NORTH SENECA
SOLAR PROJECT

APPENDIX 18-A
Economic Impact and Land Use Analysis
ORES Permit Application No. 23-00036

REVISION 1

Economic Impact Analysis of the North Seneca Solar Project

August 2024

SER Strategic Economic Research, LLC

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Dr. Loomis has published 40 peer-reviewed articles in leading energy policy and economics journals. He has raised and managed over $7 million in grants and contracts from government, corporate and foundation sources. He received the 2011 Department of Energy's Midwestern Regional Wind Advocacy Award and the 2006 Best Wind Working Group Award. Dr. Loomis received his Ph.D. in economics from Temple University in 1995.

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Bryan Loomis has been conducting economic impact, property tax, and land use analyses at Strategic Economic Research since 2019. He has performed or overseen over 100 wind and solar analyses, and has also provided expert testimony for permitting hearings and open houses in many states, including Colorado, Kansas, Indiana, Illinois, and Iowa. He improved the property tax analysis methodology at SER by researching various state taxing laws and implementing depreciation, taxing jurisdiction millage rates and other factors into the tax analysis tool. Before working with SER, Bryan ran a consulting agency, working with over 30 technology startups on growth and marketing. Bryan received his MBA from Belmont University in 2016.

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Strategic Economic Research, LLC (SER) provides economic consulting for renewable energy projects across the U.S. We have produced over 300 economic impact reports in 32 states. Research Associates who performed work on this project include Paige Afram, Amanda Battaglia, Zoë Calio, Patrick Chen, Drew Kagel, Kathryn Keithley, Clara Lewis, Ethan Loomis, Hannah Loomis, Nita Loomis, Mandi Mitchell, Russell Piontek, Laura Roberts, Tim Roberts, Morgan Stong, Rachel Swanson, Ashley Thompson, and Cedric Volkmer.

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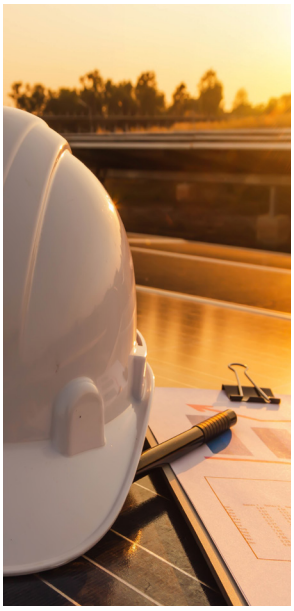


Table of Contents - Figures & Tables

I. Executive Summary

Norht Seneca Solar Project, LLC is developing the North Seneca Solar Project in Seneca County, New York. The purpose of this report is to aid decision makers in evaluating the economic impact of this project on Seneca County and the State of New York. The basis of this analysis is to study the direct, indirect, and induced impacts on job creation, wages, and total economic output.

The North Seneca Solar Project is an up to 90-megawatt alternating current (MWac) utility-scale solar powered-electric generation facility that will utilize photovoltaic (PV) panels installed on a single-axis tracking system. The total Project represents an investment in excess of $203 million. The total development is anticipated to result in the following:

Economic Impact from the Project[1]

Long-Term Benefits

- 13.2 new local long-term jobs for the State of New York[1]
- Over $1.1 million in new local long-term earnings for the State of New York annually
- Over $2.9 million in new local long-term output for the State of New York annually
- Over $11.9 million in total property tax revenue over the life of the Project

Short-Term Benefits During Construction

- 594 new local jobs during construction for the State of New York
- Over $63.1 million in new local earnings during construction for the State of New York
- Over $131 million in new local output during construction for the State of New York

Benefits to Disadvantaged Communities

Long-Term Benefits

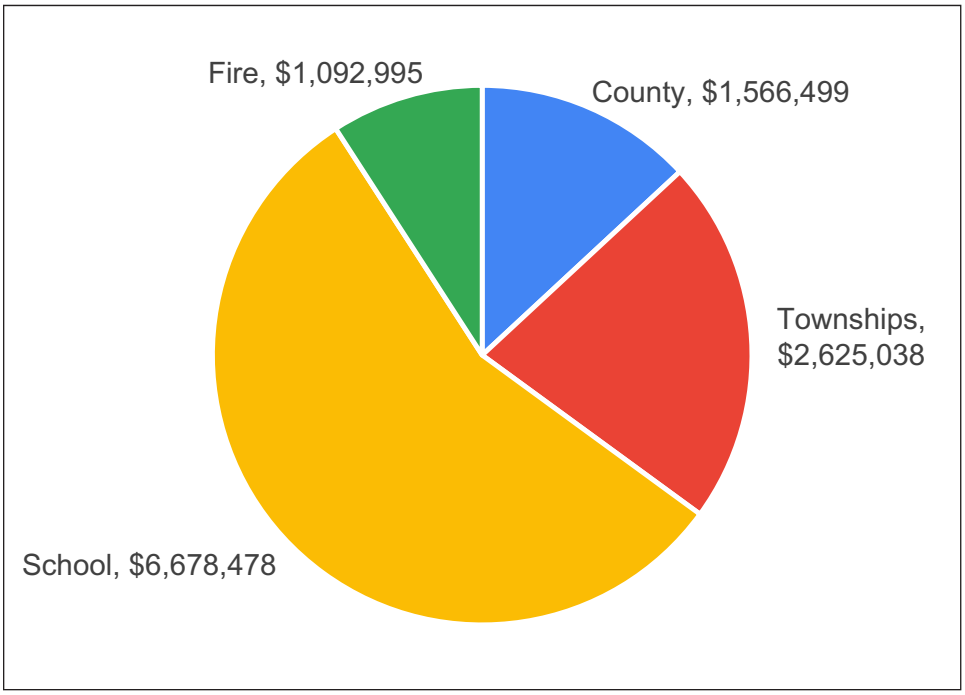
- 5.3 new local long-term jobs for disadvantaged communities
- Over $444 thousand in new local long-term earnings for disadvantaged communities annually
- Over $1.1 million in new local long-term output for disadvantaged communities annually

Short-Term Benefits During Construction

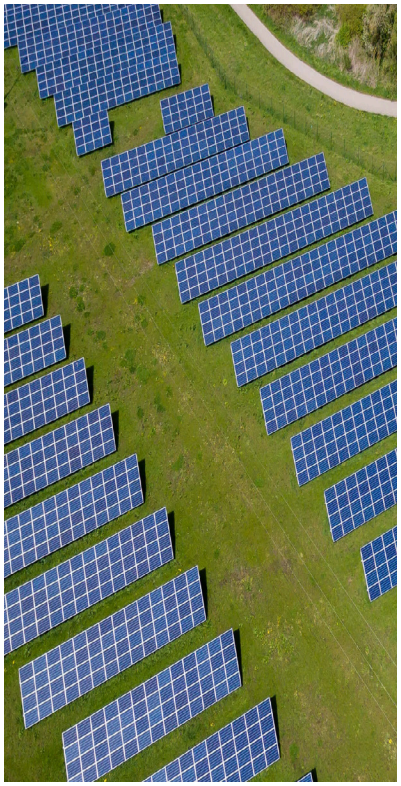
- 238 new local jobs during construction for disadvantaged communities
- Over $25.2 million in new local earnings during construction for disadvantaged communities
- Over $52.6 million in new local output during construction for disadvantaged communities

[1] All jobs numbers in this report are fulltime equivalents (FTEs).

Figure 1 – Total Property Taxes Paid by the North Seneca Solar Project



These calculations are broken down further in section V. Tax Revenue.



II. Project Description and Location

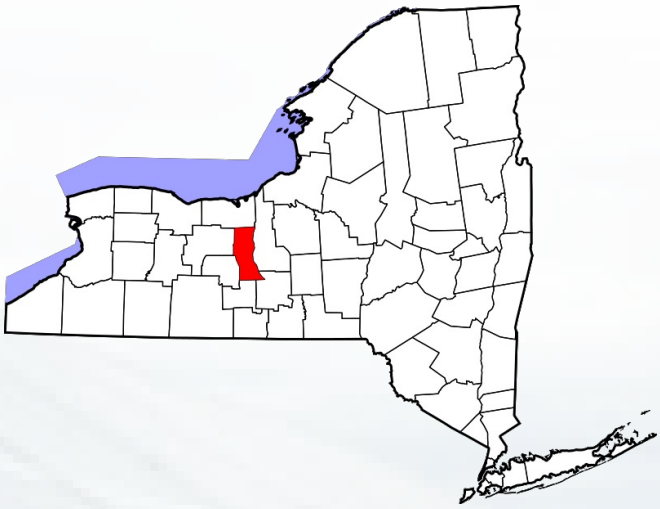
a. North Seneca Solar Project

North Seneca Solar Project, LLC is developing the North Seneca Solar Project in Seneca County, New York. The Project consists of an estimated up to 90-megawatt alternative current (MWac) utility-scale solar powered-electric generation facility that will utilize photovoltaic (PV) panels installed on a single-axis tracking system. The total Project represents an investment in excess of $203 million.

b. Seneca County, New York

Seneca County is located in the western part of New York (see Figure 2). It has a total area of 390 square miles, and the U.S. Census estimates that the 2023 population was 32,349 with 16,240 housing units. The county has a population density of 99.8 (persons per square mile) compared to 416.4 for the State of New York (2023). Median household income in the county was $64,050 in 2022 (U.S. Census Bureau, 2024).

Figure 2 – Location of Seneca County, New York



i. Economic and Demographic Statistics

As shown in Table 1, the largest industries in the county are "Administrative Government" followed by "Manufacturing," "Retail Trade," and "Accommodation and Food Services." These data for Table 1 come from IMPLAN covering the year 2022 (the latest year available).

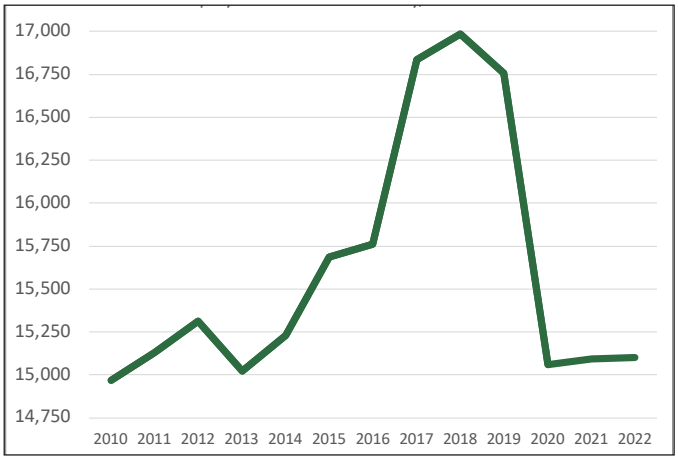
Table 1 – Employment by Industry in Seneca County

Industry	Number	Percent
Administrative Government	2,227	15.1%
Manufacturing	2,078	14.1%
Retail Trade	2,036	13.8%
Accommodation and Food Services	1,405	9.6%
Professional, Scientific, and Technical Services	874	5.9%
Agriculture, Forestry, Fishing and Hunting	866	5.9%
Health Care and Social Assistance	854	5.8%
Other Services (except Public Administration)	828	5.6%
Construction	776	5.3%
Transportation and Warehousing	493	3.3%
Real Estate and Rental and Leasing	442	3.0%
Finance and Insurance	381	2.6%
Wholesale Trade	372	2.5%
Administrative and Support and Waste Management and Remediation Services	294	2.0%
Arts, Entertainment, and Recreation	288	2.0%
Educational Services	177	1.2%
Government Enterprises	117	0.8%
Utilities	70	0.5%
Management of Companies and Enterprises	68	0.5%
Information	52	0.4%
Mining, Quarrying, and Oil and Gas Extraction	16	0.1%

Source: Impact Analysis for Planning (IMPLAN), County Employment by Industry, 2022

Table 1 provides the most recent snapshot of total employment but does not examine the historical trends within the county. Figure 3 shows employment from 2010 to 2022. Total employment in Seneca County was at its lowest at 14,968 in 2010 and its highest at 16,984 in 2018 (BEA, 2024).

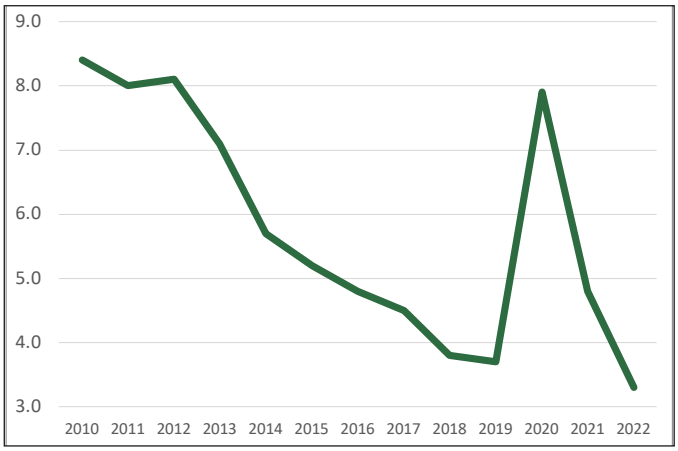
Figure 3 – Total Employment in Seneca County from 2010 to 2022



Source: Bureau of Economic Analysis, Regional Data, GDP and Personal Income, 2010-2022

The unemployment rate signifies the percentage of the labor force without employment in the county. Figure 4 shows the unemployment rates from 2010 to 2022. Unemployment in Seneca County was at its highest at 8.4% in 2010 and its lowest at 3.3% in 2022 (FRED, 2024). The unemployment rate spiked to 7.9% in 2020 then normalized.

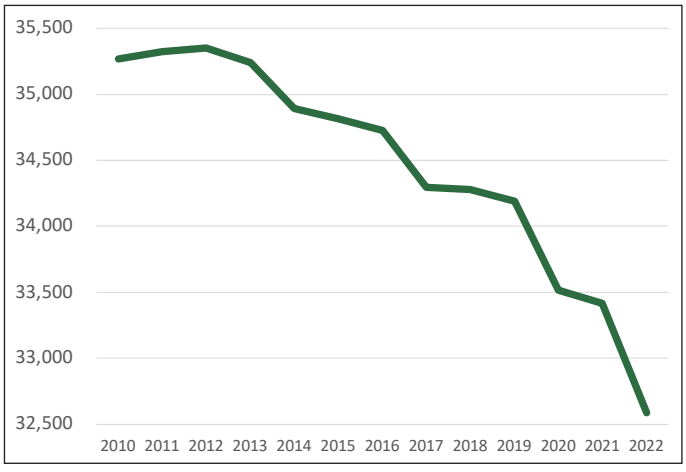
Figure 4 – Unemployment Rate in Seneca County from 2010 to 2022



Source: Federal Reserve Bank of St. Louis Economic Data, U.S. Census Bureau, Unemployment Rates, 2010-2022

The overall population in the county has trended downward, as shown in Figure 5. Seneca County's population was 35,271 in 2010 and 32,586 in 2022, a loss of 2,685 people (FRED, 2024). The average annual population decrease over this time period was 224 people.

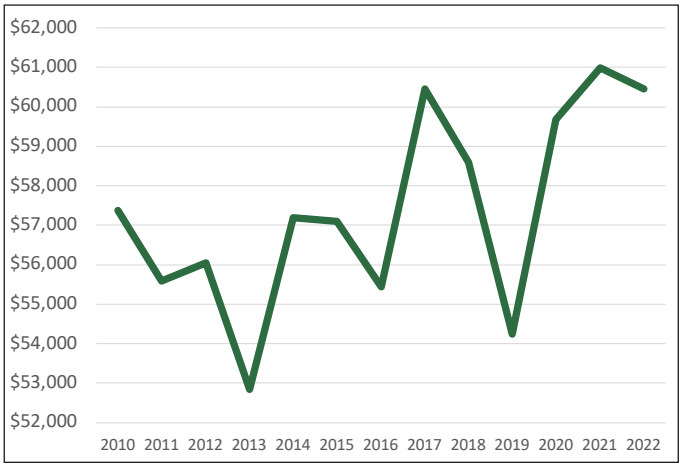
Figure 5 – Population in Seneca County from 2010 to 2022



Source: Federal Reserve Bank of St. Louis Economic Data, U.S. Census Bureau, Population Estimates, 2010-2022

Household income has fluctuated significantly in the county. Figure 6 shows the real median household income in Seneca County from 2010 to 2022. Using the national Consumer Price Index (CPI), the nominal median household income for each year was adjusted to 2022 dollars. Household income was at its lowest at $52,836 in 2013 and its highest at $60,985 in 2021 (FRED, 2024).

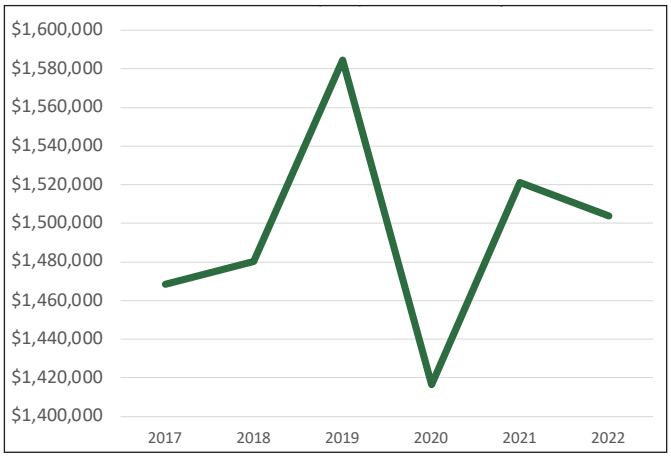
Figure 6 – Real Median Household Income in Seneca County from 2010 to 2022



Source: Federal Reserve Bank of St. Louis Economic Data, U.S. Census Bureau, Estimate of Median Household Income, 2010-2022

Real Gross Domestic Product (GDP) is a measure of the value of goods and services produced in an area and adjusted for inflation over time. The Real GDP for Seneca County has fluctuated since hitting a high in 2019, as shown in Figure 7 (FRED, 2024).

Figure 7 – Real Gross Domestic Product (GDP) in Seneca County from 2017 to 2022



Source: Federal Reserve Bank of St. Louis Economic Data, U.S. Census Bureau, Real Gross Domestic Product, 2017-2022

III. Economic Impact Methodology

The economic analysis of the solar PV project presented uses IMPLAN (IMpact analysis for PLANning). IMPLAN software and data are managed and updated by the Minnesota IMPLAN Group, Inc., using data collected at federal, state, and local levels. IMPLAN is a leading provider of economic development software that is widely used by economists and economic development professionals. More information about IMPLAN can be found at http:/implan.com.

IMPLAN is an input-output model that measures the spending patterns and location-specific economic structures that reflect expenditures supporting varying levels of employment, income, and output. That is, IMPLAN takes into account that the output of one industry can be used as an input for another. For example, when a PV system is installed, there are both soft costs consisting of permitting, installation and customer acquisition costs, and hardware costs, of which the PV module is the largest component. The purchase of a module not only increases demand for manufactured components and raw materials, but also supports labor to build and install a module. When a module is purchased from a manufacturing facility, the manufacturer uses some of that money to pay employees. The employees use a portion of their compensation to purchase goods and services within their community. Likewise, when a developer pays workers to install the systems, those workers spend money in the local economy that boosts economic activity and employment in other sectors. The goal of economic impact analysis is to quantify all of those reverberations throughout the local and state economy.

The IMPLAN model utilizes county-specific and state-specific industry multipliers in the analysis. This study analyzes the gross jobs that the new solar energy project development supports and does not analyze the potential loss of jobs due to declines in other forms of electric generation.

The total economic impact can be broken down into three distinct types: direct impacts, indirect impacts, and induced impacts. **Direct impacts** during the construction period refer to the changes that occur in the onsite construction industries in which the direct final demand (i.e., spending on construction labor and services) change is made. Onsite construction-related services include installation labor, engineering, design, and other professional services. Direct impacts during operating years refer to the final demand changes that occur in the onsite spending for the solar operations and maintenance workers.

The initial spending on the construction and operation of the solar PV installation will create a second layer of impacts, referred to as "supply chain impacts" or "indirect impacts." **Indirect impacts** during the construction period consist of changes in inter-industry purchases resulting from the direct final demand changes and include construction spending on materials and PV equipment, as well as other purchases of goods and offsite services. Utility-scale solar PV indirect impacts include PV modules, invertors, tracking systems, cabling, and foundations.

Induced impacts during construction refer to the changes that occur in household spending as household income increases or decreases as a result of the direct and indirect effects of final demand changes. Local spending by employees working directly or indirectly on the Project that receive their paychecks and then spend money in the community is included. The model includes additional local jobs and economic activity that are supported by the purchases of these goods and services.

IV. Economic Impact Results

The economic impact results were derived from detailed project cost estimates supplied by North Seneca Solar Project, LLC. In addition, North Seneca Solar Project, LLC also estimated the percentages of project materials and labor that will be coming from within Seneca County and the State of New York.

Two sets of models were produced to show the economic impact of the North Seneca Solar Project. The first set of models examines the construction costs, and the second set of models examines the operating expenses. The first model uses capital expenditures and the 2022 IMPLAN Seneca County dataset. The second model uses the 2022 IMPLAN dataset for the State of New York and the same project costs. The third model uses the operating expenditures and the 2022 IMPLAN Seneca County dataset. The fourth model uses the 2022 IMPLAN dataset for the State of New York and the same project costs. The latest dataset from IMPLAN and specific project cost data from the North Seneca Solar Project are used, and SER translated the project costs into IMPLAN sectors.

Tables 2 to 4 show the output from these models. Table 2 lists the total employment impact from the North Seneca Solar Project for Seneca County and the State of New York. Table 3 shows the impact on total earnings, and Table 4 contains the impact on total output.

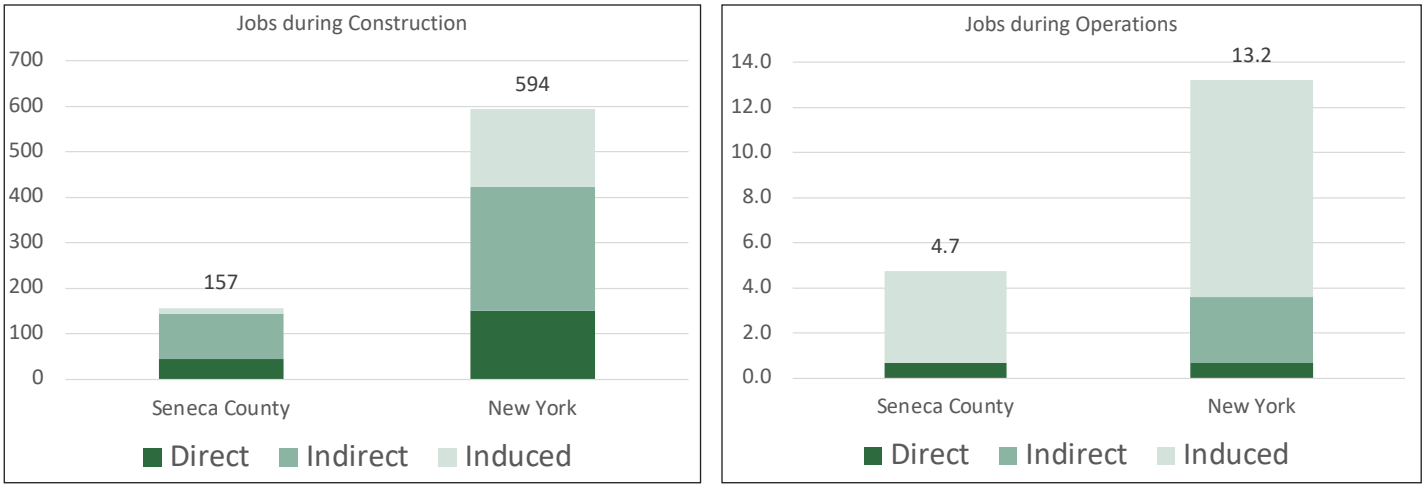
Table 2 – Total Employment Impact from the North Seneca Solar Project

	Seneca County Jobs	State of New York Jobs
Construction		
Direct Impacts	44	151
Indirect Impacts	99	273
Induced Impacts	14	170
Local Jobs during Construction	157	594
Operations (Annual/Ongoing)		
Onsite Direct Impacts	0.7	0.7
Indirect Impacts	0.0	2.9
Induced Impacts	4.0	9.6
Local Long-Term Jobs	4.7	13.2

The results from the IMPLAN model show significant employment impacts from the North Seneca Solar Project. Employment impacts can be broken down into several different components. Direct jobs created during the construction phase typically last anywhere from 12 to 18 months depending on the size of the project; however, the direct job numbers present in Table 2 from the IMPLAN model are based on a full time equivalent (FTE) basis for a year. In other words, 1 job = 1 FTE = 2,080 hours worked in a year. A part time or temporary job would constitute only a fraction of a job according to the model. For example, the IMPLAN model results show 44 new direct jobs during construction in Seneca County, though the construction of the solar center could involve closer to 88 workers working half-time for a year. Thus, due to the short-term nature of construction projects, IMPLAN often significantly understates the actual number of people hired to work on the project. It is important to keep this fact in mind when looking at the numbers or when reporting the numbers.

As shown in Table 2, new local jobs created or retained during construction total 157 for Seneca County and 594 for the State of New York. New local long-term jobs created from the North Seneca Solar Project total 4.7 for Seneca County and 13.2 for the State of New York.

Figure 8 – Total Employment Impact from the North Seneca Solar Project



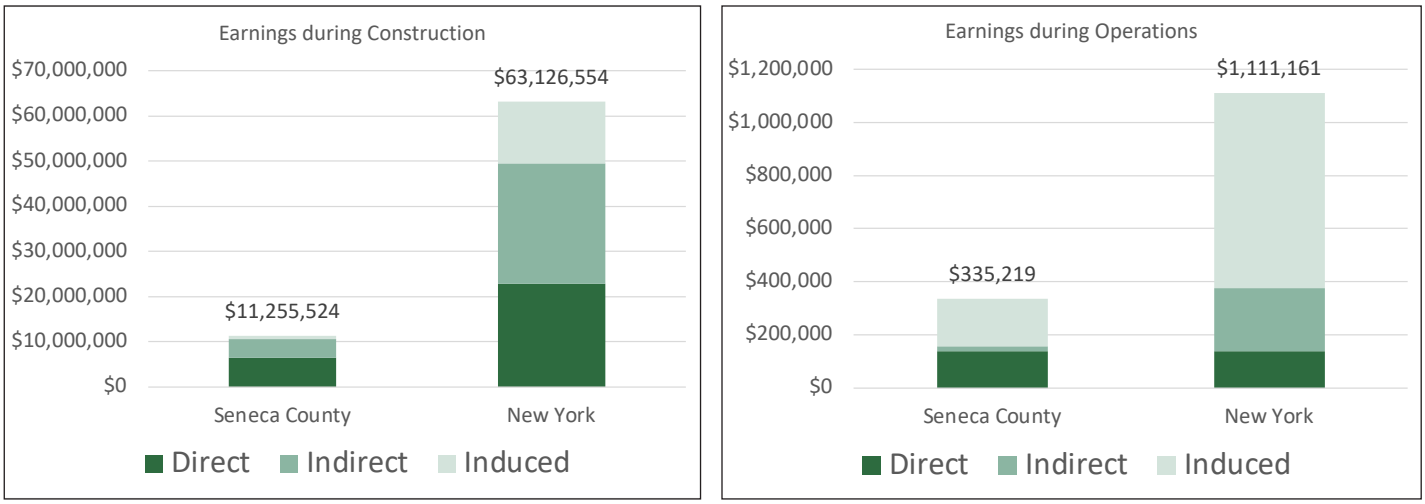
Direct jobs created during the operational phase last the life of the solar PV project, typically 20-30 years. Both direct construction jobs, and operations and maintenance jobs require highly skilled workers in the fields of construction, management, and engineering.

Accordingly, it is important to not just look at the number of jobs but also the earnings that they produce. Table 3 shows the earnings impacts from the North Seneca Solar Project, which are categorized by construction impacts and operations impacts. The new local earnings during construction total over $11.2 million for Seneca County and over $63.1 million for the State of New York. The new local long-term earnings total over $335 thousand for Seneca County and over $1.1 million for the State of New York.

Table 3 – Total Earnings Impact from the North Seneca Solar Project

	Seneca County	State of New York
Construction		
Direct Impacts	$6,318,722	$22,762,630
Indirect Impacts	$4,305,107	$26,781,945
Induced Impacts	$631,695	$13,581,979
Local Earnings during Construction	$11,255,524	$63,126,554
Operations (Annual/Ongoing)		
Onsite Direct Impacts	$138,019	$138,019
Indirect Impacts	$17,645	$238,580
Induced Impacts	$179,555	$734,562
Local Long-Term Earnings	$335,219	$1,111,161

Figure 9 – Total Earnings Impact from the North Seneca Solar Project

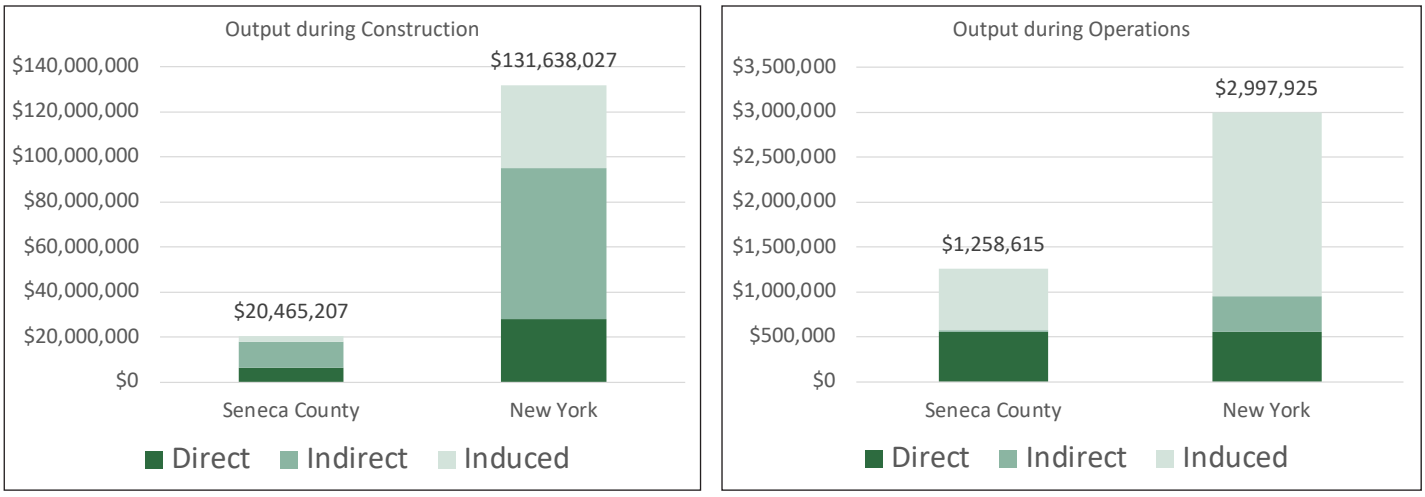


Output refers to economic activity or the value of production in the state or local economy. It is an equivalent measure to the Gross Domestic Product, which measures output on a national basis. According to Table 4, the new local output during construction totals over $20.4 million for Seneca County and over $131 million for the State of New York. The new local long-term output totals over $1.2 million for Seneca County and over $2.9 million for the State of New York.

Table 4 – Total Output Impact from the North Seneca Solar Project

	Seneca County	State of New York
Construction		
Direct Impacts	$6,318,722	$27,861,324
Indirect Impacts	$11,702,666	$67,065,532
Induced Impacts	$2,443,819	$36,711,171
Local Output during Construction	$26,956,376	$131,638,027
Operations (Annual/Ongoing)		
Onsite Direct Impacts	$557,982	$557,982
Indirect Impacts	$16,709	$389,934
Induced Impacts	$683,924	$2,050,009
Local Long-Term Output	$1,258,615	$2,997,925

Figure 10 – Total Output Impact from the North Seneca Solar Project



V. Tax Revenue

Solar PV projects increase the property tax base of a county, creating a new revenue source for education and other local government services. Although it is difficult to calculate the precise assessed value and taxes of the project until construction is completed, we can calculate the taxes on an illustrative example to get an idea of the size of the contributions that a project of this magnitude will have on the local tax base.

The property tax payments in this section may not reflect new spendable tax dollars to that taxing entity. In some cases, the total budget may be capped or have limits to yearly increases. If the budget cannot be increased to include all of the new tax revenue, the property tax rate for that entity will be lowered, resulting in lower taxes to all taxpayers. This lower tax rate benefits the whole community of taxpayers, and the total amount of lowered taxes is a measure of the community benefits that will result from the solar energy project. Thus, the calculated property tax revenue is a good measure of the community benefits even if all of the tax dollars are not spendable due to tax budget constraints.

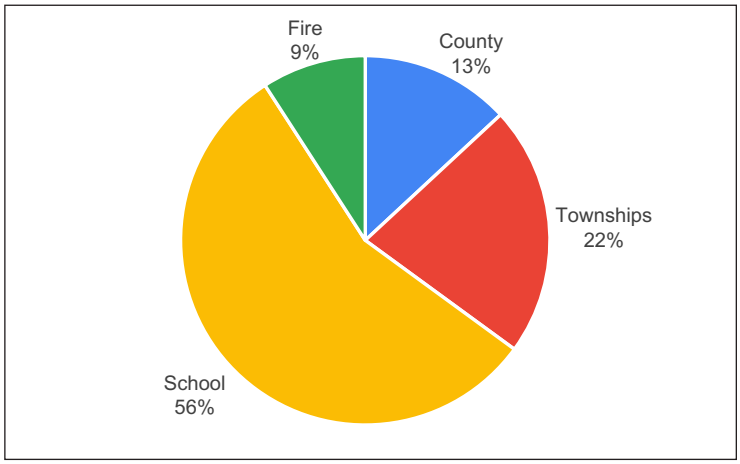
Tables 5 to 7 detail the government revenue implications of the North Seneca Solar Project. There are several important assumptions built into the analysis in this table.

- The analysis assumes that North Seneca Solar Project, LLC enters into a Payment in Lieu of Taxes (PILOT) agreement with the Seneca County Industrial Development Agency. The PILOT agreement will abate real property taxes and replace them with a base payment of $3,400 per MWac of installed capacity and a 2% annual escalator.
- The analysis assume that North Seneca Solar Project, LLC enters into a Host Community Agreement ("HCA") with each Town (Junius and Waterloo) with a base payment of $600 per MWac of installed capacity and a 2% annual escalator.
- The analysis assumes that fire district property taxes are not abated or subject to the PILOT agreement, and are paid throughout the life of the project.
- For purposes of this report, we have assumed the installed capacity of the Project to be 90 MWac.
- The analysis assumes the most recent tax rates for each taxing body, and that the tax rates do not change through the end of the Project.
- The analysis assumes that 23.6 MW of the Project will be in Junius and 66.4 MW of the Project will be in Waterloo.
- The projections assume that ordinary property taxes for the Project resume after 20 years with an assessed value based upon the assessment model established by the NYS Department of Taxation and Finance pursuant to NYS Real Property Tax Law Section 575-b. The assessed value will decrease from years 21 through 25 and then will remain the same through the life of the Project.
- The names of the taxing bodies used in this section come from the county and state tax websites.
- The comprehensiveness and accuracy of the analysis below is dependent upon the assumptions listed above and used to calculate the property tax results. The analysis is to serve as a projection of property tax benefits to the local community and is not a guarantee of property tax revenue.
- If the inputs received from North Seneca Solar Project, LLC, the laws surrounding renewable energy taxation in New York, or the millage rates in Seneca County change in a material way after the completion of this report, this analysis may no longer accurately reflect the property taxes to be paid by North Seneca Solar Project.
- No comprehensive tax payment was calculated, and these calculations are only to be used to illustrate the economic impact of the Project.

Table 5 – Total Property Taxes Paid by North Seneca Solar Project

Year	Total Property Taxes
2027	$416,784
2028	$423,011
2029	$429,348
2030	$435,780
2031	$442,354
2032	$449,052
2033	$455,896
2034	$462,831
2035	$469,888
2036	$477,055
2037	$484,303
2038	$491,684
2039	$499,201
2040	$506,750
2041	$514,338
2042	$529,610
2043	$537,538
2044	$545,048
2045	$552,266
2046	$559,135
2047	$439,159
2048	$366,191
2049	$280,300
2050	$182,219
2051	$92,116
…	$92,116
2061	$92,116
TOTAL	$11,963,011
AVG ANNUAL	$341,800

Figure 11 – Percentages of Property Taxes Paid to Taxing Jurisdictions



As shown in Table 5, a conservative estimate of the total property taxes paid by the Project starts out at over $416 thousand and increases until 2046 due to the escalation factor. After that, the Project starts paying ordinary property taxes. The expected total property taxes paid over the 35-year lifetime of the Project are over $11.9 million, and the average annual property taxes paid will be over $341 thousand.

Table 6 shows an estimate of the likely taxes paid to the following taxing bodies: Seneca County, Waterloo Township, Junius Township, Border City Fire Protection, and Junius Fire District.

According to Table 6, the total amounts paid over 35 years are over $1.5 million for Seneca County, over $1.7 million for Waterloo Township, over $852 thousand for Junius Township, over $927 thousand for Border City Fire Protection, and over $165 thousand for Junius Fire District.

Table 6 – Tax Revenue from North Seneca Solar Project for the County and Townships[2]

Year	Seneca County	Waterloo Township	Junius Township	Border City Fire Protection	Junius Fire District
2027	$50,192	$65,901	$29,925	$48,241	$8,543
2028	$51,195	$67,219	$30,524	$47,411	$8,400
2029	$52,219	$68,564	$31,134	$46,553	$8,251
2030	$53,264	$69,935	$31,757	$45,651	$8,094
2031	$54,329	$71,334	$32,392	$44,743	$7,936
2032	$55,415	$72,760	$33,040	$43,810	$7,773
2033	$56,524	$74,216	$33,701	$42,870	$7,608
2034	$57,654	$75,700	$34,375	$41,872	$7,433
2035	$58,807	$77,214	$35,062	$40,840	$7,251
2036	$59,983	$78,758	$35,764	$39,762	$7,060
2037	$61,183	$80,333	$36,479	$38,609	$6,856
2038	$62,407	$81,940	$37,208	$37,424	$6,645
2039	$63,655	$83,579	$37,953	$36,207	$6,427
2040	$64,928	$85,251	$38,712	$34,864	$6,187
2041	$66,227	$86,956	$39,486	$33,401	$5,924
2042	$67,551	$88,695	$40,276	$38,285	$6,812
2043	$68,902	$90,469	$41,081	$36,784	$6,550
2044	$70,280	$92,278	$41,903	$34,764	$6,197
2045	$71,686	$94,123	$42,741	$32,328	$5,769
2046	$73,120	$96,006	$43,596	$29,425	$5,258
2047	$66,805	$33,104	$23,951	$25,860	$4,628
2048	$55,704	$27,590	$19,996	$21,552	$3,864
2049	$42,638	$21,107	$15,327	$16,488	$2,962
2050	$27,718	$13,713	$9,979	$10,712	$1,928
2051	$14,010	$6,910	$5,083	$5,398	$982
…	$14,010	$6,910	$5,083	$5,398	$982
2061	$14,010	$6,910	$5,083	$5,398	$982
TOTAL	$1,566,499	$1,772,760	$852,278	$927,833	$165,162
AVG ANNUAL	$44,757	$50,650	$24,351	$26,510	$4,719

[2] The assumed millage rates are 4.4785 for Seneca County, 3.29 for Waterloo Township, 5.02 for Junius Township, 2.57 for Border City Fire Protection, and 0.97 for Junius Fire District.

Table 7 – Tax Revenue from North Seneca Solar Project for the School District[3]

Year	Waterloo Central School District
2027	$213,982
2028	$218,261
2029	$222,627
2030	$227,079
2031	$231,621
2032	$236,253
2033	$240,978
2034	$245,798
2035	$250,714
2036	$255,728
2037	$260,843
2038	$266,059
2039	$271,381
2040	$276,808
2041	$282,344
2042	$287,991
2043	$293,751
2044	$299,626
2045	$305,619
2046	$311,731
2047	$284,811
2048	$237,485
2049	$181,779
2050	$118,169
2051	$59,731
…	$59,731
2061	$59,731
TOTAL	$6,678,478
AVG ANNUAL	$190,814

The largest taxing jurisdictions for property taxes are local school districts. However, the tax implications for school districts are more complicated than for other taxing bodies. School districts receive state aid based on the assessed value of the taxable property within their district. As assessed value increases, the state aid to the school district is decreased.

Although the exact amount of the reduction in state aid to the school districts is uncertain, local project tax revenue is superior to relying on state aid for the following reasons: (1) the solar project can't relocate – it is a permanent structure that will be within the school district's footprint for the life of the Project; (2) the school district can raise the tax rate and increase its revenues as needed; (3) the school district does not have to deal with the year-to-year uncertainty of state aid amounts; (4) the school district does not have to wait for months (or even into the next Fiscal Year) for payment; (5) the Project does not increase the overall cost of education in the way that a new residential development would.

Table 7 shows the direct property tax revenue coming from the Project to Waterloo Central School District. This tax revenue uses the assumptions outlined earlier to calculate the other tax revenue and assumes that 100% of the project area is in Waterloo Central School District. Over the 35-year life of the Project, the school district is expected to receive over $6.6 million in tax revenue.

[3] The assumed millage rate is 19.0935 for Waterloo Central School District.

VI. Glossary

Bb

Battery Energy Storage Systems (BESS)

An array of hundreds or thousands of small batteries that enable energy from renewables, like solar and wind, to be stored and released at a later time.

Cc

Consumer Price Index (CPI)

An index of the changes in the cost of goods and services to a typical consumer, based on the costs of the same goods and services at a base period.

Dd

Direct impacts

During the construction period: the changes that occur in the onsite construction industries in which the direct final demand change is made.

During operating years: the final demand changes that occur in the onsite spending for the solar operations and maintenance workers.

Ee

Equalized Assessed Value (EAV)

The product of the assessed value of property and the state equalization factor. This is typically used as the basis for the value of property in a property tax calculation.

Ff

Farming profit

The difference between total revenue (price multiplied by yield) and total cost regarding farmland.

Full-time equivalent (FTE)

A unit that indicates the workload of an employed person. One FTE is equivalent to one worker working 2,080 hours in a year. One half FTE is equivalent to a half-time worker or someone working 1,040 hours in a year.

Hh

HV line extension

High-voltage electric power transmission links used to connect generators to the electric transmission grid.

Ii

IMPLAN (IMpact analysis for PLANning)

A business who is the leading provider of economic impact data and analytic applications. IMPLAN data is collected at the federal, state, and local levels and used to create state-specific and county-specific industry multipliers.

Indirect impacts

Impacts that occur in industries that make up the supply chain for that industry.

During the construction period: the changes in inter- industry purchases resulting from the direct final demand changes, including construction spending on materials and wind farm equipment and other purchases of good and offsite services.

During operating years: the changes in inter-industry purchases resulting from the direct final demand changes.

Induced impacts

The changes that occur in household spending as household income increases or decreases as a result of the direct and indirect effects of final demand changes.

Inflation

A persistent rise in the general level of prices related to an increase in the volume of money and resulting in the loss of value of currency. Inflation is typically measured by the CPI.

Mm

Median Household Income (MHI)

The income amount that divides a population into two equal groups, half having an income above that amount, and half having an income below that amount.

Millage rate

The tax rate, as for property, assessed in mills per dollar.

Multiplier

A factor of proportionality that measures how much a variable changes in response to a change in another variable.

MW

A unit of power, equal to one million watts or one thousand kilowatts.

MWac (megawatt alternating current)

The power capacity of a utility-scale solar PV system after its direct current output has been fed through an inverter to create an alternating current (AC). A solar system's rated MWac will always be lower than its rated MWdc due to inverter losses. AC is the form in which electric energy is delivered to businesses and residences and that consumers typically use when plugging electric appliances into a wall socket.

MWdc (megawatt direct current)

The power capacity of a utility-scale solar PV system before its direct current output has been fed through an inverter to create an alternating current. A solar system's rated MWdc will always be higher than its rated MWac.

Nn

Net economic impact

Total change in economic activity in a specific region, caused by a specific economic event.

Net Present Value (NPV)

Cash flow determined by calculating the costs and benefits for each period of investment.

NREL's Jobs and Economic Development Impacts (JEDI) Model

An input-output model that measures the spending patterns and location-specific economic structures that reflect expenditures supporting varying levels of employment, income, and output.

Oo

Output

Economic output measures the value of goods and services produced in a given area. Gross Domestic Product is the economic output of the United States as a whole.

Pp

PV (photovoltaic) system

Solar modules, each comprising a number of solar cells, which generate electrical power.

Rr

Real Gross Domestic Product (GDP)

A measure of the value of goods and services produced in an area and adjusted for inflation over time.

Real-options analysis

A model used to look at the critical factors affecting the decision to lease agricultural land to a company installing a solar powered electric generating facility.

Ss

Stochastic

To have some randomness.

Tt

Tax rate

The percentage (or millage) of the value of a property to be paid as a tax.

Total economic output

The quantity of goods or services produced in a given time period by a firm, industry, county, or country.

Uu

Utility-scale solar

Solar powered-electric generation facilities intended for wholesale distribution typically over 5MW in capacity.

VII. References

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