

BIG PINE SOLAR

ECONOMIC & FISCAL CONTRIBUTION TO SUSSEX COUNTY AND TO THE STATE OF VIRGINIA



Prepared for



JANUARY 2026



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About Mangum Economics, LLC

Mangum Economics was founded in 2003 and since then, we have become known as a leader in industry analysis, economic impact assessment, policy and program evaluation, and economic and workforce strategy development. The Mangum Team specializes in producing objective and actionable quantitative economic research that our clients use for strategic decision making in a variety of industries and environments. We know that our clients are unique, and that one size does not fit all. As a result, we have a well-earned reputation for tailoring our analyses to meet the specific needs of specific clients, with a specific audience.

Most of our research falls into four general categories:

- **Economic Development and Special Projects:** The Mangum Team has performed hundreds of analyses of proposed economic development projects and existing entities including museums and tourist attractions, hospital systems, industrial development and mixed-use projects, and economic development regions. The Mangum Team has also authored multiple economic development plans and assessed the impacts of international trade and an overseas trade office.
- **Energy:** The Mangum Team has produced analyses of the economic and fiscal impact of over 50 GW of proposed solar, wind, battery energy storage, and hydro project spanning more than thirty states ranging from 1 MW to over 800 MW in capacity, including small-scale distributed facilities. Among those projects was Dominion's 2.6 GW Coastal Virginia Offshore Wind project off of Virginia Beach. In addition, the Mangum Team has also performed economic and fiscal impact analyses for the natural gas, nuclear, oil, and pipeline industries.
- **Advanced Applied Technology:** The Mangum Team specializes in analyzing how advanced technology developments (like data centers, fiber networks, and advanced manufacturing plants) contribute to the state and local economies. We have worked with local governments, trade associations, developers, and operating firms across the country to show how investments in advanced critical infrastructure transform local economies across the country.
- **Policy Analysis:** The Mangum Team also has extensive experience in identifying and quantifying the intended and unintended economic consequences of proposed legislative and regulatory initiatives.

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Table of Contents

Executive Summary	1
Introduction	4
The Project	4
Electricity Production in Virginia	4
Overall Market	4
Sources of Production.....	5
Impact on the Environment	7
Virginia Solar Industry Trends	8
Local Economic Profile.....	9
Total Employment	9
Employment and Wages by Industry Supersector	10
Unemployment	12
Economic Impact.....	14
Method	14
Construction Phase.....	15
Economic Impact Assumptions	15
Economic Impact on Sussex County	15
Economic Impact on Virginia.....	16
Ongoing Operations Phase	17
Economic Impact Assumptions	17
Economic Impact on Sussex County	17
Economic Impact on Virginia.....	17
Fiscal Impact	18
Fiscal Impact Assumptions.....	18
Taxation of Land	19
Taxation of Capital Investment	19
Total Fiscal Impact.....	21
Relative Comparisons	21
Current Use.....	23
Economic Impact Assumptions	23



Economic Impact 23

Fiscal Impact Assumptions..... 24

Fiscal Impact..... 24

Executive Summary

This report assesses the economic and fiscal contribution that the proposed Big Pine project would make to Sussex County and to the state of Virginia.

Big Pine is a proposed 149-megawatt (MW) alternating current (AC) solar photovoltaic power generating facility that would be located off of Newville Road in Sussex County, Virginia. The actively used, fenced-in solar site would be approximately 1,204 acres of timber land and agricultural land.

The primary findings from the assessment are as follows:

Economic Contribution – Construction Phase^{1,2,3}

- Big Pine would support approximately 285 full-time equivalent local and non-local construction jobs during a representative 12-month construction period.
- Big Pine would provide an estimated pulse of economic activity to Sussex County during its construction phase supporting approximately:
 - 57 direct local construction jobs and 28 indirect and induced local jobs,
 - \$7.9 million in associated local wages and benefits,
 - \$28.9 million in local economic output, and
 - \$0.8 million in state and local tax revenue (in 2026 dollars).
- Big Pine would provide an estimated pulse of economic activity to the state of Virginia (including Sussex County) during its construction phase supporting approximately:
 - 228 direct statewide construction jobs and 270 indirect and induced statewide jobs,
 - \$46.7 million in associated wages and benefits,
 - \$170.0 million in economic output, and
 - \$6.5 million in state and local tax revenue (in 2026 dollars).

Economic Contribution – Ongoing Operational Phase

- Big Pine would provide an estimated annual economic impact to Sussex County during its ongoing operational phase supporting approximately:
 - 3 direct local operational jobs and 1 indirect and induced local job,
 - \$0.5 million in associated local wages and benefits, and
 - \$0.8 million in local economic output (in 2026 dollars).

¹ Construction sector jobs are not necessarily new jobs, but the investments made can also support a job during the construction of the project. Please note it is not possible to know with certainty what proportion of jobs would go to county or state construction contractors or be filled by county or state residents.

² One construction job equals one person working full-time for one year. Since construction schedules and daily on-site employment vary, the analysis converts these variations into a consistent, full-time job.

³ Please note that construction of the project is expected to take approximately 18 months, but the IMPLAN model and analysis are based on a representative 12-month period.



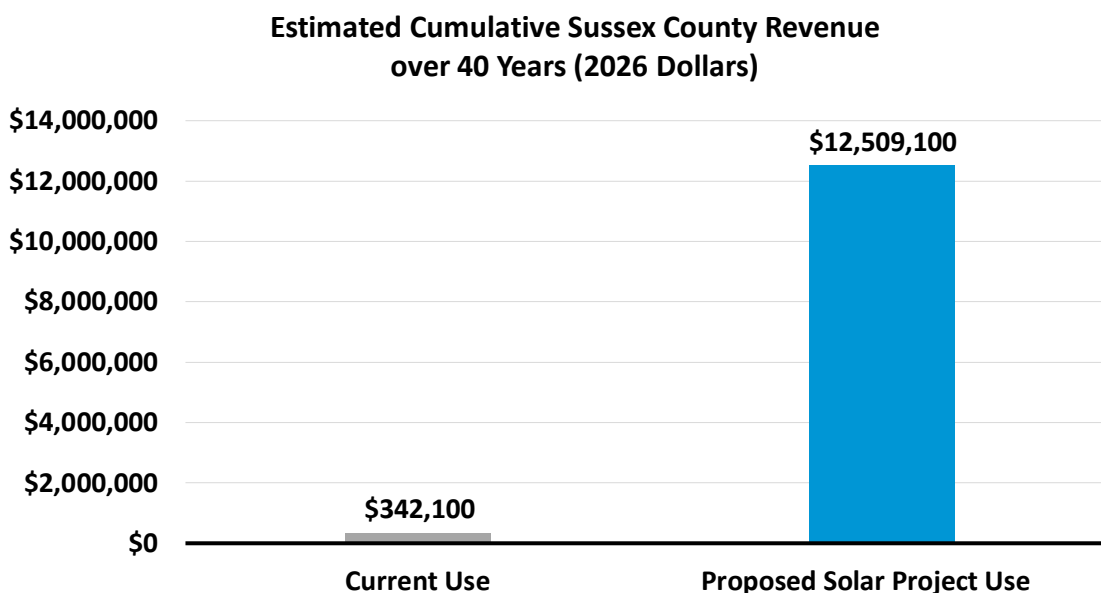
- Big Pine would provide an estimated annual economic impact to the state of Virginia (including Sussex County) during its ongoing operational phase supporting approximately:
 - 3 direct operational jobs and 6 indirect and induced statewide jobs,
 - \$0.8 million in associated wages and benefits, and
 - \$2.0 million in economic output (in 2026 dollars).

Fiscal Contribution

- Big Pine would generate approximately \$12.5 million in cumulative county revenue over the facility’s anticipated 40-year operational life assuming revenues are generated from taxation of the land and the associated capital investments (in 2026 dollars).

Fiscal Contribution – Comparison

- In its current use, the project site would generate approximately \$0.3 million in cumulative county revenue over a 40-year period. The \$12.5 million in cumulative county revenue generated by Big Pine constitutes a 37-fold increase over current revenue (in 2026 dollars).



- To put these numbers into perspective, the estimated Sussex County tax revenue of approximately \$0.3 million generated by Big Pine in its first year of operations⁴ is equivalent to approximately:⁵
 - 1 percent of the county's Total General Fund budget,
 - 2 percent of the county's General Property Tax Revenue budget,
 - 3 percent of the county’s Education budget,

⁴ Please refer to “Fiscal Impact” section for details. Calculations based on total capital investment and current county tax rate and locality ratio.

⁵ Data Source: Sussex County Fiscal Year 2026 Adopted Budget.

- 9 percent of the county's Fire, Rescue, and Emergency Services budget,
- 52 percent of the county's Community Development budget, or
- 123 percent of the county's Parks, Recreation and Cultural budget.

Big Pine would provide a boost to Sussex County's construction sector:

- At 119 jobs, construction is Sussex County's sixth largest major industry, paying average weekly wages (\$1,892 per week) that are 89 percent above the countywide average (\$1,002 per week).⁶
- However, the construction sector was among the industry sectors that posted a job loss in the county between 2023 and 2024 (a loss of 10 jobs).⁷
- Big Pine would directly support approximately 57 construction jobs and \$6.6 million in wages and benefits in Sussex County's construction sector.

The estimates provided in this report are based on the best information available and all reasonable care has been taken in assessing the quality of that information. However, because these estimates attempt to foresee the consequences of circumstances that have not yet occurred, it is not possible to be certain that they will be representative of actual events. These estimates are intended to provide a good indication of likely future outcomes and should not be construed to represent a precise measure of those outcomes.

⁶ Data Source: U.S. Bureau of Labor Statistics.

⁷ Data Source: U.S. Bureau of Labor Statistics.

Introduction

This report assesses the economic and fiscal contribution that the proposed Big Pine project would make to Sussex County and to the state of Virginia. This report was commissioned by RWE Clean Energy (RWE) and produced by Mangum Economics.

The Project

Big Pine is a proposed 149-megawatt (MW) alternating current (AC) solar photovoltaic power generating facility that would be located off of Newville Road in Sussex County, Virginia. The actively used, fenced-in solar site would be approximately 1,204 acres of timber land and agricultural land.

Electricity Production in Virginia

This section provides a backdrop for the proposed Big Pine project by profiling Virginia's electricity production sector and the role that solar energy plays in that sector.

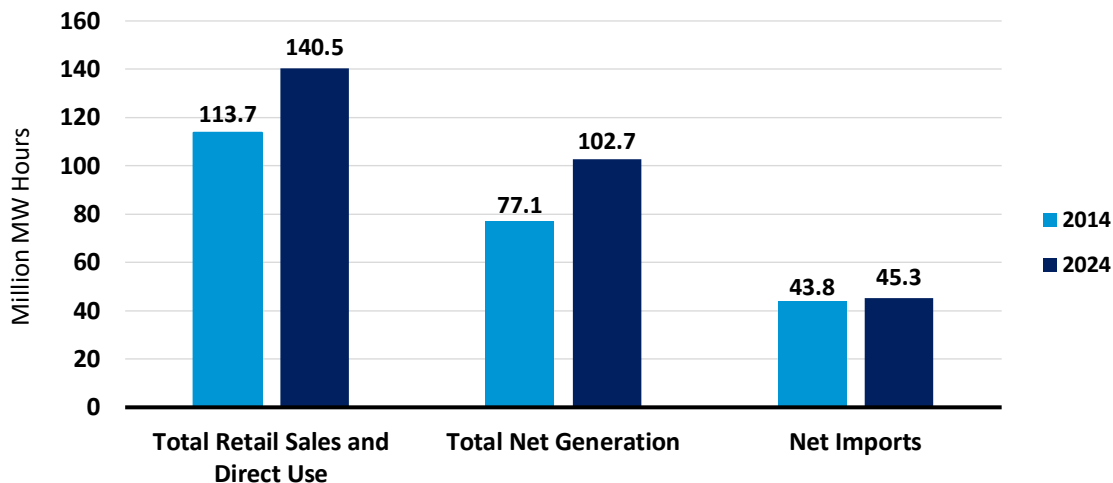
Overall Market

As shown in Figure 1, in 2024, electricity sales and direct use in Virginia totaled 140.5 million megawatt hours. However, only 73 percent of that demand was met by in-state utilities, independent producers, and other sources. As a result, Virginia had to import the remaining electricity it consumed from producers in other states. As with all imports, this means that the jobs, wages, and economic output created by that production went to localities in those states, not to localities in Virginia.

Between 2014 and 2024, the total amount of electricity produced in Virginia increased from 77.1 to 102.7 million megawatt hours, while retail and direct consumption of electricity increased from 113.7 to 140.5 million megawatt hours. As a result, net imports of electricity increased by 1.5 million megawatt hours (or 3 percent) during this time.



Figure 1: Demand and Supply of Electricity in Virginia in 2014 and 2024
(in millions of megawatt-hours)⁸



Sources of Production

Figure 2 provides a comparison of the energy sources that were used to produce electricity in Virginia in 2014 and 2024. As these data show, the most significant change between 2014 and 2024 was a decrease in the use of coal and an increase in the use of cleaner-burning natural gas.

Where coal was the state’s third largest source of electricity in 2014, accounting for 20.8 million megawatt hours (or 27 percent) of production, by 2024 production had fallen to 2.0 million megawatt hours (or 2 percent) of production. In contrast, where natural gas accounted for 20.9 million megawatt hours (or 27 percent) of Virginia’s electricity production in 2014, that proportion had almost tripled to 61.0 million megawatt hours (or 60 percent) of production by 2024, making natural gas the state’s largest source of electricity. In addition, solar, which entered the Virginia electricity production market in 2016, increased its share to 7.0 million megawatt hours in 2024.

⁸ Data Source: U.S. Energy Information Administration. In this chart, “Net Exports” also takes into account losses during transmission. As a result, it does not directly equal the residual of “Total Net Generation” minus “Total Retail Sales and Direct Use.”



Figure 2: Electricity Generation in Virginia by Energy Source in 2014 and 2024
(in millions of megawatt-hours)⁹

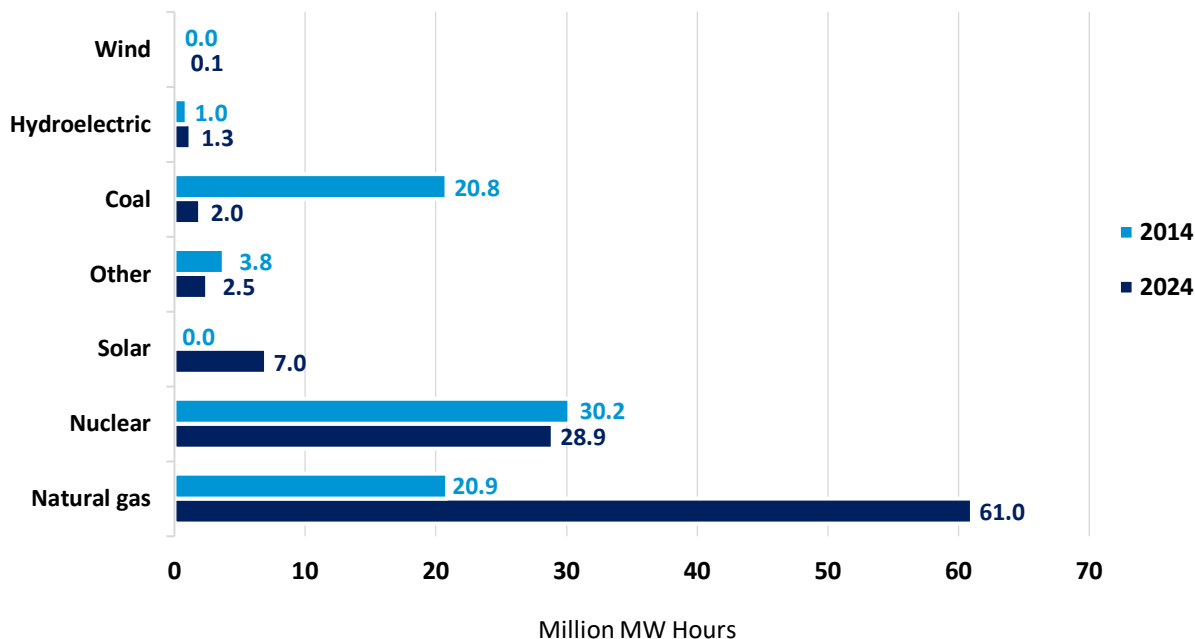


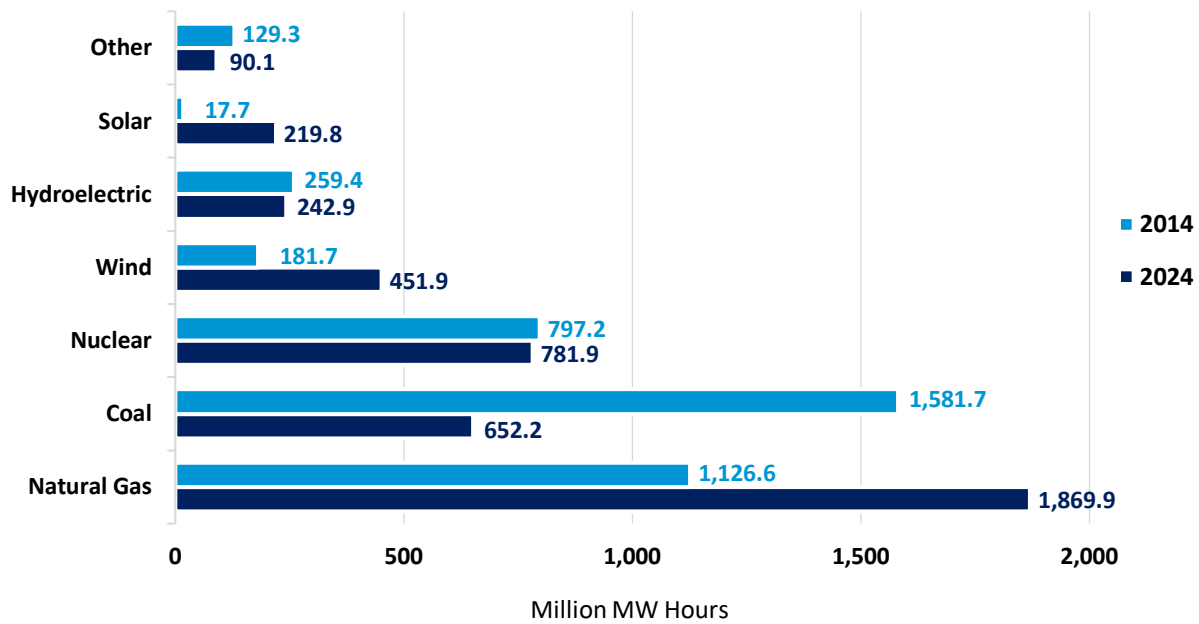
Figure 3 provides similar data for the U.S. as a whole. A quick comparison of Figures 2 and 3 shows that although the degree of reliance on specific energy sources for electricity production is quite different between the U.S. and Virginia, the trend toward lower-emissions energy sources is the same. Nationally, between 2014 and 2024, the amount of electricity produced using coal declined by 929.6 million megawatt hours from 39 to 15 percent of production. In contrast, the amount of electricity produced using natural gas increased by 743.3 million megawatt hours from 28 to 43 percent of production.

Nationwide, as in Virginia, the reliance on renewable energy sources such as solar increased during this time but at a slower pace than in Virginia. Between 2014 and 2024, the amount of electricity produced using solar increased by 202.1 million megawatt hours to 5 percent of total electricity production in the nation as compared to 7 percent of total electricity production in Virginia.

⁹ Data Source: U.S. Energy Information Administration. The “Other” category includes battery, wood, petroleum, other biomass, “other”, other gas, and pumped storage.



Figure 3: Electricity Generation in the United States by Energy Source in 2014 and 2024
(in millions of megawatt-hours)¹⁰



Impact on the Environment

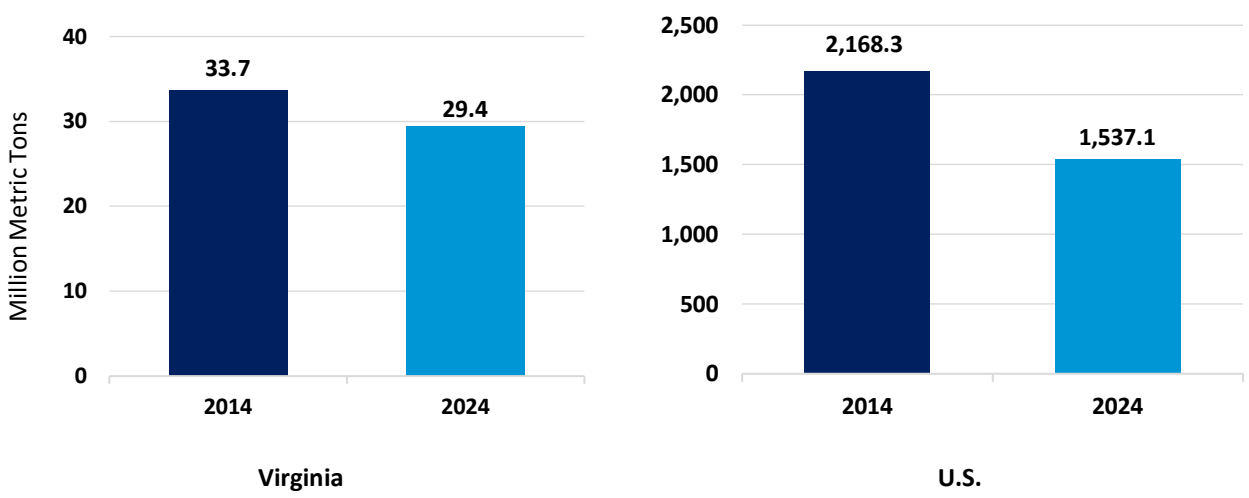
In discussing the impact of these trends on the environment, it is important to realize that electricity production is one of the U.S.’s largest sources of greenhouse gas emissions. Figure 4 depicts carbon dioxide emissions from electricity production in 2014 and 2024 for both Virginia and the U.S.

As these data indicate, between 2014 and 2024, as the share of electricity produced in Virginia by coal fell from 27 to 2 percent, carbon dioxide emissions from electricity production fell from 33.7 to 29.4 million metric tons (a 13 percent decrease). Where at the national level, as the share of electricity produced by coal fell from 39 to 15 percent, carbon dioxide emissions from electricity production fell from 2,168.3 to 1,537.1 million metric tons (a 29 percent decrease).

¹⁰ Data Source: U.S. Energy Information Administration. “Other” includes battery, geothermal, other, other biomass, other gas, petroleum, pumped storage, and wood.



Figure 4: Carbon Dioxide Emissions from Electricity Production (millions of metric tons)¹¹

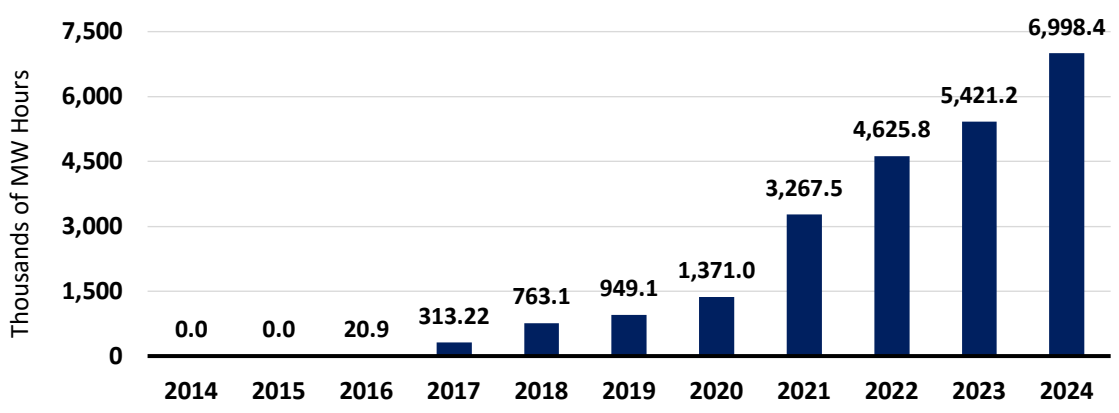


Virginia Solar Industry Trends

Virginia ranks 7th in the nation in terms of proposed solar capacity. With a total of 53 projects in the pipeline totaling a combined 4,274 megawatts of capacity, these proposed projects would add a significant amount of renewable energy to the state’s grid.¹² Total investment into the solar industry in Virginia amounts to \$9.8 billion as of the third quarter of 2025.¹³

Figure 5 depicts the progression of solar energy generation in Virginia from 2014 to 2024 expressed in thousands of megawatt-hours. Solar entered the electricity market in Virginia in 2016 with 20.9 thousand megawatt hours. Generation has continued to grow throughout the period, reaching its peak, so far, in 2024, with solar generation totaling 6,998.4 thousand megawatt-hours.

Figure 5: Solar Generation in Virginia (in thousands of megawatt-hours) – 2014 to 2024¹⁴



¹¹ Data Source: U.S. Energy Information Administration.
¹² Data Source: U.S. Energy Information Administration.
¹³ Data Source: Solar Energy Industries Association. Includes residential, community, commercial, and utility solar.
¹⁴ Data Source: U.S. Energy Information Administration.



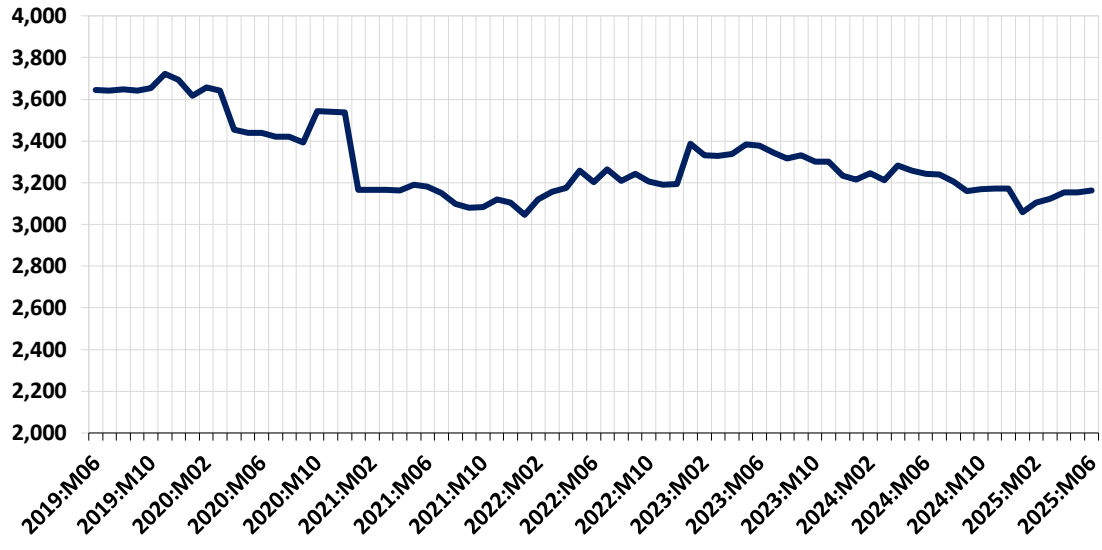
Local Economic Profile

This section provides context for the economic and fiscal impact assessments to follow by profiling the local economy of Sussex County.

Total Employment

Figure 6 depicts the trend in total employment in Sussex County during the six-year period from June 2019 through June 2025. Employment in the county decreased through 2021 as a result of the labor dislocations caused by the COVID-19 pandemic, followed by a gradual increase through 2022. Total employment did not fully recover to pre-pandemic levels before beginning to decline again in 2023. As of June 2025, total employment in the county stood at 3,162 jobs, which represents an overall decrease in employment of 15 percent (or 484 jobs) over the six-year period. To put this number in perspective, over this same period, total statewide employment in Virginia increased by 5.0 percent.¹⁵

Figure 6: Total Employment in Sussex County – June 2019 to June 2025¹⁶



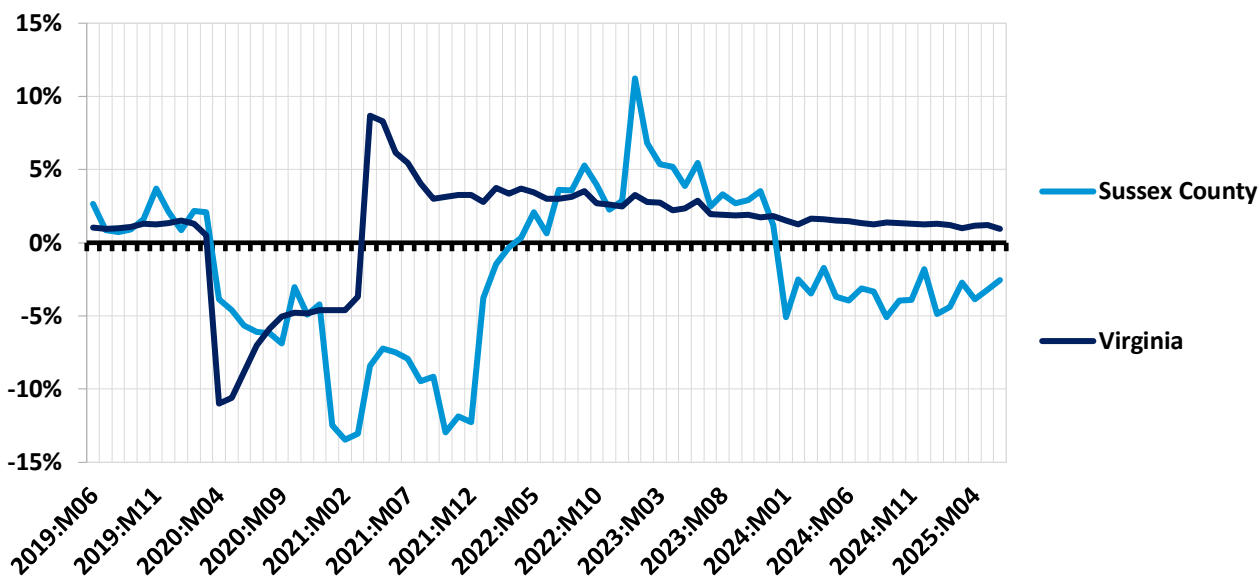
To control for seasonality and provide a point of reference, Figure 7 compares the year-over-year change in total employment in Sussex County to that of the state of Virginia over the same six-year period. Any point above the zero line in this graph indicates an increase in employment, while any point below the zero line indicates a decline in employment. As these data show, year-over-year change in employment in Sussex County generally underperformed the statewide average throughout the period. As of June 2025, the year-over-year change in total employment in Sussex County was minus 2.5 percent as compared to 0.9 percent statewide in Virginia.

¹⁵ Data Source: U.S. Bureau of Labor Statistics. A six-year period is used to show a view of local employment pre and post the COVID-19 pandemic.

¹⁶ Data Source: U.S. Bureau of Labor Statistics.



Figure 7: Year-Over-Year Change in Total Employment – June 2019 to June 2025¹⁷



Employment and Wages by Industry Supersector

To provide a better understanding of the underlying factors motivating the total employment trends depicted in Figures 6 and 7, Figures 8 through 10 provide data on private employment and wages in Sussex County by industry supersector.¹⁸

Figure 8 provides an indication of the distribution of private sector employment across industry supersectors in Sussex County in 2024. As these data indicate, the county’s largest industry sectors that year were Trade, Transportation and Utilities (601 jobs), followed by Education and Health Services (515 jobs), and Professional and Business Services (327 jobs).

Figure 9 provides a similar ranking for average private sector weekly wages by industry supersector in Sussex County in 2024. As these data show, the highest paying industry sectors that year were Construction (\$1,892 per week), Natural Resources and Mining (\$1,401 per week), and Professional and Business Services (\$1,224 per week). To provide a point of reference, the average private sector weekly wage across all industry sectors in Sussex County that year was \$1,002 per week.

¹⁷ Data Source: U.S. Bureau of Labor Statistics. A six-year period is used to show a view of local employment pre and post the COVID-19 pandemic.

¹⁸ A “supersector” is the highest level of aggregation in the coding system that the Bureau of Labor Statistics uses to classify industries.



Figure 8: Private Employment by Industry Supersector in Sussex County – 2024¹⁹

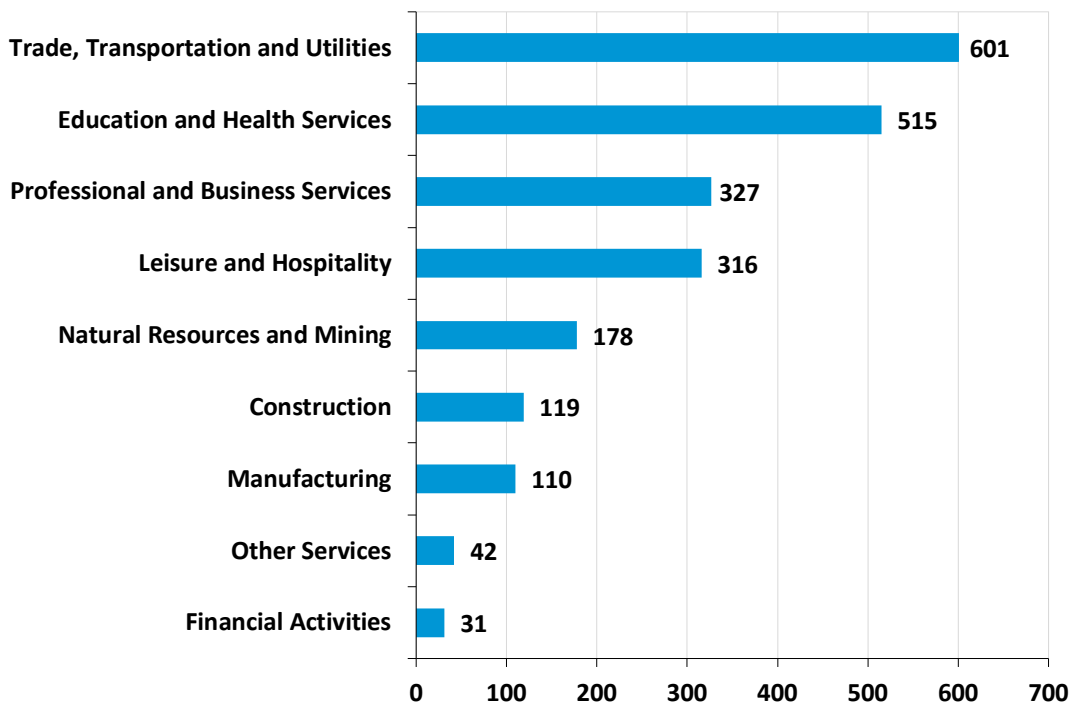
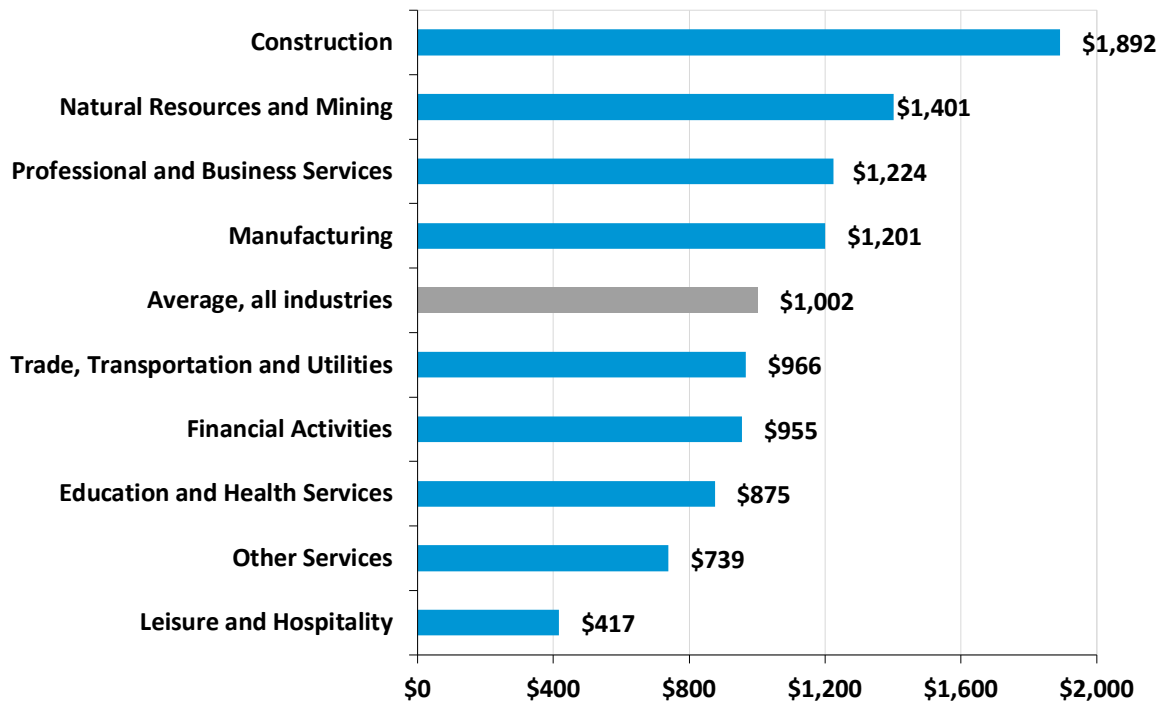


Figure 9: Average Private Weekly Wages by Industry Supersector in Sussex County – 2024²⁰



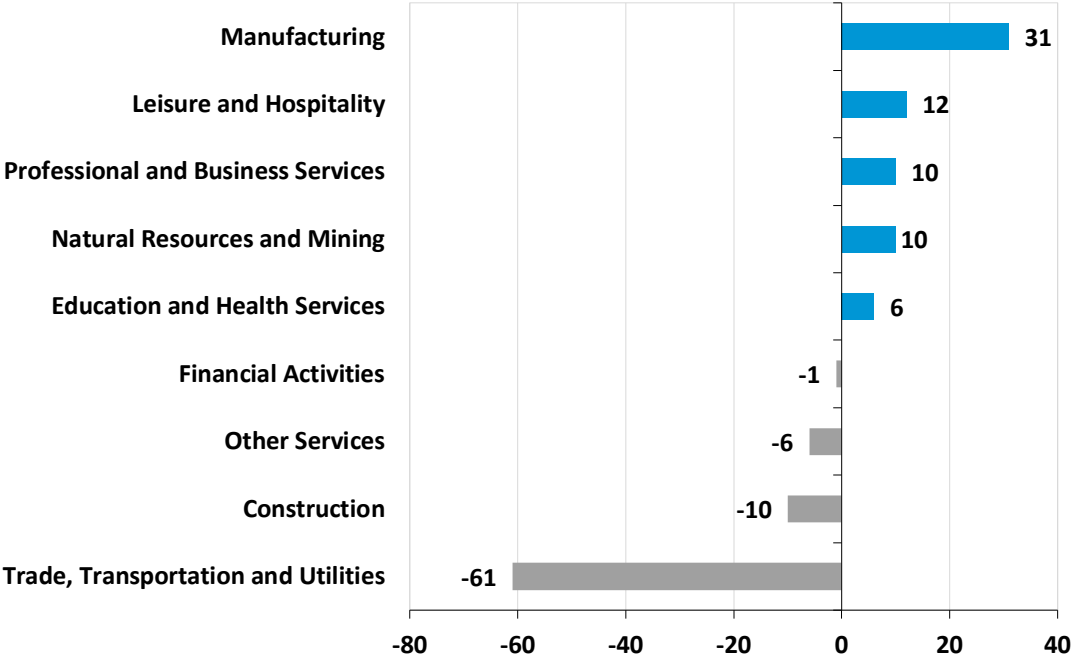
¹⁹ Data Source: U.S. Bureau of Labor Statistics. Data on the Information sector has been suppressed due to data confidentiality.

²⁰ Data Source: U.S. Bureau of Labor Statistics. Data on the Information sector has been suppressed due to data confidentiality.



Figure 10 details the year-over-year change in private sector employment from 2023 to 2024 in Sussex County by industry supersector. Over this period, the largest employment gains occurred in the Manufacturing (up 31 jobs), Leisure and Hospitality (up 12 jobs), and Professional and Business Services (up 10 jobs) sectors. The largest employment losses occurred in the Trade, Transportation and Utilities (down 61 jobs), Construction (down 10 jobs), and Other Services (down 6 jobs) sectors.

Figure 10: Change in Private Employment by Industry Supersector in Sussex County from 2023 to 2024²¹



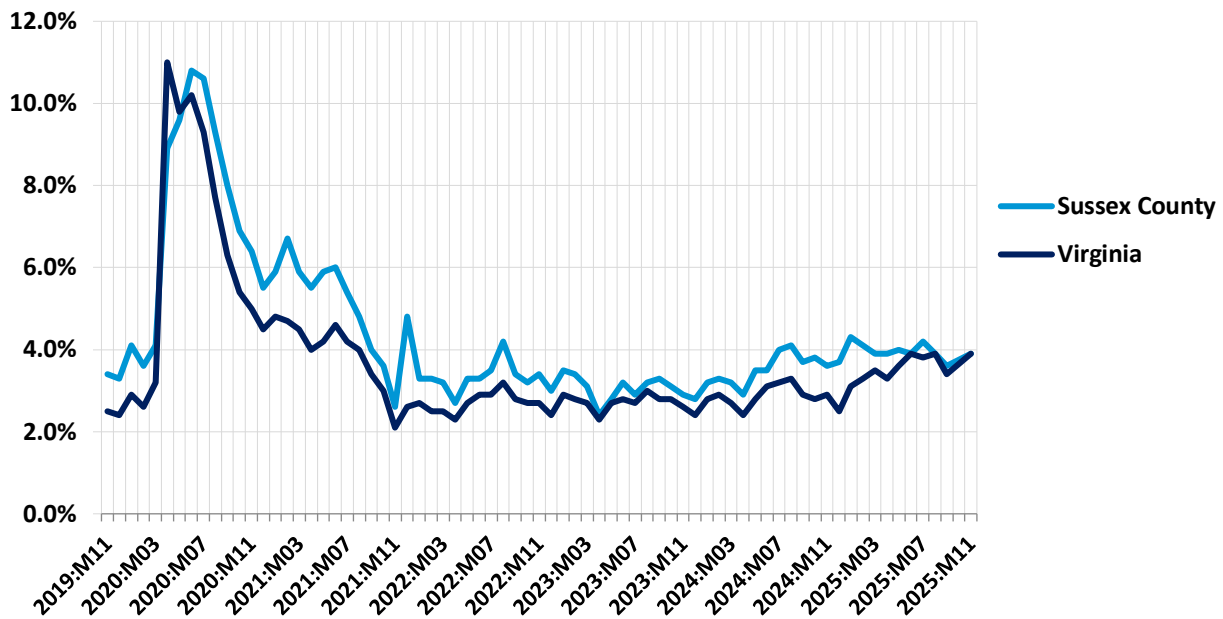
Unemployment

Figure 11 illustrates the trend in Sussex County’s unemployment rate over the six-year period from November 2019 to November 2025 and benchmarks those data against the statewide trend for Virginia. The county and state experienced high levels of unemployment in the beginning of the period as a result of the labor dislocations caused by the COVID-19 pandemic. As these data show, unemployment rates in Sussex County tracked above the statewide trend for most of the period. As November 2025, unemployment stood at 3.9 percent in Sussex County and in Virginia.²²

²¹ Data Source: U.S. Bureau of Labor Statistics. Data on the Information sector has been suppressed due to data confidentiality.
²² Data for October 2025 is unavailable due to a lapse in appropriations.



Figure 11: Unemployment Rate – November 2019 to November 2025²³



²³ Data Source: U.S. Bureau of Labor Statistics. A six-year period is used to show a view of local employment pre and post the COVID-19 pandemic. Data for October 2025 is unavailable due to a lapse in appropriations.

Economic Impact

The analysis provided in this section quantifies the economic contribution that the proposed Big Pine project would make to Sussex County. The analysis separately evaluates the pulse of economic activity that would occur during the construction phase of the project, as well as the annual economic activity that the project would generate during its ongoing operational phase.

Method

To empirically evaluate the likely local economic impact attributable to the proposed Big Pine project, the analysis employs a regional economic impact model called IMPLAN.²⁴ The IMPLAN model is one of the most commonly used economic impact simulation models in the U.S. and in Virginia is used by UVA's Weldon Cooper Center, the Virginia Department of Planning and Budget, the Virginia Employment Commission, and other state agencies and research institutes. Like all economic impact models, the IMPLAN model uses economic multipliers to quantify economic impact.

Economic multipliers measure the ripple effects that an expenditure generates as it makes its way through the economy. For example, as when the Big Pine project purchases goods and services – or when contractors hired by the facility use their salaries and wages to make household purchases – thereby generating income for someone else, which is in turn spent, thereby becoming income for yet someone else, and so on, and so on. Through this process, one dollar in expenditures generates multiple dollars of income. The mathematical relationship between the initial expenditure and the total income generated is the economic multiplier.

One of the primary advantages of the IMPLAN model is that it uses regional and national production and trade flow data to construct region-specific and industry-specific economic multipliers, which are then further adjusted to reflect anticipated actual spending patterns within the specific geographic study area that is being evaluated. As a result, the economic impact estimates produced by IMPLAN are not generic. They reflect as precisely as possible the economic realities of the specific industry, and the specific study area, being evaluated.

In the analysis that follows, these impact estimates are divided into three categories. First round direct impact measures the direct economic contribution of the entity being evaluated (e.g., own employment, wages paid, goods and services purchased by the Big Pine project). Second round indirect and induced impact measures the economic ripple effects of this direct impact in terms of business to business, and household (employee) to business, transactions. Total impact is simply the sum of the preceding two. These categories of impact are then further defined in terms of employment (the jobs that are created), labor income (the wages and benefits associated with those jobs), and economic output (the total amount of economic activity that is created in the economy).

²⁴ IMPLAN is produced by IMPLAN Group, LLC.

Construction Phase

This portion of the section assesses the economic impact that the pulse of activity associated with construction of Big Pine would provide to Sussex County and the state of Virginia.

Economic Impact Assumptions

The analysis is based on the following assumptions:

- Total capitalized investment in Big Pine is estimated to be approximately \$338.7 million. Of that total:²⁵
 - Engineering, site preparation, and other construction and development costs are estimated to be approximately \$218.4 million.
 - Capital equipment costs are estimated to be approximately \$120.3 million.
- Big Pine would support approximately 285 full-time equivalent local and non-local construction jobs over a representative 12-month construction period.²⁶
- Construction of Big Pine is expected to take approximately 18 months, but the IMPLAN model and analysis are based on a representative 12-month period.

Economic Impact on Sussex County

Applying these assumptions in the IMPLAN model results in the following estimates of economic impact on Sussex County. As shown in Table 1, construction of Big Pine would directly provide a pulse of economic activity supporting approximately: 1) 57 jobs, 2) \$6.6 million in wages and benefits, and 3) \$23.9 million in economic output to Sussex County (in 2026 dollars).

Taking into account the economic ripple effects that direct investment and the per diem spending of non-local construction workers would generate, the total estimated impact on Sussex County would support approximately: 1) 85 jobs, 2) \$7.9 million in wages and benefits, 3) \$28.9 million in economic output, and 4) \$0.8 million in state and local tax revenue (in 2026 dollars).

²⁵ Data Source: RWE. Investment estimate is subject to change based on final design and vendor contracts.

²⁶ Derived from data provided by RWE.

Table 1: Estimated Economic and Fiscal Impact on Sussex County from Construction of Big Pine (2026 Dollars)^{27,28,29}

Economic Impact	Employment	Wages and Benefits	Output
1st Round Direct Economic Activity	57	\$6,638,600	\$23,948,000
2nd Round Indirect and Induced Economic Activity	28	\$1,254,500	\$4,988,100
Total Economic Activity	85	\$7,893,200	\$28,936,100
Fiscal Impact			
State and Local Tax Revenue			\$829,800

*Totals may not sum due to rounding.

Economic Impact on Virginia

(Includes the Sussex County impact)

Applying these assumptions in the IMPLAN model results in the following estimates of economic impact on the state of Virginia. As shown in Table 2, construction of Big Pine would directly provide a pulse of economic activity supporting approximately: 1) 228 jobs, 2) \$27.5 million in wages and benefits, and 3) \$109.1 million in economic output to the state of Virginia as a whole (in 2026 dollars).

Taking into account the economic ripple effects that direct investment and the per diem spending of non-local construction workers would likely generate, the total estimated impact on the state of Virginia would support approximately: 1) 498 jobs, 2) \$46.7 million in wages and benefits, 3) \$170.0 million in economic output, and 4) \$6.5 million in state and local tax revenue (in 2026 dollars).

Table 2: Estimated Economic and Fiscal Impact on the State of Virginia from Construction of Big Pine (2026 Dollars)

Economic Impact	Employment	Wages and Benefits	Output
1st Round Direct Economic Activity	228	\$27,507,700	\$109,088,100
2nd Round Indirect and Induced Economic Activity	270	\$19,215,700	\$60,868,700
Total Economic Activity	498	\$46,723,400	\$169,956,800
Fiscal Impact			
State and Local Tax Revenue			\$6,483,800

*Totals may not sum due to rounding.

²⁷ Construction sector jobs are not necessarily new jobs, but the investments made can also support a job during the construction of the project. Please note it is not possible to know with certainty what proportion of jobs would go to county or state construction contractors or be filled by county or state residents.

²⁸ One construction job equals one person working full-time for one year. Since construction schedules and daily on-site employment vary, the analysis converts these variations into a consistent, full-time job.

²⁹ Economic Output includes Wages and Benefits.

Ongoing Operations Phase

This portion of the section assesses the annual economic impact that Big Pine would provide to Sussex County and the state of Virginia during its anticipated 40-year operational life.

Economic Impact Assumptions

The analysis is based on the following assumptions:

- Big Pine would employ approximately 3 full-time equivalent technicians and would source locally available services and materials for maintenance of the facility.³⁰

Economic Impact on Sussex County

Applying these assumptions in the IMPLAN model results in the following estimates of annual economic impact. As shown in Table 3, the annual operation of Big Pine would on average directly support approximately: 1) 3 jobs, 2) \$0.4 million in wages and benefits, and 3) \$0.6 million in economic output to Sussex County (in 2026 dollars).

Taking into account the economic ripple effects that direct impact would generate, the total estimated annually supported impact on Sussex County would be approximately: 1) 4 jobs, 2) \$0.5 million in wages and benefits, and 3) \$0.8 million in economic output (in 2026 dollars).

Table 3: Estimated Annual Economic Impact on Sussex County from the Ongoing Operation of Big Pine (2026 Dollars)

Economic Impact	Employment	Wages and Benefits	Output
1st Round Direct Economic Activity	3	\$414,900	\$569,800
2nd Round Indirect and Induced Economic Activity	1	\$62,900	\$212,000
Total Economic Activity	4	\$477,800	\$781,900

**Totals may not sum due to rounding.*

Economic Impact on Virginia

(Includes the Sussex County impact)

Applying these assumptions in the IMPLAN model results in the following estimates of annual economic impact on the state of Virginia. As shown in Table 4, annual operation of Big Pine would directly support approximately: 1) 3 jobs, 2) \$0.4 million in wages and benefits, and 3) \$0.8 million in economic output to the state of Virginia (in 2026 dollars).

³⁰ Data Source: RWE. Please note that it is not possible to know with certainty what proportion of these jobs would go to county residents.

Taking into account the economic ripple effects that direct impact would likely generate, the total estimated annually supported impact on the state of Virginia would be approximately: 1) 9 jobs, 2) \$0.8 million in wages and benefits, and 3) \$2.0 million in economic output (in 2026 dollars).

Table 4: Estimated Annual Economic Impact on the State of Virginia from the Ongoing Operation of Big Pine (2026 Dollars)

Economic Impact	Employment	Wages and Benefits	Output
1st Round Direct Economic Activity	3	\$414,900	\$789,900
2nd Round Indirect and Induced Economic Activity	6	\$382,600	\$1,170,700
Total Economic Activity	9	\$797,500	\$1,960,600

**Totals may not sum due to rounding.*

Fiscal Impact

This portion of the section quantifies the direct fiscal contribution that Big Pine would make to Sussex County. The analysis considers two sources of revenue. The first source is the additional revenue that Big Pine would generate for Sussex County over a 40-year period from the increased real property value associated with reassessing the site for solar use. The second source is revenue associated with taxes levied on capital investment.

Fiscal Impact Assumptions

The analysis is based on the following assumptions:

- Big Pine would involve an investment of approximately \$338.7 million in capital equipment and improvements to the existing property.³¹
- Big Pine would be situated on approximately 1,204 acres of fenced-in, purchased land.³²
- The fenced-in acreage would be reassessed at \$12,650 per acre.³³
- The initial interconnection request for Big Pine was filed in January 2019.³⁴
- Big Pine would have a total generation capacity of 149 MW AC.³⁵
- Tax rates and locality ratios remain constant throughout the analysis.

³¹ Data Source: RWE. Subject to change based on final design and vendor contracts.

³² Data Source: RWE. Subject to change based on final design.

³³ Data Source: Sussex County's Commissioner of the Revenue. Current assessment value of existing solar farm in the county.

³⁴ Data Source: RWE.

³⁵ Data Source: RWE.

Taxation of Land

Table 5 details the increased property assessments associated with reassessing the 1,204-acre fenced-in site as solar use property. The county real estate tax revenue from the project after reassessment is estimated to be approximately \$80,700 per year, for a cumulative total of approximately \$3.2 million over the project’s anticipated 40-year operational life expectancy (in 2026 dollars). In contrast, the property currently generates approximately \$8,600 per year in real estate tax revenue for the county, for a cumulative total of approximately \$0.3 million over 40 years (in 2026 dollars).³⁶

Table 5: Estimated County Revenue Generated by Big Pine over 40 Years from Taxation of Land (2026 Dollars)

Estimated Increased Assessed Value of Property under Solar Use	\$15,230,600
Sussex County Real Estate Tax Rate (per \$100) ³⁷	0.53
Annual County Real Estate Tax – Solar Use	\$80,700
Cumulative Revenue over 40 Years	\$3,228,900

**Totals may not sum due to rounding.*

Taxation of Capital Investment

Table 6 separately details the additional annual revenue that Big Pine would generate for Sussex County over a 40-year period from taxes levied on capital investment. This calculation is based on: 1) the taxable portion of capital investments based on the stepdown local tax exemption pursuant to Virginia Code §58.1-3660, times 2) the State Corporation Commission’s utility assessment ratio for taxation of public utilities in Sussex County, times 3) the State Corporation Commission’s depreciation guidelines for solar facilities, times 4) Sussex County’s real property tax rate of \$0.53 per \$100 of assessed value pursuant to Virginia Code §58.1-2606.

As the data in Table 6 indicate, based on these calculations the estimated additional county revenue from taxation of capital investments associated with Big Pine would be approximately \$0.2 million in the project’s first year of operation, with that figure projected to increase to approximately \$0.4 in year 11 of the project as the value of the exemption is reduced, and then declining to approximately \$47,800 in the project’s 34th year of operation and thereafter as the value of the proposed capital investments is depreciated, for a cumulative total of approximately \$9.3 million over 40 years (in 2026 dollars).

³⁶ Derived from Sussex County’s Online GIS database.

³⁷ Data Source: Sussex County Commissioner of Revenue’s Office.

Table 6: Estimated County Revenue Generated by the Proposed Solar Investment over 40 Years (2026 Dollars)

Year	Total Capital Investment ³⁸	Depreciated Value of Taxable Capital Investment ³⁹	Additional Annual County Tax Revenue Solar Investment ⁴⁰
1	\$338,700,000	\$40,603,400	\$215,200
2	\$338,700,000	\$40,603,400	\$215,200
3	\$338,700,000	\$40,603,400	\$215,200
4	\$338,700,000	\$40,603,400	\$215,200
5	\$338,700,000	\$40,603,400	\$215,200
6	\$338,700,000	\$40,603,400	\$322,800
7	\$338,700,000	\$40,603,400	\$322,800
8	\$338,700,000	\$60,905,000	\$322,800
9	\$338,700,000	\$60,905,000	\$321,700
10	\$338,700,000	\$60,905,000	\$316,200
11	\$338,700,000	\$60,695,200	\$413,900
12	\$338,700,000	\$59,666,600	\$405,800
13	\$338,700,000	\$78,102,800	\$397,200
14	\$338,700,000	\$76,568,900	\$388,000
15	\$338,700,000	\$74,944,800	\$378,300
16	\$338,700,000	\$73,212,400	\$368,000
17	\$338,700,000	\$71,380,700	\$357,100
18	\$338,700,000	\$69,440,800	\$345,600
19	\$338,700,000	\$67,383,500	\$333,300
20	\$338,700,000	\$65,209,000	\$320,400
21	\$338,700,000	\$62,890,100	\$306,600
22	\$338,700,000	\$60,444,900	\$292,000
23	\$338,700,000	\$57,846,200	\$276,600
24	\$338,700,000	\$55,094,200	\$260,200
25	\$338,700,000	\$52,179,800	\$242,800
26	\$338,700,000	\$49,084,900	\$224,300
27	\$338,700,000	\$45,809,600	\$204,800
28	\$338,700,000	\$42,326,700	\$184,100
29	\$338,700,000	\$38,645,400	\$162,200
30	\$338,700,000	\$34,738,400	\$138,900
31	\$338,700,000	\$30,605,900	\$114,300
32	\$338,700,000	\$26,211,700	\$88,200

³⁸ Data Source: RWE.

³⁹ Accounts for the State Corporation Commission’s depreciation guidelines for solar facilities and the current utility assessment ratio for taxation of public utilities in Sussex County. Also accounts for the stepdown exemption from local property taxes pursuant to Virginia Code §58.1-3660.

⁴⁰ Calculated pursuant to Virginia Code §58.1-2606.

Year	Total Capital Investment ³⁸	Depreciated Value of Taxable Capital Investment ³⁹	Additional Annual County Tax Revenue Solar Investment ⁴⁰
33	\$338,700,000	\$21,564,900	\$60,500
34	\$338,700,000	\$16,638,400	\$47,800
35	\$338,700,000	\$11,414,100	\$47,800
36	\$338,700,000	\$9,023,000	\$47,800
37	\$338,700,000	\$9,023,000	\$47,800
38	\$338,700,000	\$9,023,000	\$47,800
39	\$338,700,000	\$9,023,000	\$47,800
40	\$338,700,000	\$9,023,000	\$47,800
Cumulative Total			\$9,280,300

**Totals may not sum due to rounding.*

Total Fiscal Impact

Table 7 combines the results from the calculations depicted in Tables 5 and 6 to provide an estimate of the cumulative fiscal contribution that Big Pine would make to Sussex County over its 40-year anticipated operational life. As these data indicate that cumulative total is approximately \$12.5 million (in 2026 dollars).

Table 7: Estimated Cumulative County Revenue from Big Pine over 40 Years (2026 Dollars)

County Revenue from Taxation of Land	\$3,228,900
County Revenue from Taxation of Capital Investments	\$9,280,300
Total Cumulative Revenue over 40 Years⁴¹	\$12,509,100

**Totals may not sum due to rounding.*

Relative Comparisons

To put these numbers into perspective, as shown in Table 8, the approximate \$0.3 million in Sussex County tax revenue in year 1 of Big Pine’s operations is equivalent to approximately 1 percent of Sussex County’s FY 2026 General Fund budget and about 2 percent of the FY 2026 General Property Tax Revenue. The estimated year 1 tax revenue of approximately \$0.3 million could hypothetically fund approximately 3 percent of the county’s Education budget, 9 percent of the Fire, Rescue, and Emergency Services budget, 15 percent of Public Works, and 21 percent of Health & Welfare expenditures for FY 2026. Additionally, it could fund approximately 52 percent of Community Development and 123 percent of the Parks, Recreation, and Cultural budget.

⁴¹ Please note that estimated revenues do not include voluntary payments associated with a siting agreement, which is subject to negotiation between Big Pine and Sussex County.

Table 8: Year 1 County Revenue Generated by Big Pine as a Percent of the FY 2026 Sussex County Budget⁴²

	Sussex County Budget	Percent of Budget Item
Big Pine Year 1 Tax Revenue⁴³		\$295,900
Revenue Funds		
General Fund	\$30,039,600	1%
General Property Tax Revenue	\$14,019,200	2%
General Fund Expenditures By Function		
Education	\$8,497,100	3%
Sheriff's Operations & Jail	\$7,338,200	4%
Fire, Rescue, & Emergency Services	\$3,453,300	9%
Public Works	\$1,995,200	15%
Health & Welfare	\$1,436,500	21%
Community Development	\$563,900	52%
Parks, Recreation and Cultural ⁴⁴	\$241,200	123%

⁴² Data Source: Sussex County's Fiscal Year 2026 Adopted Budget.

⁴³ Calculated as sum of annual tax revenue from Table 5 and year 1 tax revenue from Table 6.

⁴⁴ Sussex County may describe these as "Discretionary Outside Agencies".

Current Use

This section provides a benchmark for the previous estimates of the economic and fiscal contribution that Big Pine would make to Sussex County by estimating the economic and fiscal contribution that the site makes to the county in its current use.

Economic Impact Assumptions

The analysis is based on the following assumptions:

- Big Pine would be situated on approximately 1,204 acres of agricultural land and timber land.⁴⁵

Economic Impact

Applying these inputs in the IMPLAN model results in the following estimates of annual economic impact. As shown in Table 9, in its current use, the project site directly supports approximately: 1) less than 1 job, 2) \$20,900 in wages and benefits, and 3) \$0.1 million in economic output to Sussex County (in 2026 dollars).

Taking into account the economic ripple effects that direct impact generates, on average, the total annually supported impact on Sussex County is approximately: 1) less than 1 job, 2) \$35,900 in wages and benefits, and 3) \$0.2 million in economic output (in 2026 dollars).

Table 9: Total Estimated Annual Economic Impact of the Project Site on Sussex County – Current Use (2026 Dollars)⁴⁶

Economic Impact	Employment	Wages and Benefits	Output
1st Round Direct Economic Activity	< 1	\$20,900	\$127,600
2nd Round Indirect and Induced Economic Activity	< 1	\$14,990	\$33,500
Total Economic Activity	< 1	\$35,900	\$161,100

**Totals may not sum due to rounding.*

⁴⁵ Data Source: RWE.

⁴⁶ Calculations based data from the U.S. Department of Agriculture and IMPLAN Group, LLC for Virginia and Sussex County.

Fiscal Impact Assumptions

The analysis is based on the following assumptions:

- The current assessment value of the affected acreage is approximately \$1.6 million.⁴⁷

Fiscal Impact

Table 10 details the estimated tax revenue that the project site generates for Sussex County in its current use. As the data in Table 10 indicate, the current county real estate tax revenue from the project site is estimated to be approximately \$8,600 per year, for a cumulative total of approximately \$0.3 million over 40 years (in 2026 dollars).

Table 10: Estimated Cumulative County Revenue Generated by the Project Site from Taxation of Land over 40 Years – Current Use (2026 Dollars)

Estimated Assessed Value of Property – Current Use	\$1,613,600
Sussex County Current Real Estate Tax Rate (per \$100)	0.53
Estimated Annual County Real Estate Tax – Current Use	\$8,600
Total Cumulative Revenue over 40 Years	\$342,100

**Totals may not sum due to rounding.*

The estimates provided in this report are based on the best information available and all reasonable care has been taken in assessing the quality of that information. However, because these estimates attempt to foresee the consequences of circumstances that have not yet occurred, it is not possible to be certain that they will be representative of actual events. These estimates are intended to provide a good indication of likely future outcomes and should not be construed to represent a precise measure of those outcomes.

⁴⁷ Data Source: Derived from Sussex County's Online GIS database.