architectural and Engineering Services trades. These estimates of the annual construction earnings by trade were estimated by the JEDI model based on facility-specific data provided by the Applicant and geographically defined multipliers (see Section (a) for additional information on methodology) and are listed in Table 18-7 and 18-8.

Table 18-7. Annual Earnings by Trade Statewide During Construction Period (in $ Millions)

Trade	Project Development and Onsite Labor Earnings (in $ Millions)
Construction/Installations	$20.2
Office Services	$5.9
Architectural and Engineering Services	$0.1
Total	**$26.2**

Source: Jobs and Economic Development Impact Model (USDOE NREL, 2021)
Note: Earnings are independently rounded, and therefore may not add up directly to the integers shown in this table.

Table 18-8. Annual Earnings by Trade Countywide During Construction Period (in $ Millions)

Trade	Project Development and Onsite Labor Earnings (in $ Millions)
Construction/Installations	$9.2
Office Services	$0.7
Architectural and Engineering Services	$0.1
Total	**$10.0**

Source: Jobs and Economic Development Impact Model (USDOE NREL, 2021)
Note: Earnings are independently rounded, and therefore may not add up directly to the integers shown in this table.

Local, regional, and statewide employment during the construction phase will primarily benefit those in the construction trades, including equipment operators, truck drivers, laborers, and electricians. Facility construction will also require workers with specialized skills, such as crane operators, specialized excavators, and high voltage electrical workers. It is anticipated that many of the highly specialized workers will come from outside the immediate area (i.e., Niagara County) and will remain only for the duration of construction.

Estimated non-payroll project expenditures to be made within New York State, Niagara County and the Towns of Cambria and Pendleton (host municipalities) during the construction period are listed in Table 18-8.

Table 18-8. Estimate of Annual Direct Non-Payroll Expenditures during Construction

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Construction Cost Item	Project Expenditures	State Share	Statewide Expenditures	County Share	Countywide Expenditures	Town Share	Town Expenditures
Materials & Equipment Costs							
Mounting (rails, clamps, fittings, etc.)	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >
Modules	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >
Electrical (wire, connectors, breakers, etc.)	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >
Inverter	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >
Other Costs							
Permitting	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >
Other Costs	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >
Business Overhead	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >
Sales Tax (Material and Equipment Purchases)	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >

Source: Jobs and Economic Development Impact Model (USDOE NREL, 2021); Expenditures verified by the Applicant in September 2021.

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(c) Workforce, Payroll, and Expenditures During Facility Operation

The operation and maintenance of the proposed Facility is estimated to generate 4.7 full-time jobs for New York State residents with combined estimated annual earnings of approximately $0.3 million. Niagara County residents are anticipated to hold 3.8 of these onsite operational jobs unless no qualified technicians are available. These positions have been verified as reasonable by the Applicant based on job numbers at other facilities in New York. According to the Applicant, wages for the operational staff members (i.e., wages plus average annual overhead costs including social security insurance [SSI], Medicare, workers' compensation, and disability) will average approximately **BEGIN CONFIDENTIAL INFORMATION** **<** [redacted] **> END CONFIDENTIAL INFORMATION**. The projected wage rate is consistent with statewide median wages for renewable energy service technicians (U.S. Department of Labor Bureau of Labor Statistics, 2019).

Estimated annual non-payroll expenditures to be made within New York State, Niagara County and the Towns of Cambria and Pendleton (host municipalities) during the O&M period are listed in Table 18-9. This includes materials and services purchased for the operation and maintenance of the Facility, sales tax, and payments to tax jurisdictions, i.e., PILOT agreement payments (see Section (g) below).

Table 18-9. Estimate of Annual Direct Non-Payroll Expenditures during Operation and Maintenance

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Operation & Maintenance Expenditure Categories	Project Expenditures	State Share	Statewide Expenditures	County Share	Countywide Expenditures	Town Share	Town Expenditures
Materials & Equipment	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >
Services	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >
Sales Tax (Materials & Equipment Purchases)	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >
Local Property Tax[5]	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >	< [redacted] >

Source: Jobs and Economic Development Impact Model (USDOE NREL, 2021); Expenditures verified by the Applicant in September 2021.

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Additionally, payments to local landowners within the Towns of Cambria and Pendleton will be made in association with lease and easement agreements executed to host Facility components executed with certain properties. Lease and easement payments will offer direct benefits during construction and installation totaling an estimated **BEGIN CONFIDENTIAL INFORMATION** < [redacted] > **END CONFIDENTIAL INFORMATION** to participating landowners. During the Facility's operating life, lease and easement payments will offer direct benefits totaling an estimated **BEGIN CONFIDENTIAL INFORMATION** < [redacted] > **END CONFIDENTIAL INFORMATION** to participating landowners over the lifespan of the Facility. This income would be in addition to any income generated from the current use of the land that continues during project operation (e.g., agricultural production). These estimates suggest that the construction and operation of the Bear Ridge Solar Project will have a significant positive impact throughout the host municipality.

(d) Incremental School District Operating and Infrastructure Costs

The Facility is not expected to result in any additional operating or infrastructure costs to the local school district. Although it is possible that some of the long-term Facility operation employees may have school-aged children, increases in school district services and expenditures would likely be recovered through those employees' property tax payments and the respective district's state aid. Moreover, as discussed in Section (g), the affected school district will also benefit from PILOT agreements. These payments will more than offset any possible increase in expenses incurred by the districts because of Facility employee children entering the school district. Prior to this analysis, the Applicant consulted with the school district listed in Section (f) below. The Applicant has also conducted numerous public outreach activities to inform the public and local officials about the Facility. For more details on outreach activities, please see Exhibit 2.

[5] This amount reflects the HCA and PILOT agreement which is split amongst the local taxing jurisdictions (i.e., Niagara County, Towns of Cambria and Pendleton, and Starpoint Central School District) (see Section (g) below).

(e) Incremental Municipal, Public Authority, or Utility Operating and Infrastructure Costs

The Facility is not expected to result in any additional operating or infrastructure costs to the local municipalities, authorities, or utilities. The Facility will place limited (if any) demand on municipal services; however, this demand will be recovered through fees and payments. For example, if long-term Facility operation employees live in the Towns of Cambria and Pendleton their required services will be paid for through property taxes and utility fees. The Facility will not require municipal water, sewer, or solid waste disposal services.

As part of Exhibit 6, the Applicant has committed to developing and implementing a Site Security Plan and a Safety Response Plan. These plans address the site security features to be implemented at the Facility, and measures for responding to various emergencies, including those that could potentially involve police and other emergency response personnel. These measures, taken together, will limit the need for the Facility to utilize municipal police, fire, and emergency response services. Given the small number of employees required to operate and maintain the Facility, the potential financial burden on the Towns of Cambria and Pendleton to provide such services is expected to be comparatively small. Additionally, as discussed in section (g), the Facility is expected to contribute annual revenue to the local Cambria and Wendelville Fire Protection Districts which will be available to cover any costs associated with municipal emergency response.

Although transportation of major Facility components during construction will impact certain roadways, the Applicant will work with the Towns and County to address/mitigate these impacts through Road Use Agreements (RUAs), which would require the Applicant to restore roadways impacted by the transportation of Facility components during construction and operation of the Facility. By virtue of these agreements, the Towns in which the Facility is located will not incur any additional highway maintenance costs related to the Facility other than normal wear and tear associated with the use of vehicles required to transport workers and equipment to and from the Facility Site for operation and maintenance purposes.

Incremental costs associated with the Section 94-c permitting process may be incurred by the Towns of Cambria and Pendleton. However, the Applicant has already provided $35,000 in Intervenor Funding to each of the Towns through the Article 10 Public Scoping Statement submission. These funds have been utilized by the Towns for hiring legal, environmental, and technical experts to review project documents and hold consultation meetings. Additionally, the Applicant has discussed with the Towns of Cambria and Pendleton and public stakeholders the availability of additional intervenor funding at the time of the Section 94-c Application submittal to cover costs associated with the Project's permitting review.

Prior to this analysis, the Applicant consulted with the affected municipalities, public authorities, and utilities. The Applicant has also conducted numerous public outreach activities to inform the public and local officials about the Facility. For more details on outreach activities, please see Exhibit 2.

(f) Jurisdictions that Will Collect Taxes or Benefits

The Facility is anticipated to result in economic benefits for the following taxing jurisdictions through the negotiation of a PILOT agreement, a HCA, and direct property tax payments:

- Niagara County
- Town of Cambria
- Town of Pendleton
- Starpoint Central School District
- Cambria Fire District
- Wendelville Fire District

(g) Incremental Amount of Annual Taxes or Payments

The Applicant will initiate negotiation of a PILOT agreement with the Niagara County Industrial Development Agency (NCIDA) on behalf of the local taxing jurisdictions in exchange for a real property tax exemption. Additionally, the Applicant has initiated negotiations of an HCA agreement with the Towns of Cambria and Pendleton to provide direct annual payments in addition to the share of the PILOT agreement that the Towns would have otherwise received. Although the terms of the PILOT agreement have not been finalized, the Applicant anticipates a 20-year agreement and an estimated annual payment rate of **BEGIN CONFIDENTIAL INFORMATION <[redacted]> END CONFIDENTIAL INFORMATION** per MW. The estimated annual PILOT amount would total **BEGIN CONFIDENTIAL INFORMATION <[redacted]> END CONFIDENTIAL INFORMATION** per year. Therefore, the PILOT payments would accumulate up to a total of approximately **BEGIN CONFIDENTIAL INFORMATION <[redacted]> END CONFIDENTIAL INFORMATION** (in 2020 dollars) over 20 years. At the time of this analysis, the Applicant anticipates the HCA annual payment rate would total approximately **BEGIN CONFIDENTIAL INFORMATION <[redacted]> END CONFIDENTIAL INFORMATION** per MW. The HCA payments would accumulate up to an estimated total of **BEGIN CONFIDENTIAL INFORMATION <[redacted]> END CONFIDENTIAL INFORMATION** (in 2020 dollars) over the 20 years. Therefore, the overall total of PILOT and HCA payments would accumulate up to an estimated **BEGIN CONFIDENTIAL INFORMATION <[redacted]> END CONFIDENTIAL INFORMATION** (in 2020 dollars) over the 20 years. The Applicant also anticipates payments to the Cambria and Wendelville Fire Protection Districts will be made to cover the Fire District Tax; however, at the time of this analysis the exact amount of this payment has not been finalized.

Table 18-10 summarizes the estimated PILOT payments projected to be made to each taxing jurisdiction, based on the Applicant's internal estimates. Payment amounts shown are based on the Facility's projected capacity of 100 MWac. Payment amounts would increase or decrease in direct proportion to changes in the Project's final installed capacity.

Table 18-10. Estimated Annual and Total PILOT Amounts

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Taxing Jurisdictions Receiving PILOTs	Payment per MW ($/MW)	Annual PILOT Estimate for Year 1	20-Year PILOT Estimate
Niagara County	< [redacted] >	< [redacted] >	< [redacted] >
Town of Cambria	< [redacted] >	< [redacted] >	< [redacted] >
Town of Pendleton	< [redacted] >	< [redacted] >	< [redacted] >
Starpoint Central School District	< [redacted] >	< [redacted] >	< [redacted] >
Facility Total	< [redacted] >	< [redacted] >	< [redacted] >

Note: All values in this table are independently rounded, and therefore may not directly add up to the totals shown. All calculations utilized unrounded values.
Source: Internal estimates, August 2021.

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(h) Comparison of Incremental Costs and Incremental Benefits

As discussed above, the Facility is not expected to result in any incremental costs to local tax jurisdictions but will instead result in significant benefits through implementation of a PILOT Agreement.

(i) Equipment or Training Deficiencies in Local Emergency Response Capacity

A description of all contingency plans to be implemented in a response to the occurrence of a safety or security emergency is provided in Exhibit 6. The local emergency responders are not expected to have specialized equipment or training to respond to a fire, hazardous substance, or medical emergency beyond the typical first aid, medical emergency and fire vehicles, and equipment that would be at a local fire department. Therefore, local emergency responders are expected to be able to fulfill the contingency plans. Exhibit 6, along with the Safety Response Plan, provides specific details on all onsite equipment and systems the Applicant will provide to prevent or handle fire emergencies and hazardous substance incidents, as well as the training drills that will be conducted with emergency responders and onsite personnel. Because local emergency responders are not expected to provide any emergency services beyond those ordinarily provided, no equipment or training deficiencies are anticipated. Municipal representatives were provided with a copy of the Safety Response Plan on October 13, 2021 for review and comment. The Applicant held a meeting with local emergency responders on October 25, 2021. Please see Exhibit 6 for additional information on consultation with local emergency responders regarding the Safety Response Plan.

(j) Consistency with State Smart Growth Public Infrastructure Criteria

The New York State Smart Growth Public Infrastructure Policy Act is meant to maximize the social, economic, and environmental benefits from public infrastructure development by minimizing the impacts associated with unnecessary sprawl. State infrastructure agencies, such as the NYSDOT, shall not approve, undertake, or finance a public infrastructure project, unless, to the extent practicable, the project is consistent with the smart growth criteria set forth in ECL § 6-0107.

Although the Facility will not result in the construction or operation of public infrastructure and will not result in unnecessary sprawl, approvals from the NYSDOT may be required due to facility components traveling on and crossing state highways. Therefore, this section provides a detailed statement regarding the Facility's consistency with smart growth criteria. As discussed below, the Facility is consistent with six of the eleven criteria, while the remaining five criteria do not apply to the Facility.

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

The purpose of the Facility is to create an economically viable solar-powered electrical-generating facility that will provide a source of renewable energy to the New York State grid, and in doing so, improve the State's existing energy infrastructure. As defined throughout this Application, the Facility collectively refers to PV modules and single axis tracking support systems; direct current (DC) collection lines and communications cables connecting the modules to inverters; the inverters, with their support platforms, control electronics, and step-up transformers; buried alternating current (AC) medium voltage collection lines; security fencing and gates around each array of PV modules; gravel access roads; temporary laydown areas; a substation where the Facility's electrical output voltage will be combined, and its voltage increased to the transmission line voltage of 115 kV via step-up transformers; a switching station, to be owned by National Grid, that loops the existing Mountain to Lockport 115-kV transmission line through the POI; a short length of transmission voltage line (approximately 260 feet) to connect the Facility to the designated POI. While these Facility components are not public infrastructure and are generally not expected to result in the operation of public infrastructure, the Facility will contribute up to 100 MW of renewable energy to the New York State grid. The Facility will safely generate enough clean, renewable electricity to power approximately 25,000 single-family New York households.[6] Additionally, the Facility will use portions of existing State highway infrastructure to transport equipment. However, none of these activities are anticipated to have any long-term impact on existing infrastructure.

The Bear Ridge Solar Project is consistent with this smart growth criterion, when its contribution to and utilization of both the New York State power grid and transportation routes identified above are considered. The necessary changes to the public infrastructure (contribution of renewable energy to power grid, utilization of existing transportation routes and construction of access road intersections to existing roads) are also consistent with the criterion.

2) Criterion 2: To advance projects located in municipal centers.

"Municipal centers" are defined in the Smart Growth Act 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

[6] Estimate derived from average electricity use per household in New York State ('Household Energy Use in New York'. https://www.eia.gov/consumption/residential/reports/2009/state_briefs/pdf/NY.pdf) and the estimated electricity production of the Bear Ridge Solar Project.

areas," 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."

Utility-scale solar energy projects, such as the Facility, require extensive land; moreover, the requirement for setbacks from residences and other structures restricts utility-scale solar energy projects to areas with lower population density. Therefore, this criterion does not apply to the Facility.

3) 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.

See discussion of Criterion 2 above. Utility-scale solar energy projects such as the Bear Ridge Solar Facility cannot be located within areas designated for concentrated infill development nor are they well-suited to developed waterfront areas and/or brownfield opportunity areas. Therefore, this criterion does not apply to the Facility.

4) 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 archaeological resources.

The Facility will generate up to 100 MW of clean, renewable energy without emitting any conventional air pollutants or greenhouse gases (GHGs), or consuming cooling water or generating wastewater while in operation. In general, the Facility Site includes lands suitable for the construction of a solar facility and does not include unique environmental resources, Critical Environmental Areas, or unusual land uses relative to other locations in the surrounding region. As described throughout this Section 94-c Application, the layout of the Facility was designed through an iterative process where the technical and economic requirements of the Facility were weighed against impacts to land use (see Exhibit 3 and 15), aesthetics (see Exhibit 8), cultural resources (see Exhibit 9), environmental/ecological resources (such as forests, wetlands, and sensitive wildlife habitat) (see Exhibit 11 and 14), surface and groundwater (see Exhibit 13), and public safety (see Exhibit 6). Within the constraints of the permitting process and the inherent constraints on the Site, the proposed Facility layout avoids or minimizes environmental impacts to the greatest extent practicable while allowing the Applicant to construct a 100 MW solar facility in furtherance of the State's renewable energy goals. This Section 94-c Application summarizes and includes analyses of the potential environmental impacts and benefits of the Facility, including analyses specifically associated with agricultural land, agricultural viability, forests, surface and groundwater, air quality, recreation and open space, scenic areas, and significant historic and archaeological resources. In addition, a Visual Impact Assessment (VIA; see Exhibit 8) has been prepared which assesses potential visual impacts within a 2-mile radius of the Facility Site. Based on these analyses, the Applicant believes that the Facility has avoided and minimized impacts to these resources

to the maximum extent practicable (based on the layout as currently proposed), and that any remaining impacts are outweighed by the benefit provided by the Facility's generation of up to 100 MW of clean, renewable energy. Therefore, the Facility is consistent with this criterion.

5) 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.

See response to Criterion 2 above. The Facility must necessarily be located in a rural area well removed from any areas that would potentially experience compact development, downtown revitalization, or significant quantities of housing, etc. (e.g., villages and cities). Therefore, this criterion is not applicable.

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

The Facility does not directly or indirectly affect public transportation options. Therefore, this criterion is not applicable.

7) Criterion 7: To coordinate between state and local government and inter-municipal and regional planning.

The Applicant has conducted extensive public outreach to local government and planning agencies throughout the development and review of the Facility (see Exhibit 2). This has included the public outreach conducted in accordance with the requirements of the Section 94-c process. The Applicant also has reached out individually to each of the local governments that will be directly affected by the Facility. Moreover, the Section 94-c process specifically requires outreach and coordination between the Applicant and State agencies with a role in reviewing the Application for the proposed Facility. To the extent applicable, these outreach efforts and municipal/agency consultations satisfy the criterion related to coordination between State and local governments.

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

The Applicant team has conducted and will continue to conduct extensive public outreach to community-based organizations throughout the development and review of the Facility. See response to Criterion 7 for additional detail. These outreach efforts satisfy the criterion related to participation in community-based planning and collaboration.

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

The Applicant has no role in or authority over the development or enforcement of building or land use codes in the Towns of Cambria and Pendleton. Therefore, this criterion does not apply to this Facility.

10) 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.

The Facility is consistent with State policies designed to encourage initiatives that reduce greenhouse gas emissions and contribute to the transition of New York's energy markets by encouraging renewable alternatives, such as the Climate Leadership and Community Protection Act (CLCPA). The Facility promotes the reduction of greenhouse gas emissions using renewable energy. The Facility, therefore, supports this smart growth criterion. Exhibit 17 provides a more detailed discussion of the Facility's consistency with energy planning objectives.

11) Criterion 11: 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 Facility is consistent with New York State's efforts to expand reliance on renewable energy sources and reduce greenhouse gas emissions. In doing so, this Facility contributes to efforts to mitigate overall future risks of climate change, such as sea level rise, storm surges, and/or flooding. Furthermore, according to the New York State Department of State (NYSDOS) Geographic Information Gateway, the Facility is not located in mapped hazard risk areas related to physical climate risks, including risks associated with the Lake Ontario, Hudson River, and Atlantic Ocean (NYSDOS 2021). Therefore, the Project is expected to have a positive impact on the mitigation of future physical climate risk, thereby supporting Smart Growth Criterion 11.

12) Smart Growth Attestation

The Smart Growth Act requires that the chief executive officer of a state infrastructure agency (or his or her designee) attest in writing that the project under review, to the extent practicable, meets the relevant smart growth criteria in ECL § 6-0107(2). As previously noted, the Facility will not result in the construction or operation of public infrastructure as that term is used in the Smart Growth Act. As a result, the requirement to obtain an attestation from the chief executive officer of a state infrastructure agency does not apply to the Facility.

(k) Host Community Benefits

The socioeconomic analysis presented in this Exhibit suggests that the construction and operation of the Bear Ridge Solar Project will have a positive impact within the host communities. The Facility will provide direct financial benefits to host communities, significantly increasing local revenues without requiring new public infrastructure. Direct payments will occur within the host communities in the form of PILOT payments, HCA payments, land leases, and easements, as well as purchases of local goods and the provision of

employment and spending of wages. The following is a list of direct payments anticipated to be spent within local communities (for additional details see Section (g)):

- Lease and easement payments will offer direct benefits during construction and installation totaling an estimated **BEGIN CONFIDENTIAL INFORMATION** <[redacted]> **END CONFIDENTIAL INFORMATION** to participating landowners.
- During the Facility's operating life, lease and easement payments will offer direct benefits totaling an estimated **BEGIN CONFIDENTIAL INFORMATION** <[redacted]> **END CONFIDENTIAL INFORMATION** to participating landowners over the lifespan of the Facility.
- Although the terms of the PILOT agreement have not been finalized, the Applicant anticipates the host municipalities, school district, and Niagara County to receive, over the expected 20-year agreement, up to a total of approximately **BEGIN CONFIDENTIAL INFORMATION <**[redacted]> **END CONFIDENTIAL INFORMATION** (in 2020 dollars).
- The Applicant also expects to execute an HCA with the host municipalities. The estimated total of the HCA payments, over the 20-year term, is **BEGIN CONFIDENTIAL INFORMATION** <[redacted]> **END CONFIDENTIAL INFORMATION** (in 2020 dollars).
- The Applicant also anticipates payments to the Cambria and Wendelville Fire Protection Districts will be made to cover the Fire District Tax; however, at the time of this analysis the exact amount of this payment has not been finalized.
- During construction and installation, a total of **BEGIN CONFIDENTIAL INFORMATION <**[redacted]> **END CONFIDENTIAL INFORMATION** of project expenditures is estimated to be spent locally within the host communities for local goods and services.
- During Operation & Maintenance, a total of **BEGIN CONFIDENTIAL INFORMATION <**[redacted]> **END CONFIDENTIAL INFORMATION** of project expenditures is estimated to be spent locally within the host communities annually for local goods and services.

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