

THE IMPACT OF THE SOUTHERN PIKE SOLAR PROJECT IN NOBLE COUNTY, INDIANA

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Prepared by:
Impact DataSource, LLC
Austin, TX
www.impactdatasource.com



PURPOSE & LIMITATIONS

This report presents the results of an analysis undertaken by Impact DataSource, an Austin, TX based economic consulting firm.

The analysis relies on information about Southern Pike Solar as well as estimates, assumptions, and other information developed by Impact DataSource from its independent research effort.

Our analysis quantifies the economic impact of the Southern Pike Solar as described throughout this report.

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Study Highlights

- The purpose of the analysis is to estimate the economic impact of the Southern Pike Solar project on the Noble County economy as well as estimate the associated negative economic impact for farmers and suppliers related to 1,700 acres of farmland being converted to solar use.

Solar Construction/Installation Impact

- The development of the Southern Pike Solar project will include an initial development period where \$405.9 million will be spent to install the solar project. The developer anticipates making the following investments:
 - Equipment: \$344.3 million
 - Onsite labor: \$60.8 million
 - Onsite materials: \$0.6 million
 - Other: \$0.3 million
- Approximately 85% of the total investment will be spent on equipment that will largely be purchased outside of Noble County. However, local spending on labor, materials, and other services is estimated to total \$65.7 million.

Total Local Construction Impacts

- \$91.0 million in economic impact over the construction period.
- 566 total construction jobs years of employment during construction.
- \$35.5 million in total workers' earnings paid to construction workers during this period.

Solar Operation Impact

- Once operational, the solar project is expected to employ 3 workers earning an average of \$60,000 per year.

Total On-going Impacts

- \$37.0 million annual economic impact.
- 5.7 total permanent jobs created.
 - For every 1 solar job in the county, 0.90 additional jobs are created in the form of indirect and induced employment elsewhere in Noble County.
- \$241,000 in total annual workers' earnings.
- \$1,408,000 in annual land rent payments to Noble County residents.

Loss in Farmland Impact

- The Southern Pike Solar project will reduce the available farmland in Noble County and reduce farm output by an estimated \$2.1 million per year. This analysis estimates the total economic impact of this reduction in farm output to calculate the additional negative impact that may be felt by suppliers and other businesses in the county.

Total Loss in Farmland Impact

- \$3.1 million in annual economic impact.
- 8.7 total permanent jobs.
- \$466,000 in total annual workers' earnings.
- \$366,000 in annual land rent payments to Noble County residents.

Indirect and induced impacts represent the spin-off economic activity resulting from the business-to-business expenditures initiated by the company and the consumer-to-business expenditures initiated by workers spending a portion of their earnings on goods and services in the economy. **Economic output** is gross output and is the sum of the intermediate inputs and final use. This is a duplicative total in that goods and services will be counted multiple times if they are used in the production of other goods and services. Economic output can be thought of as the value of goods and services sold in the economy or revenues for businesses in the economy. **Value added** is defined as the value of gross output less intermediate inputs. **Worker's earnings** or household earnings consist of wages and salaries, employer provided benefits, and proprietors' income. For permanent or on-going activity, **Employment** consists of a count of jobs that include both full-time and part-time workers. For temporary construction impacts, a **Job Year** is defined as full employment for one person for 2080 hours in a 12-month span.

Study Highlights - Continued

Overall Comparison

Based on the analysis contained in this report and summarized in Table 1, the following comparisons can be made:

- Solar Use will result in a loss of approximately 3 jobs and \$225,000 in workers' earnings.
- Solar Use workers will earn slightly less Farm Use workers on average.
 - The average salary for direct Solar Use jobs is 11% greater than Farm Use job pay.
- Solar Use supports slightly more indirect and induced workers per direct job..
 - Solar Use employment supports 0.9 jobs per direct worker and Farm Use employment supports 0.49 jobs per direct worker.
- Solar Use will result in an increase in total economic output of \$33.9 million.
 - The direct economic output for Solar Use is 14.4 times greater than the direct economic output of Farm Use.
- Solar Use will result in a \$1,042,000 increase in land rent paid to Noble County residents.
 - The land rent paid to local residents for Solar Use is 3.8 times greater than the rent paid for Farm Use.
- Solar Use will increase value added by \$20.3 million, which is to say, the county's economy will increase by \$20.3 million.

Table 1. Comparison of Total Annual Economic Impact of Solar Use vs. Farm Use

	Annual Solar Use Impact	Annual Farm Use Impact	Difference
Jobs:			
Direct	3.0	5.8	(2.8)
Indirect & Induced	2.7	2.8	(0.1)
<u>Total Jobs</u>	<u>5.7</u>	<u>8.7</u>	<u>(3.0)</u>
Workers' Earnings:			
Direct	\$180,000	\$314,404	(\$134,404)
Indirect & Induced	\$61,002	\$151,417	(\$90,415)
<u>Total Workers' Earnings</u>	<u>\$241,002</u>	<u>\$465,821</u>	<u>(\$224,819)</u>
Economic Output:			
Direct	\$31,000,000	\$2,148,622	\$28,851,378
Indirect & Induced	\$5,961,300	\$918,966	\$5,042,334
<u>Total Economic Output</u>	<u>\$36,961,300</u>	<u>\$3,067,588</u>	<u>\$33,893,712</u>
Value Added:			
<u>Total Value Added</u>	<u>\$21,557,400</u>	<u>\$1,259,952</u>	<u>\$20,297,448</u>
Land Rent:			
<u>Total Rent Paid</u>	<u>\$1,530,000</u>	<u>\$397,800</u>	<u>\$1,132,200</u>
<u>Rent Paid to Noble County Residents</u>	<u>\$1,407,600</u>	<u>\$365,976</u>	<u>\$1,041,624</u>

Note: Solar Use will include a one-time construction impact of \$91.0 million not reflected in the table above.

Study Highlights - Continued

- Solar Use will significantly increase property tax revenue in the county. After accounting for a potential property tax abatement and EDA Payments, Solar Use will generate \$62.7 million more in revenue for local tax jurisdictions over the next 42 years.
 - Revenue for tax jurisdictions under Solar Use will exceed revenue under Farm Use by \$1.5 million per year on average.

Table 2. Comparison of Property Tax Impact of Solar Use vs. Farm Use

	Solar Use Impact	Farm Use Impact	Difference
Property Taxes & EDA Payments Over 42 Years (2029-2070):			
Real Property Tax	\$12,239,047	\$2,234,275	\$10,004,772
Personal Property Tax, before Abatement	\$64,582,222	\$0	\$64,582,222
Personal Property Tax Abatement	(\$16,939,599)	\$0	(\$16,939,599)
EDA Payments	\$5,081,880	\$0	\$5,081,880
<u>Total Revenue for Local Jurisdictions</u>	<u>\$64,963,549</u>	<u>\$2,234,275</u>	<u>\$62,729,275</u>

Overview

This report presents the results of an economic impact analysis performed by Impact DataSource, an Austin, Texas economic consulting firm that specializes in economic and fiscal impact analysis. The purpose of the analysis is to estimate the economic impact of the Southern Pike Solar project on the Noble County economy as well as estimate the associated negative economic impact for farmers and suppliers related to the farmland being converted to solar use.

Methodology

Impact DataSource estimated the total impact of the Southern Pike Solar using the project details and an economic impact model. The economic impact estimates in this report are based on the Regional Input-Output Modeling System (RIMS II), a widely used regional input-output model developed by the U. S. Department of Commerce, Bureau of Economic Analysis. The RIMS II model is a standard tool used to estimate regional economic impacts. The economic impacts estimated using the RIMS II model are generally recognized as reasonable and plausible assuming the data input into the model is accurate or based on reasonable assumptions. Additional detail on the RIMS II model is provided at the end of this report.

Construction Impact Methodology

The economic impact of the construction of Southern Pike Solar was estimated using the projected local expenditures and calculations prepared by Impact DataSource utilizing the RIMS II input-output model.

The solar developer provided estimates of total spending and how much of the total expenditure will take place in Noble County. As shown in the table below, the project represents a \$405.9 million investment with \$65.7 million spent within Noble County. The Noble County construction expenditures represent the direct spending and are used to estimate the total impact in the county.

Table 3. Projected Development Expenditures for Southern Pike Solar

	Total Expenditure	Percent of Total Expenditure Spent within the County	Total Expenditure Spent within the County
Equipment	\$344,250,000	10.0%	\$34,425,000
Onsite labor	\$60,750,000	50.0%	\$30,375,000
Onsite materials	\$642,857	100.0%	\$642,857
Other	\$280,000	100.0%	\$280,000
Total	\$405,922,857		\$65,722,857

Operations Impact Methodology

The economic impact of Southern Pike Solar operations was estimated using the projected output, employment, and workers' earnings data provided by the solar developer and calculations prepared by Impact DataSource utilizing the RIMS II input-output model.

According to information provided by the solar developer, the project will employ 3 workers. On average these workers will earn \$60,000 annually. The direct economic output associated with the solar project is expected to be \$31.0 million per year.

Table 4. Projected Output, Employment, and Workers' Earnings for Southern Pike Solar

Economic Output	\$31,000,000
Employees	3.0
Average Salary	\$60,000
Total Payroll	\$180,000

Reduction in Farming Activity

The negative economic impact associated with the farmland being converted to solar use is also calculated in this study. The negative impact is estimated to include the reduction in direct farm revenues as well as the reduction in indirect supplier revenues and the reduction in worker spending elsewhere throughout the county.

Impact DataSource relies on data from the United States Department of Agriculture (USDA) and Purdue University to estimate the amount of agricultural income or sales per acre generated by farmland in Noble County. The total loss in farm revenue is estimated based on the per-acre metric and the number of total acres converted to solar use. The total economic impact is then estimated by applying the RIMS II input-output model.

Table 5. Estimated Reduction in Farm Output

<i>Farm Acres converted to Solar Use</i>	1,700
<i>Agricultural Income or Sales per Acre</i>	\$1,264
Total Reduction in Farm Revenue	\$2,148,622

* See the complete derivation of per acre metric in the "Impact of Loss of Farmland" later in this report.

Economic Impacts Defined

The economic impacts are measured in common measures of economic activity including employment, workers' earnings, economic output, and value added. Employment consists of a count of jobs that include both full-time and part-time workers. Workers' earnings consist of wages and salaries, employer-provided benefits, and proprietors' income. Economic output is gross output and is the sum of the intermediate inputs and final use. This is a duplicative total in that goods and services will be counted multiple times if they are used in the production of other goods and services. Economic output can be thought of as the value of goods and services sold in the economy or revenues for businesses in the economy. Value added is defined as the value of gross output less intermediate inputs and represents the contribution to gross area product or the size of the economy.

Direct Economic Impacts

Direct spending, direct employment, and direct salaries serve as the basis for the economic impact calculations in this impact analysis.

Spin-off Economic Impacts

The total economic impact supported by the company includes the direct as well as spin-off activity. The company's direct economic activity ripples through the economy and supports spin-off economic activity in the form of indirect and induced impacts. Indirect impacts reflect economic activity resulting from the business-to-business expenditures initiated by the company. Induced impacts refer to the consumer-to-business expenditures initiated by workers that spend a portion of their earnings on goods and services in the economy.

Rent Payments for Solar vs. Farm Use

In addition the specific economic impacts calculated for the activities described above, project developer has provided additional detail on specific rent payments to be paid to property owners. The solar developer will pay land owners approximately \$900 per acre in rent for the use of the land whereas land owners typically receive approximately \$234 per in rent for the use of the land for agriculture purposes.

Table 6. Land Rent Payments

Farm Acres converted to Solar Use		1,700
Rent Paid Per Acre for Solar Use	\$900 per acre	\$1,530,000
Rent Paid Per Acre for Farm Use	\$234 per acre	\$397,800
<u>Increase in Rent Payments</u>		<u>\$1,132,200</u>
% of Land Owners Residing in Noble County		92.0%
<u>Increase in Rent Pmts to Noble County Residents</u>		<u>\$1,041,624</u>

The lease payments represent income to resident land owners in Noble County. According to the solar developer, resident owners represent approximately 92% of the total acres contemplated to be used by the solar project. Ultimately, Noble County residents will receive \$1,041,600 more per year in rent payments as a result of the solar project.

Solar Construction Impact

The project will include an initial development period where \$405.9 million will be spent to install the solar project. The developer anticipates spending \$344.3 million on equipment, \$60.8 million on onsite labor, \$0.6 million on onsite materials, and \$0.3 million on other services.

Approximately 85% of the total investment will be spent on equipment that will largely be purchased outside of Noble County. However, local spending on labor, materials, and other services is estimated to total \$65.7 million.

Table 7. Projected Development Expenditures for Southern Pike Solar

	Total Expenditure	Percent of Total Expenditure Spent within the County	Total Expenditure Spent within the County
Equipment	\$344,250,000	10.0%	\$34,425,000
Onsite labor	\$60,750,000	50.0%	\$30,375,000
Onsite materials	\$642,857	100.0%	\$642,857
Other	\$280,000	100.0%	\$280,000
Total	\$405,922,857		\$65,722,857

This direct activity is expected to support 461 "job years" of employment and \$30.4 million in household earnings for these workers. A "job year" is defined as full employment for one person for 2080 hours in a 12-month span.

Table 8. Direct Construction Employment Supported

	Amount
Total Local Construction Expenditure	\$65,722,857
<i>Labor</i>	<i>\$30,375,000</i>
Total Job Years of Employment Supported (Average Earnings = \$65,900)	460.9

In total, the solar installation is expected to support 566 "job years" of employment and \$35.5 million in household earnings for these workers when including the indirect and induced economic effects. Additionally, the activity will support \$91.0 million in total spending or economic output, and contribute \$50.1 million in value added or gross area product.

Table 9. Economic Impact of Construction

	Total Impact
Jobs:	
Direct	460.9
Indirect & Induced	105.2
	<u>Total Jobs</u> <u>566.1</u>
Workers' Earnings:	
Direct	\$30,375,000
Indirect & Induced	\$5,166,788
	<u>Total Workers' Earnings</u> <u>\$35,541,788</u>
Economic Output:	
Direct	\$65,722,857
Indirect & Induced	\$25,290,155
	<u>Total Economic Output</u> <u>\$91,013,012</u>
Value Added:	
	<u>Total Value Added</u> <u>\$50,113,678</u>

Solar Operations Impact

Southern Pike Solar is projected to create 3 direct jobs, \$180,000 in workers' earning each year, and \$31.0 million in economic output or sales. The total economic impact of the project, including the indirect and induced activity, is summarized below. In short, the operations are expected to support 6 jobs, \$241,000 in workers' earnings and \$37.0 million in spending (or economic output) annually.

Table 10. Total Annual Economic Impact of Southern Pike Solar		Annual Impact
Jobs:		
Direct		3.0
Indirect & Induced		2.7
	<u>Total Jobs</u>	<u>5.7</u>
Workers' Earnings:		
Direct		\$180,000
Indirect & Induced		\$61,002
	<u>Total Workers' Earnings</u>	<u>\$241,002</u>
Economic Output:		
Direct		\$31,000,000
Indirect & Induced		\$5,961,300
	<u>Total Economic Output</u>	<u>\$36,961,300</u>
Value Added:		
	<u>Total Value Added</u>	<u>\$21,557,400</u>
Land Rent:		
	<i>Total Rent Paid</i>	<i>\$1,530,000</i>
	<u>Rent Paid to Noble County Residents</u>	<u>\$1,407,600</u>

The solar project is expected to employ 3.0 individuals directly and this activity is estimated to support another 2.7 spin-off jobs in the form of indirect and induced workers in the county economy. In total, the employment impact is estimated to be 6 jobs. This activity is expected to support .9 additional jobs elsewhere throughout the county for every direct job.

Direct workers are estimated to have earnings of \$180,000 and is expected to support an additional \$61,000 in earnings for workers in related spin-off jobs. Therefore, total workers' earnings supported by the operations is estimated to be \$241,000 per year.

The direct output associated with this activity is projected to be \$31.0 million and the indirect and induced spending or economic output is estimated to be \$6.0 million annually.

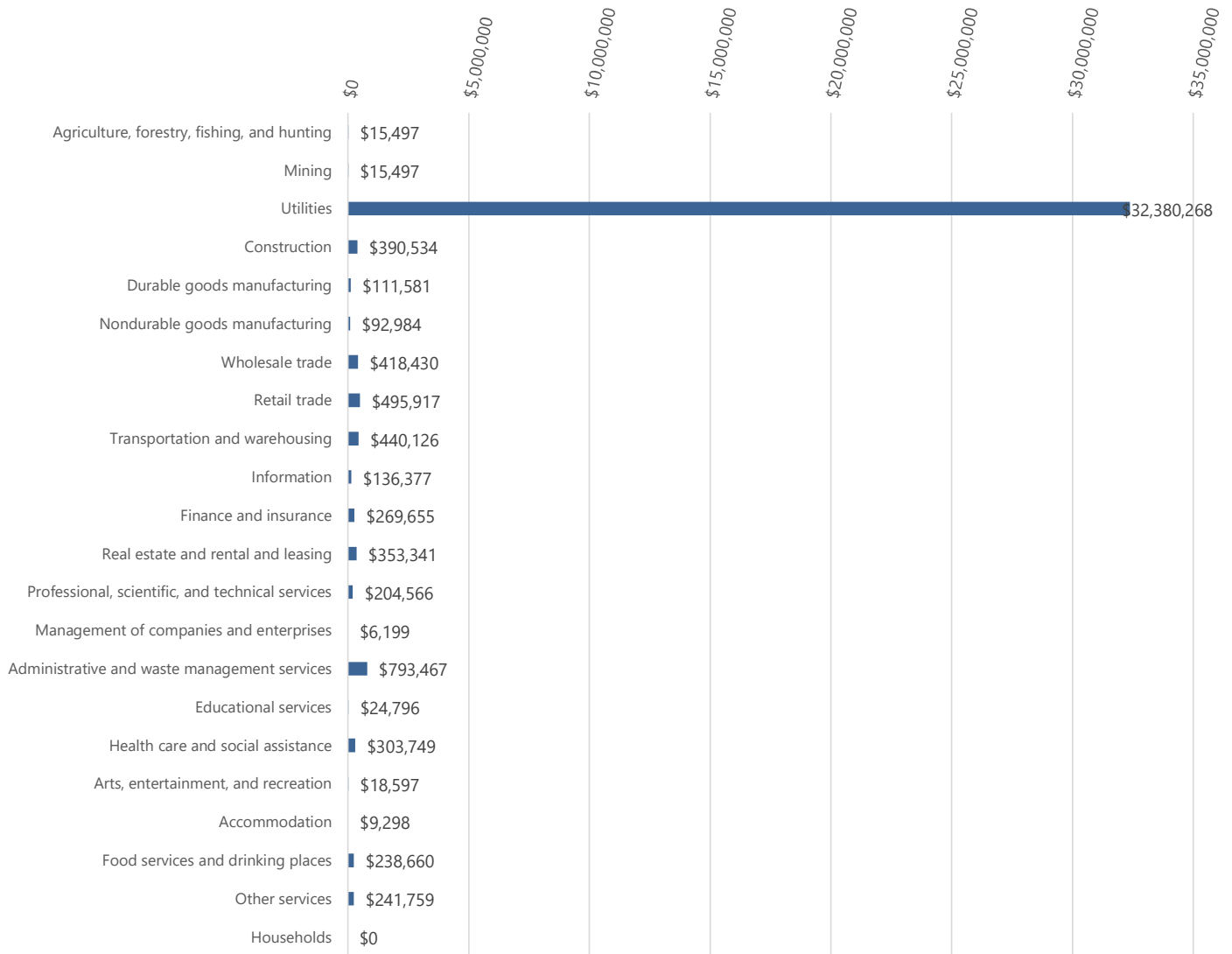
The table below illustrates the overall economic impact of Southern Pike Solar by industry sector.

Table 11. Total Economic Impact by Industry Sector

	Employment	Household Earnings	Economic Output	Value Added
Agriculture, forestry, fishing, and hunting	0.0	\$147	\$15,497	\$6,200
Mining	0.0	\$147	\$15,497	\$6,200
Utilities	3.1	\$188,117	\$32,380,268	\$18,810,800
Construction	0.2	\$4,272	\$390,534	\$167,400
Durable goods manufacturing	0.0	\$589	\$111,581	\$43,400
Nondurable goods manufacturing	0.0	\$442	\$92,984	\$31,000
Wholesale trade	0.1	\$2,946	\$418,430	\$251,100
Retail trade	0.4	\$5,745	\$495,917	\$322,400
Transportation and warehousing	0.2	\$6,776	\$440,126	\$198,400
Information	0.0	\$737	\$136,377	\$77,500
Finance and insurance	0.1	\$2,799	\$269,655	\$182,900
Real estate and rental and leasing	0.1	\$1,178	\$353,341	\$260,400
Professional, scientific, and technical services	0.1	\$3,094	\$204,566	\$139,500
Management of companies and enterprises	0.0	\$147	\$6,199	\$3,100
Administrative and waste management services	0.8	\$13,995	\$793,467	\$582,800
Educational services	0.0	\$295	\$24,796	\$15,500
Health care and social assistance	0.1	\$3,388	\$303,749	\$182,900
Arts, entertainment, and recreation	0.0	\$295	\$18,597	\$12,400
Accommodation	0.0	\$147	\$9,298	\$6,200
Food services and drinking places	0.2	\$2,210	\$238,660	\$124,000
Other services	0.2	\$3,241	\$241,759	\$127,100
Households	0.0	\$295	\$0	\$6,200
Total	5.7	\$241,002	\$36,961,300	\$21,557,400

The following chart presents a graphical illustration of the total economic output by sector. In total, the company supports \$37.0 million in output. Not surprisingly, the "Utilities" sector accounts for approximately 88% of this activity.

Total Economic Output Impact by Industry Sector



Property Taxes & EDA Payments for Solar Use

The Southern Pike Solar project is expected to generate additional taxes for the county and other local taxing jurisdictions. The following table summarizes property tax projections provided by the Client's property tax consultants.

Table 12. Property Taxes & EDA Payments Supported by Solar Use (2029-2070)

Real Property Tax	\$12,239,047
Personal Property Tax, before Abatement	\$64,582,222
Personal Property Tax Abatement	(\$16,939,599)
EDA Payments	\$5,081,880
Total Revenue for Local Jurisdictions	\$64,963,549

Real Property

The real property associated with the project "inside the fence" during operations is expected to be assessed at a value of \$13,000 per acre. The state-mandated assessment rate for agricultural land is \$2,280 per acre. The table below illustrates the projected value of real property over time.

Table 13. Real Property Value for Solar Use

Year	Acres of Land "Inside the Fence"	Assessment Rate Per Acre	Real Property Value
2029	1,700	\$2,280	\$3,876,000
2030	1,700	\$2,280	\$3,876,000
2031	1,700	\$13,000	\$22,100,000
2032	1,700	\$13,000	\$22,100,000
2033	1,700	\$13,000	\$22,100,000
2034	1,700	\$13,000	\$22,100,000
2035	1,700	\$13,000	\$22,100,000
2036	1,700	\$13,000	\$22,100,000
2037	1,700	\$13,000	\$22,100,000
2038	1,700	\$13,000	\$22,100,000
2039	1,700	\$13,000	\$22,100,000
2040	1,700	\$13,000	\$22,100,000
2041	1,700	\$13,000	\$22,100,000
2042	1,700	\$13,000	\$22,100,000
...
2069	1,700	\$13,000	\$22,100,000
2070	1,700	\$13,000	\$22,100,000

The table below shows the projected real property taxes to be paid to local taxing jurisdictions over the next 42 years.

Table 14. Real Property Value for Solar Use

Year	Weighted Average Tax Rate	Real Property Value	Real Property Taxes
2029	1.3725%	\$3,876,000	\$53,197
2030	1.3725%	\$3,876,000	\$53,197
2031	1.3725%	\$22,100,000	\$303,316
2032	1.3725%	\$22,100,000	\$303,316
2033	1.3725%	\$22,100,000	\$303,316
2034	1.3725%	\$22,100,000	\$303,316
2035	1.3725%	\$22,100,000	\$303,316
2036	1.3725%	\$22,100,000	\$303,316
2037	1.3725%	\$22,100,000	\$303,316
2038	1.3725%	\$22,100,000	\$303,316
2039	1.3725%	\$22,100,000	\$303,316
2040	1.3725%	\$22,100,000	\$303,316
2041	1.3725%	\$22,100,000	\$303,316
2042	1.3725%	\$22,100,000	\$303,316
...
2069	1.3725%	\$22,100,000	\$303,316
2070	1.3725%	\$22,100,000	\$303,316
Total (2029-2070)			\$12,239,047

Personal Property

The projected value of personal property on the tax rolls is shown in the table below.

Table 15. Personal Property Value for Solar Use

Year	Personal Property Value
2029	\$0
2030	\$0
2031	\$123,424,000
2032	\$185,136,000
2033	\$115,710,000
2034	\$115,710,000
2035	\$115,710,000
2036	\$115,710,000
2037	\$115,710,000
2038	\$115,710,000
2039	\$115,710,000
2040	\$115,710,000
2041	\$115,710,000
2042	\$115,710,000
...	...
2069	\$115,710,000
2070	\$115,710,000

The table below shows the property tax rate based on the geographic distribution of the personal property, the personal property tax liability before the abatement, the proposed abatement and the personal property taxes to be collected after the abatement.

Table 16. Personal Property Taxes for Solar Use

Year	Weighted Average Tax Rate	Personal Property Value	Personal Property Taxes Before Abatement	Abatement Percentage*	Personal Property Taxes Abated	Personal Property Taxes After Abatement
2029	1.3725%	\$0	\$0	0.0%	\$0	\$0
2030	1.3725%	\$0	\$0	0.0%	\$0	\$0
2031	1.3725%	\$123,424,000	\$1,693,960	100.0%	(\$1,693,960)	\$0
2032	1.3725%	\$185,136,000	\$2,540,940	100.0%	(\$2,540,940)	\$0
2033	1.3725%	\$115,710,000	\$1,588,087	100.0%	(\$1,588,087)	\$0
2034	1.3725%	\$115,710,000	\$1,588,087	100.0%	(\$1,588,087)	\$0
2035	1.3725%	\$115,710,000	\$1,588,087	100.0%	(\$1,588,087)	\$0
2036	1.3725%	\$115,710,000	\$1,588,087	100.0%	(\$1,588,087)	\$0
2037	1.3725%	\$115,710,000	\$1,588,087	100.0%	(\$1,588,087)	\$0
2038	1.3725%	\$115,710,000	\$1,588,087	100.0%	(\$1,588,087)	\$0
2039	1.3725%	\$115,710,000	\$1,588,087	100.0%	(\$1,588,087)	\$0
2040	1.3725%	\$115,710,000	\$1,588,087	100.0%	(\$1,588,087)	\$0
2041	1.3725%	\$115,710,000	\$1,588,087	0.0%	\$0	\$1,588,087
2042	1.3725%	\$115,710,000	\$1,588,087	0.0%	\$0	\$1,588,087
...
2069	1.3725%	\$115,710,000	\$1,588,087	0.0%	\$0	\$1,588,087
2070	1.3725%	\$115,710,000	\$1,588,087	0.0%	\$0	\$1,588,087
Total (2029-2070)			\$64,582,222		(\$16,939,599)	\$47,642,622

* 100% Abatement is modeled for 2031 through 2040, no abatement is modeled beyond year 2040

EDA Payments

Southern Pike Solar is expected to make the following EDA payment as a part of the abatement agreement.

Table 17. EDA Payments

Year	EDA Payments
2029	\$0
2030	\$1,016,376
2031	\$1,016,376
2032	\$1,016,376
2033	\$1,016,376
2034	\$1,016,376
2035	\$0
2036	\$0
2037	\$0
2038	\$0
2039	\$0
2040	\$0
2041	\$0
2042	\$0
...	...
2069	\$0
2070	\$0
<u>Total (2029-2070)</u>	<u>\$5,081,880</u>

Impact of Loss of Farmland

The Southern Pike Solar project will convert 1,700 acres from farm use to solar use and it is projected to result in a reduction in direct farm output of \$2.1 million per year.

To estimate this reduction in farm output, Impact DataSource relied on data from the USDA Census of Agriculture. The 2022 Census of Agriculture reports \$199.9 million of agriculture products produced in Noble County.

In order to estimate the value of agricultural products in 2024, Impact DataSource applies two years of 5% annual inflation - consistent with the 5% annual increase reported in 2022 Indiana Crop Values Summary from the USDA. After applying the 10.3% increase to the market value of agricultural products in the county, the total market value of agricultural products in Noble County in 2024 is estimated to be \$220.4 million.

Table 18. Agricultural Income in Noble County in 2024

	Amount
Market Value of Ag Products Sold (2022) ¹	\$199,872,000
Total Price Change 2022 to 2024 ²	10.3%
<u>Value of Agricultural Products Sold in 2024</u>	<u>\$220,358,880</u>

¹ 2022 Census of Agriculture - USDA, National Agricultural Statistics Services

² 2022 Indiana Crop Values Summary - USDA

Noble County contains 174,349 farm acres of land resulting in a metric of \$1,264 of agricultural income or sales per acre. The Southern Pike Solar project will convert 1,700 acres of farmland to solar use. The reduction in direct farm revenue is obtained by applying the per-acre metric to the number of total farm acres converted to solar use.

Table 19. Estimate Reduction in Agricultural Sales or Farm Output in Noble County

	Amount
Value of Agricultural Products Sold in 2024	\$220,358,880
Total Farm Acres in the county ¹	174,349
Agricultural Income or Sales per Acre	\$1,264
Farm Acres converted to Solar Use	1,700
Total Reduction in Farm Revenue	\$2,148,622

¹ 2022 Census of Agriculture - USDA, National Agricultural Statistics Services

The total economic impact associated with the loss in farmland, including the indirect and induced activity, is summarized below. In short, the economic impact of the loss of farmland includes 9 jobs, \$466,000 in workers' earnings and \$3.1 million in spending or economic output annually.

Table 20. Economic Impact of the Loss of Farmland

	Annual Impact
Jobs:	
Direct	5.8
Indirect & Induced	2.8
	<u>Total Jobs</u> <u>8.7</u>
Workers' Earnings:	
Direct	\$314,404
Indirect & Induced	\$151,417
	<u>Total Workers' Earnings</u> <u>\$465,821</u>
Economic Output:	
Direct	\$2,148,622
Indirect & Induced	\$918,966
	<u>Total Economic Output</u> <u>\$3,067,588</u>
Value Added:	
	<u>Total Value Added</u> <u>\$1,259,952</u>
Land Rent:	
	<i>Total Rent Paid</i> <i>\$397,800</i>
	<u>Rent Paid to Noble County Residents</u> <u>\$365,976</u>

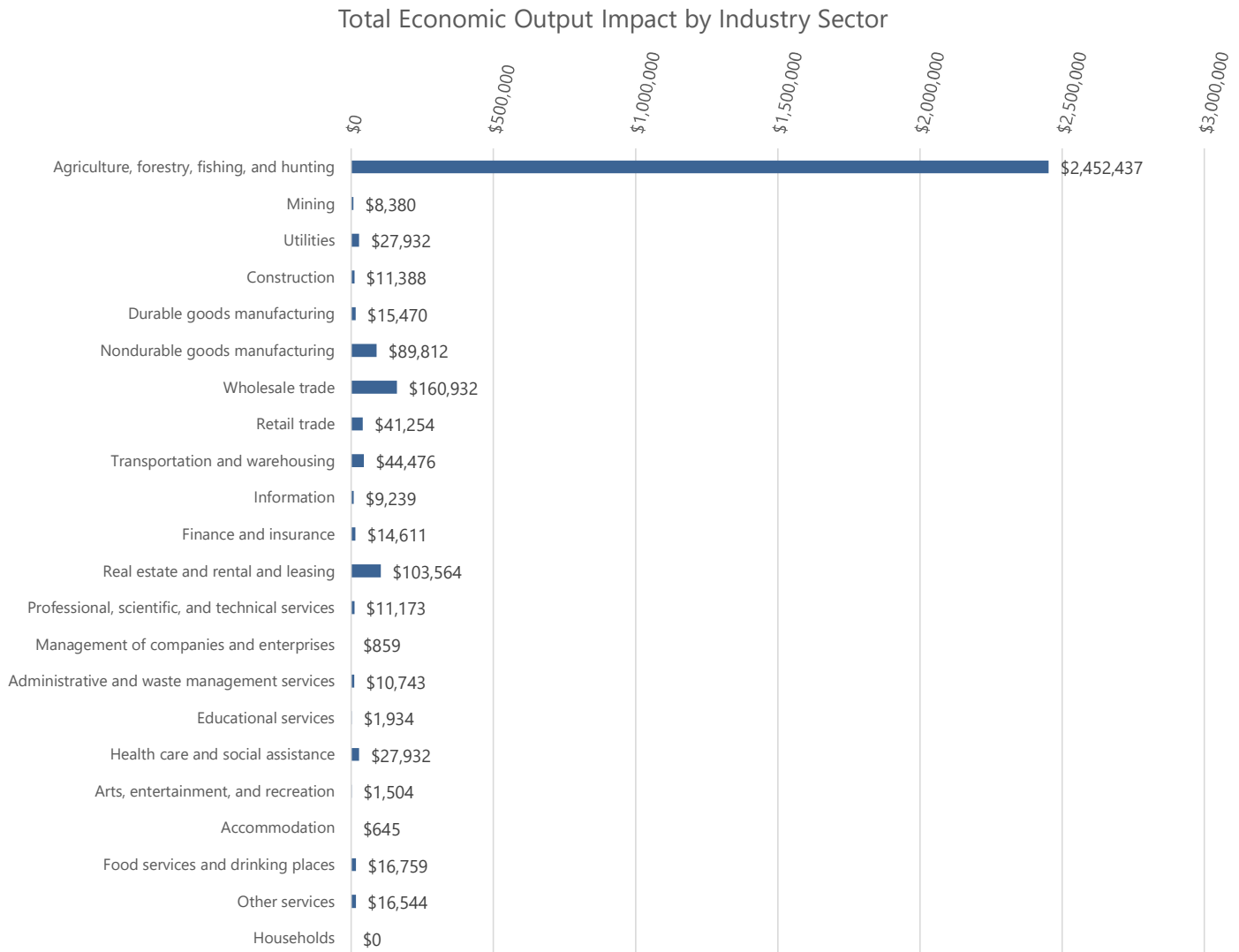
The total economic impact includes the reduction in direct farm revenues as well as the reduction in indirect supplier revenues and the reduction in worker spending elsewhere throughout the county.

The table below illustrates the economic impact of the loss of farmland by industry sector.

Table 21. Total Economic Impact by Industry Sector

	Employment	Household Earnings	Economic Output	Value Added
Agriculture, forestry, fishing, and hunting	6.9	\$365,864	\$2,452,437	\$908,068
Mining	0.0	\$1,505	\$8,380	\$4,511
Utilities	0.0	\$3,439	\$27,932	\$16,327
Construction	0.1	\$3,869	\$11,388	\$5,800
Durable goods manufacturing	0.0	\$1,720	\$15,470	\$5,156
Nondurable goods manufacturing	0.1	\$7,094	\$89,812	\$33,298
Wholesale trade	0.3	\$24,291	\$160,932	\$96,886
Retail trade	0.3	\$9,888	\$41,254	\$26,853
Transportation and warehousing	0.2	\$13,972	\$44,476	\$19,549
Information	0.0	\$1,075	\$9,239	\$4,941
Finance and insurance	0.0	\$3,224	\$14,611	\$9,237
Real estate and rental and leasing	0.2	\$7,524	\$103,564	\$76,263
Professional, scientific, and technical services	0.0	\$3,654	\$11,173	\$7,519
Management of companies and enterprises	0.0	\$430	\$859	\$644
Administrative and waste management services	0.1	\$3,439	\$10,743	\$6,660
Educational services	0.0	\$430	\$1,934	\$1,289
Health care and social assistance	0.1	\$6,449	\$27,932	\$16,971
Arts, entertainment, and recreation	0.0	\$430	\$1,504	\$1,074
Accommodation	0.0	\$0	\$645	\$430
Food services and drinking places	0.1	\$3,009	\$16,759	\$8,808
Other services	0.1	\$4,084	\$16,544	\$9,237
Households	0.0	\$430	\$0	\$430
Total	8.7	\$465,821	\$3,067,588	\$1,259,952

The following chart presents a graphical illustration of the total economic output by sector. In total, the farmland supports \$3.1 million of output. In this case, 80% of the output is within the "Agriculture, forestry, fishing, and hunting" sector.



Property Taxes for Farm Use

If the Southern Pike Solar project did not go forward, the property would continue to generate real property taxes based on the agricultural assessment value. This section summarizes the property taxes that would be generated for the county and other local taxing jurisdictions.

Table 22. Property Taxes Supported by Farm Use (2029-2070)

Real Property Tax	\$2,234,275
Personal Property Tax	\$0
EDA Payments	\$0
Total Revenue for Local Jurisdictions	\$2,234,275

Real Property

The real property in question would remain at the state-mandated assessment rate for agricultural land, \$2,280 per acre. The table below illustrates the projected value of real property over the same time period as projected for the Southern Pike Solar project.

Table 23. Real Property Value for Farm Use

Year	Acres of Land "Inside the Fence"	Assessment Rate Per Acre	Real Property Value
2029	1,700	\$2,280	\$3,876,000
2030	1,700	\$2,280	\$3,876,000
2031	1,700	\$2,280	\$3,876,000
2032	1,700	\$2,280	\$3,876,000
2033	1,700	\$2,280	\$3,876,000
2034	1,700	\$2,280	\$3,876,000
2035	1,700	\$2,280	\$3,876,000
2036	1,700	\$2,280	\$3,876,000
2037	1,700	\$2,280	\$3,876,000
2038	1,700	\$2,280	\$3,876,000
2039	1,700	\$2,280	\$3,876,000
2040	1,700	\$2,280	\$3,876,000
2041	1,700	\$2,280	\$3,876,000
2042	1,700	\$2,280	\$3,876,000
...
2069	1,700	\$2,280	\$3,876,000
2070	1,700	\$2,280	\$3,876,000

As noted above, the real property is located across four different taxing districts, each with a slightly different property tax rate. The table below shows the projected real property taxes to be paid to local taxing jurisdictions over the next 42 years.

Table 24. Real Property Value for Farm Use

Year	Weighted Average Tax Rate	Real Property Value	Real Property Taxes
2029	1.3725%	\$3,876,000	\$53,197
2030	1.3725%	\$3,876,000	\$53,197
2031	1.3725%	\$3,876,000	\$53,197
2032	1.3725%	\$3,876,000	\$53,197
2033	1.3725%	\$3,876,000	\$53,197
2034	1.3725%	\$3,876,000	\$53,197
2035	1.3725%	\$3,876,000	\$53,197
2036	1.3725%	\$3,876,000	\$53,197
2037	1.3725%	\$3,876,000	\$53,197
2038	1.3725%	\$3,876,000	\$53,197
2039	1.3725%	\$3,876,000	\$53,197
2040	1.3725%	\$3,876,000	\$53,197
2041	1.3725%	\$3,876,000	\$53,197
2042	1.3725%	\$3,876,000	\$53,197
...
2069	1.3725%	\$3,876,000	\$53,197
2070	1.3725%	\$3,876,000	\$53,197
Total (2029-2070)			\$2,234,275

Overview of Methodology

This report presents the results of an analysis undertaken by Impact DataSource, an Austin, TX based economic consulting firm.

Economic impacts can be categorized into two main types of impacts. First, the direct economic impacts are the jobs and payroll directly created by the company. Second, this economic impact analysis calculates the indirect and induced impacts that result from the facility. Indirect jobs and salaries are created in new or existing area firms, such as maintenance companies and service firms, that may supply goods and services for the facility. In addition, induced jobs and salaries are created in new or existing local businesses, such as retail stores, gas stations, banks, restaurants, and service companies that may supply goods and services to workers and their families.

The RIMS II multipliers used in this analysis are shown below along with additional information about the RIMS II model.

RIMS II Industry	Final-demand Output	Final-demand Earnings	Final-demand Employment	Final-demand Value-added	Direct-effect Earnings	Direct-effect Employment
2332 Nonresidential structures	1.3848	0.4950	8.2066	0.7625	1.1701	1.2282
6 Utilities*	1.1897	0.1640	1.8817	0.6961	1.3388	1.8553
1 Farms	1.4277	0.2168	4.1998	0.5864	1.4816	1.4862

Regional Input-Output Modeling System (RIMS II)

The economic impact estimates in this report are based on the Regional Input-Output Modeling System (RIMS II), a widely used regional input-output model developed by the U. S. Department of Commerce, Bureau of Economic Analysis. The RIMS II model is a standard tool used to estimate regional economic impacts. The economic impacts estimated using the RIMS II model are generally recognized as reasonable and plausible assuming the data input into the model is accurate or based on reasonable assumptions. The RIMS II model is described in basic detail below.

Generally speaking, input-output modeling attempts to estimate the changes that occur in all industries based on a change in the demand for the output of an industry. An input-output model allows an analyst to identify the subsequent changes occurring in various industries within a regional economy in order to estimate the total impact on the economy. Total economic impact is the sum of three components: (1) direct, (2) indirect, and (3) induced impacts.

If the demand for the output of an industry, measured by industry sales or revenue, increases by \$1.0 million, total regional output increases by \$1.0 million. This initial change in output is called the change in direct economic output and also referred to as the direct expenditure effect. The change in total economic output in the region resulting from the initial change does not stop with the change in direct economic output. Businesses in a variety of industries within the region will be called upon to increase their production to meet the needs of the industry where the initial increase in demand occurs. Further, other suppliers must also increase production to meet the needs of the group of initial supplier firms to the industry. This increase in expenditures by regional suppliers is considered the indirect economic impact of the initial \$1.0 million in sales, and is classified as indirect expenditures of the total economic impact or the change in indirect economic output.

The total economic impact of the \$1.0 million in sales includes one more component, the induced impact. All economic activity, whether direct or indirect, that results from the initial increase in demand of \$1.0 million, requires workers, and these workers must be paid for their labor. This means that part of the direct and indirect expenditures is actually in the form of wages and salaries paid to workers in the various affected industries. These wages and salaries will in turn be spent in part on goods and services produced locally in the region. This spending is another part of the regional economic impacts referred to as induced impacts and is classified as induced expenditures or the change in induced economic output.

Based on the initial direct impact, the RIMS II model can be used to estimate the direct, indirect and induced impacts on economic output, value added, earnings and employment in a given region. Economic output is gross output and is the sum of the intermediate inputs and final use. This is a duplicative total in that goods and services will be counted multiple times if they are used in the production of other goods and services. Value added is defined as the value of gross output less intermediate inputs. Workers' earnings or earnings consist of wages and salaries, employer provided benefits and proprietors' income. Employment consists of a count of jobs that include both full-time and part-time workers.

The RIMS II model is based on regional multipliers, which are summary measures of economic impacts generated from changes in direct expenditures, earnings, or employment. Multipliers show the overall impact to a regional economy resulting from a change in demand in a particular industry. Multipliers can vary widely by region. Multipliers are higher for regions with a diverse industry mix. Industries that buy most of their materials from outside the state or region tend to have lower multipliers. Multipliers tend to be higher for industries located in larger areas because more of the spending by the industry stays within the area.

The RIMS II model generates six types of multipliers for approximately 400 industrial sectors for any region in the United States. The multipliers include four "final-demand" multipliers and two "direct-effect" multipliers. Final demand multipliers indicate the impact of changes in final demand for the output of a particular regional industry on total regional output, earnings, employment and value added. Direct-effect multipliers indicate the impact of changes in regional earnings or employment within a particular industry on total employment or earnings within a region.

Final-demand output multipliers indicate the total regional output (direct, indirect and induced expenditures) that results from an increase in direct expenditures for a good produced by a particular regional industry. For example, if an industry in a particular region is said to have a final demand output multiplier of 2, this tells us that a \$1 increase in final demand for the good produced by that industry results in a \$2 increase in total output or expenditures within the regional economy. Final-demand earnings multipliers indicate the impact of an increase in final demand for the good of a particular regional industry on the total earned income of households within the region. Final-demand employment multipliers indicate the increase in total regional employment that results from a \$1.0 million increase in final demand for the good produced by a particular regional industry. Final-demand value-added multipliers indicate the increase in total regional value added that results from a \$1.0 million increase in final demand for the good produced by a particular regional industry. Direct-effect earnings multipliers indicate the impact of a \$1 change in earnings within a particular regional industry on total earnings in all industries within a region. Direct-effect employment multipliers indicate the impact of a change in employment in a particular regional industry on total employment in all industries within a region.

Theoretically, changes in final demand drive the total change in economic output, earnings, and employment. However, these multipliers relationships can be used to estimate impacts in other ways if only limited information is known about a project. For example, the multiplier relationships can be used to estimate the increase in direct economic output based on a given level of employment in a specific industry.

Additional Notes on RIMS II

RIMS II multipliers are based on the average relationships between the inputs and outputs produced in a local economy. The multipliers are a useful tool for studying the potential impacts of changes in economic activity. However, the relative simplicity of input-output multipliers comes at the cost of several limiting assumptions.

- Firms have no supply constraints—Input-output based multipliers assume that industries can increase their demand for inputs and labor as needed to meet additional demand.
- Firms have fixed patterns of purchases—Input-output based multipliers assume that an industry must double its inputs to double its output.
- Firms use local inputs when they are available—The method used by RIMS II to develop regional multipliers assumes that firms will purchase inputs from firms in the region before using imports.

RIMS II, like all input-output models, is a “static equilibrium” model. This means that there is no specific time dimension associated with the results using the model. For the RIMS II model, it is customary to assume that the impacts occur in one year because the model is based on annual data.

The fiscal impacts calculated in this report are described in the text of the report.

About Impact DataSource

Established in 1993, Impact DataSource is an Austin, Texas-based economic consulting firm. Impact DataSource provides high-quality economic research, specializing in economic and fiscal impact analyses. The company is highly focused on supporting economic development professionals and organizations through its consulting services and software. Impact DataSource has conducted thousands of economic impact analyses of new businesses, retention and expansion projects, developments, and activities in all industry groups throughout the U.S.