

FIREFLY SOLAR

ECONOMIC & FISCAL CONTRIBUTION TO PITTSYLVANIA COUNTY, VIRGINIA



Prepared for

**RECURRENT
ENERGY**

A subsidiary of Canadian Solar

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About Mangum Economics, LLC

Mangum Economics is a Glen Allen, Virginia based firm that was founded in 2003. 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. One recent example was an analysis of the proposed \$2.3 billion Green City “net-zero eco district.” The Mangum Team has also authored multiple economic development plans, including identifying industry recruitment opportunities created by the high-speed MAREA and BRUSA sub-sea cable landings in Virginia Beach.
- **Energy:** The Mangum Team has produced analyses of the economic and fiscal impact of over 29 GW of proposed solar, wind, battery energy storage, and hydro projects spanning twenty-nine states. 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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Executive Summary

This report assesses the economic and fiscal contribution that the proposed Firefly Solar project would make to Pittsylvania County, Virginia. The primary findings from that assessment are as follows:

- 1) Firefly Solar is a proposed 130-megawatt (MW) alternating current (AC) solar photovoltaic power generating facility. The project would be located off of South Boston Highway in Pittsylvania County, Virginia. The actively used, fenced-in solar site would be approximately 1,040 acres of timberland and agricultural land.**
- 2) The proposed Firefly Solar project would make a significant economic contribution to Pittsylvania County:**
 - The proposed Firefly Solar project would employ approximately 470 local and non-local full-time equivalent construction workers over an assumed 12-month construction period.¹
 - The proposed Firefly Solar project would provide an estimated one-time pulse of economic activity to Pittsylvania County during its construction phase supporting approximately:^{2,3}
 - 77 direct and 34 indirect and induced job years.
 - \$5.3 million in associated wages and benefits.
 - \$26.4 million in economic output.
 - The proposed Firefly Solar project would provide an estimated annual economic impact to Pittsylvania County during its ongoing operational phase supporting approximately:
 - 5 direct and 2 indirect and induced jobs.
 - \$0.4 million in associated wages and benefits.
 - \$1.3 million in economic output.
- 3) The proposed Firefly Solar project would also make a significant fiscal contribution to Pittsylvania County. The proposed project would generate approximately:**
 - \$1.0 million in state and local tax revenue from the one-time pulse of economic activity associated with the project's construction.
 - \$13.4 million in cumulative county revenue over the facility's anticipated 35-year operational life assuming revenues are generated from the reassessment of the real

¹ Actual construction is estimated to take approximately 23 months but the project but for ease of explanation, the project is modeled over a representative 12-month period.

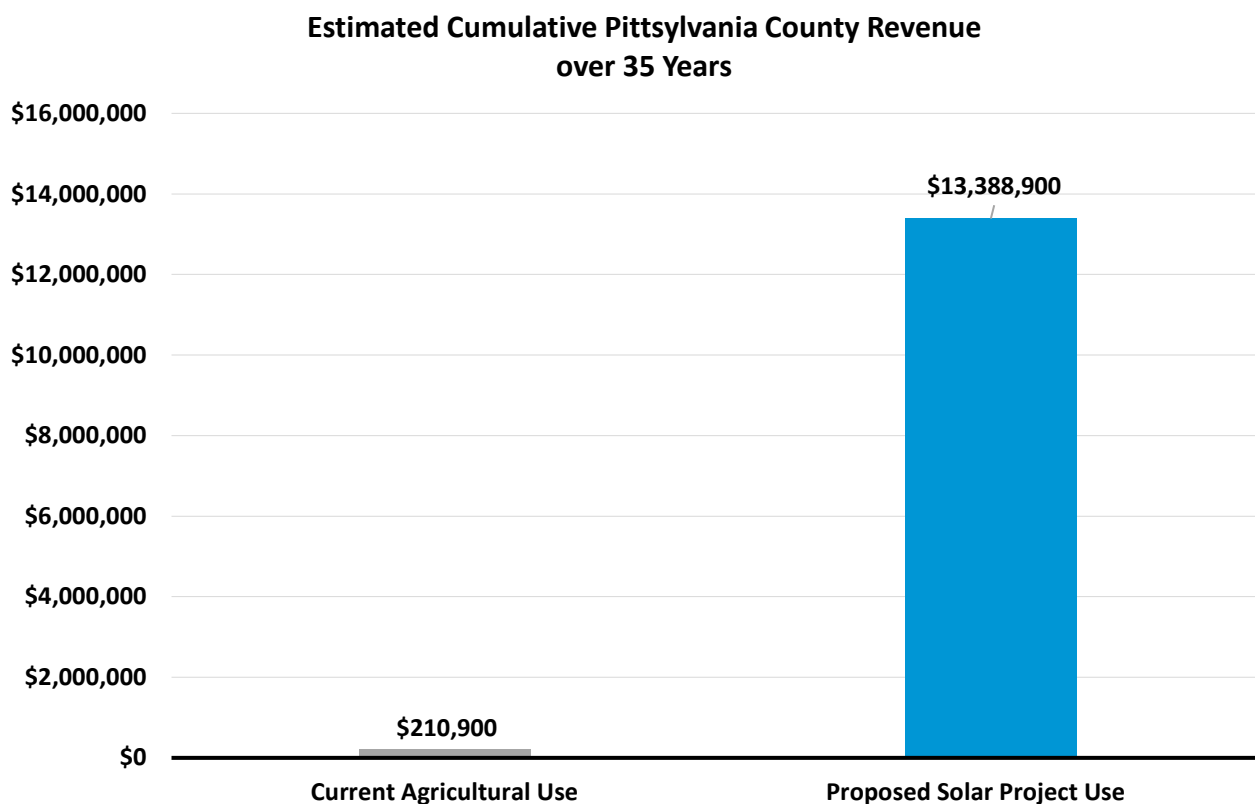
² Please note that it is not possible to know with certainty what proportion of jobs would go to county construction contractors or be filled by county residents.

³ A construction sector job, also referred to as a job year, is equal to one job over one year. It is used to denote employment on construction projects to account for the fact that actual on-site employment may vary over the period and may not exactly be one year.

property and payments associated with a siting agreement between Firefly Solar and Pittsylvania County.⁴

4) The proposed Firefly Solar project would have a significantly greater fiscal impact on Pittsylvania County than the property generates in its current use:

- The proposed Firefly Solar project would generate approximately \$13.4 million in cumulative county revenue over the facility's anticipated 35-year operational life, as compared to approximately \$0.2 million in cumulative county revenue in the property's current use – a difference of approximately \$13.2 million or a 63-fold increase over current revenues.



⁴ Data Source: Information on siting agreement provided by Recurrent Energy.

5) The proposed Firefly Solar project would provide a boost to Pittsylvania County's construction sector:

- At 1,221 jobs, construction is Pittsylvania County's 4th largest major industry sector. It also pays average weekly wages (\$1,051/week) that are 14 percent above the county-wide average (\$918/week).⁵
- Additionally, the construction sector experienced the second highest gain of any industry sector in the county between 2022 and 2023 (a gain of 113 jobs).⁶
- The proposed Firefly Solar project would directly support approximately 77 jobs and \$3.9 million in wages and benefits in Pittsylvania County's construction sector.⁷

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.

⁵ Data Source: U.S. Bureau of Labor Statistics.

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

⁷ Please note that although employment within a local construction sector can sometimes quickly expand to take advantage of new opportunities, it is not possible to know with certainty what proportion of these jobs would go to county construction contractors or be filled by county residents.

Introduction

This report assesses the economic and fiscal contribution that the proposed Firefly Solar project would make to Pittsylvania County, Virginia. This report was commissioned by Recurrent Energy and produced by Mangum Economics.

The Project

Firefly Solar is a proposed 130-megawatt (MW) alternating current (AC) solar photovoltaic power generating facility. The project would be located off of South Boston Highway in Pittsylvania County, Virginia. The actively used, fenced-in solar site would be approximately 1,040 acres of timberland and agricultural land.

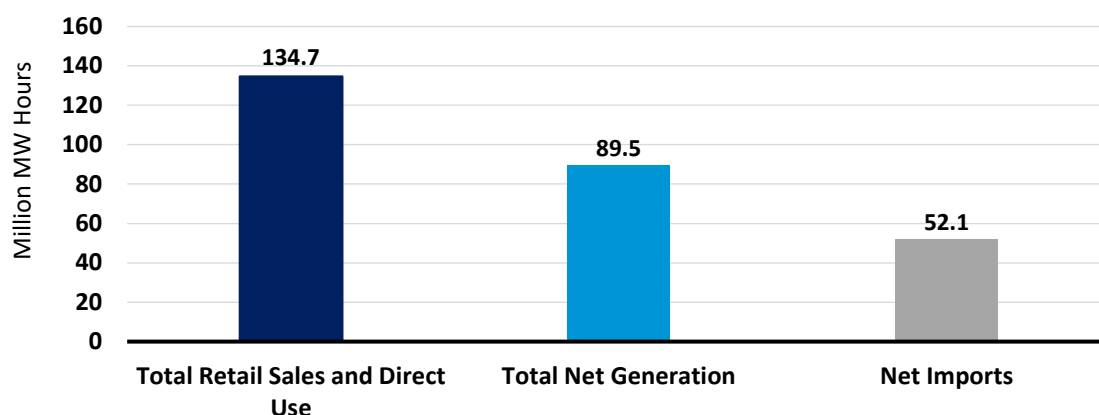
Electricity Production in Virginia

This section provides a backdrop for the proposed Firefly Solar project by profiling Virginia's electricity production sector and the role that solar energy could play in that sector.

Overall Market

As shown in Figure 1, in 2022 electricity sales and direct use in Virginia totaled 134.7 million megawatt hours. However, only 66 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.

Figure 1: Demand and Supply of Electricity in Virginia in 2022 (in millions of megawatt-hours)⁸



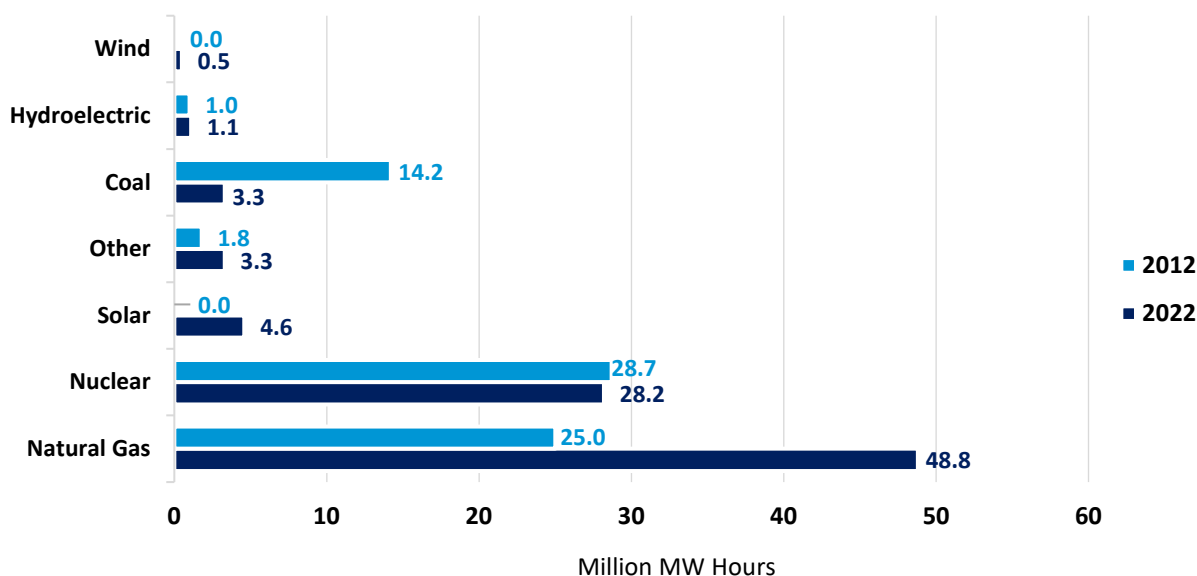
⁸ Data Source: U.S. Energy Information Administration. In this chart, "Net Imports" also takes into account losses during transmission. As a result, it does not directly equal the residual of "Total Net Generation" minus "Total Retail Sales and Direct Use."

Sources of Production

Between 2012 and 2022, the total amount of electricity produced in Virginia increased from 70.7 to 89.5 million megawatt hours, while retail and direct consumption of electricity increased from 109.9 to 134.7 million megawatt hours. Consequently, imports of electricity increased by 5.3 million megawatt hours (or 11 percent) during this time.⁹ Figure 2 provides a comparison of the energy sources that were used to produce electricity in Virginia in each of those years. As these data show, the most significant change between 2012 and 2022 was a decrease in the use of coal and an increase in the use of natural gas. Where coal was the state's third largest source of electricity in 2012, accounting for 14.2 million megawatt hours (or 20 percent) of production, by 2022 production had fallen by 10.8 million megawatt hours, making coal a fourth-place source of electricity with only 4 percent of production.

In contrast, the share of electricity produced using cleaner-burning low-emissions energy sources increased over the period. Where natural gas accounted for 25.0 million megawatt hours (or 35 percent) of Virginia's electricity production in 2012, by 2022 that proportion had almost doubled to 48.8 million megawatt hours (or 55 percent of production), 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 4.6 million megawatt hours in 2022.

Figure 2: Electricity Generation in Virginia by Energy Source in 2012 and 2022
(in millions of megawatt-hours)¹⁰

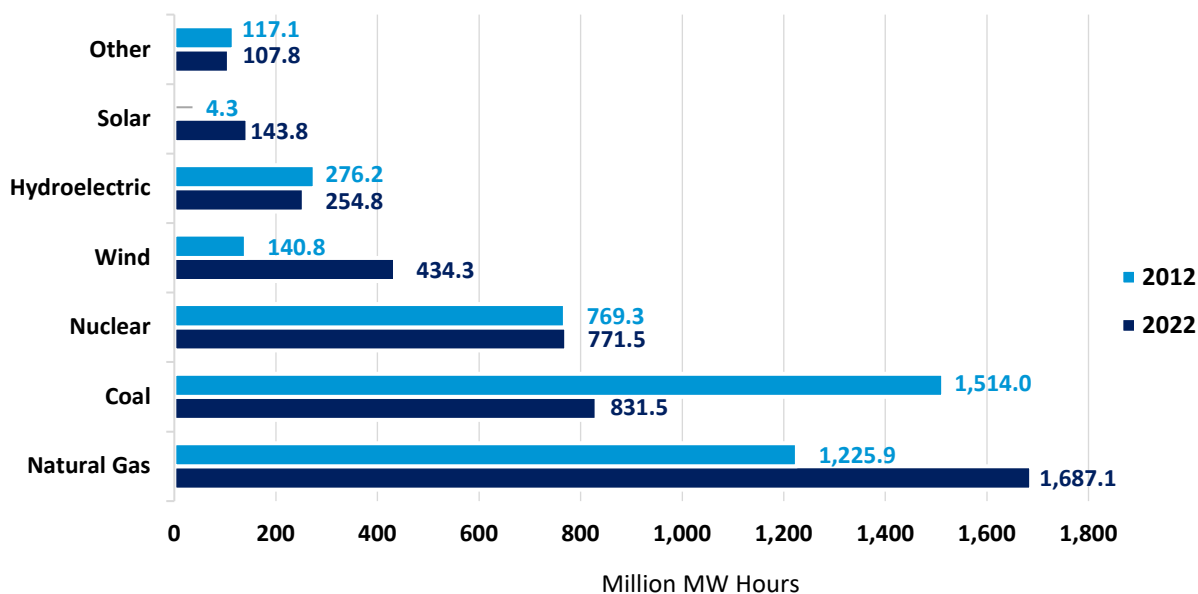


⁹ Imports also takes into account losses during transmission. As a result, totals do not equal sum of components.

¹⁰ Data Source: U.S. Energy Information Administration. The "Other" category includes battery, wood, petroleum, other biomass, "other", and pumped storage.

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 2012 and 2022 the amount of electricity produced using coal declined by 682.5 million megawatt hours from 37 to 20 percent of production, while in contrast the amount of electricity produced using natural gas increased by 461.2 million megawatt hours from 30 to 40 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 2012 and 2022, the amount of electricity produced using solar increased by 139.5 million megawatt hours to 3 percent of total electricity production in the nation compared to 5 percent of total electricity production in Virginia.

Figure 3: Electricity Generation in the United States by Energy Source in 2012 and 2022
(in millions of megawatt-hours)¹¹

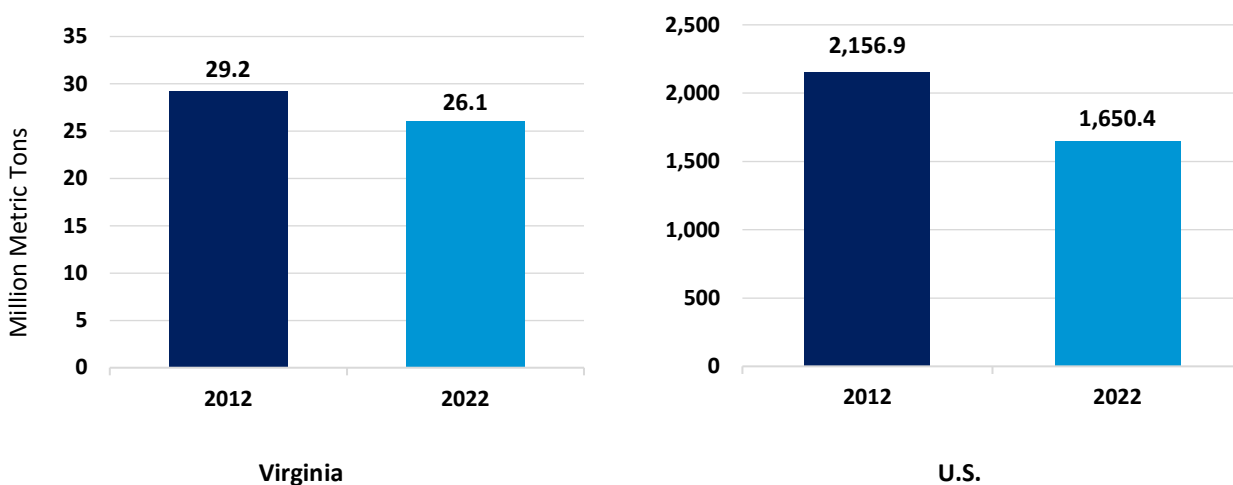


Impact on the Environment

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 2012 and 2022 for both Virginia and the U.S. As these data indicate, between 2012 and 2022, as the share of electricity produced in Virginia by coal fell from 20 to 4 percent, carbon dioxide emissions from electricity production fell from 29.2 to 26.1 million metric tons (an 11 percent decrease). Where at the national level, as the share of electricity produced by coal fell from 37 to 20 percent, carbon dioxide emissions from electricity production fell from 2,156.9 to 1,650.4 million metric tons (a 23 percent decrease).

¹¹ 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)¹²

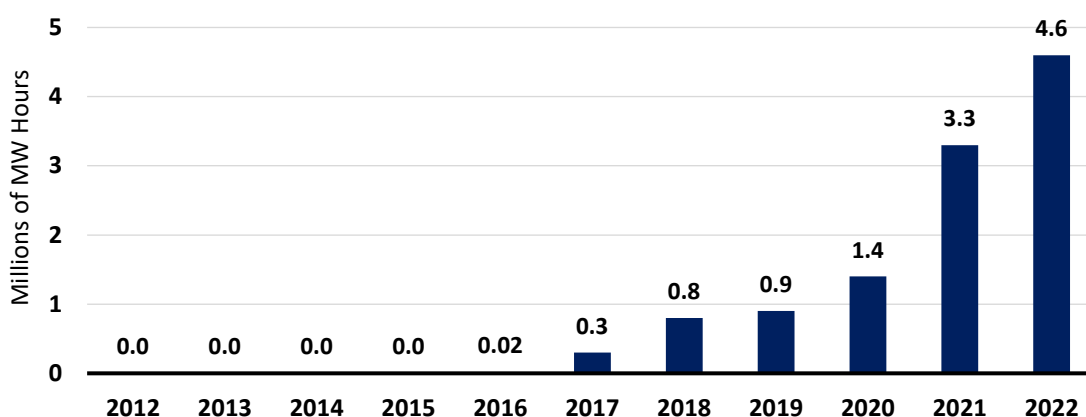


Virginia Solar Industry Trends

As of the second quarter of 2024, Virginia was ranked 9th in the nation for its total installed solar capacity. Over the next five years, Virginia is projected to add more than eight thousand megawatts of solar to its portfolio, ranking it 10th in the nation for projected growth. Total investment into the solar industry in Virginia as of the second quarter of 2024 amounts to \$6.8 billion.¹³

Figure 5 depicts the progression of solar energy generation in Virginia from 2012 to 2022 expressed in millions of megawatt-hours. Solar entered the electricity market in Virginia in 2016 with 0.02 million megawatt hours. Generation has continued to grow throughout the period, reaching its peak, so far, in 2022, with solar generation totaling 4.6 million megawatt-hours.

Figure 5: Solar Generation in Virginia (in millions of megawatt-hours) – 2012 to 2022¹⁴



¹² Data Source: U.S. Energy Information Administration.

¹³ Data Source: Solar Energy Industries Association.

¹⁴ Data Source: U.S. Energy Information Administration.



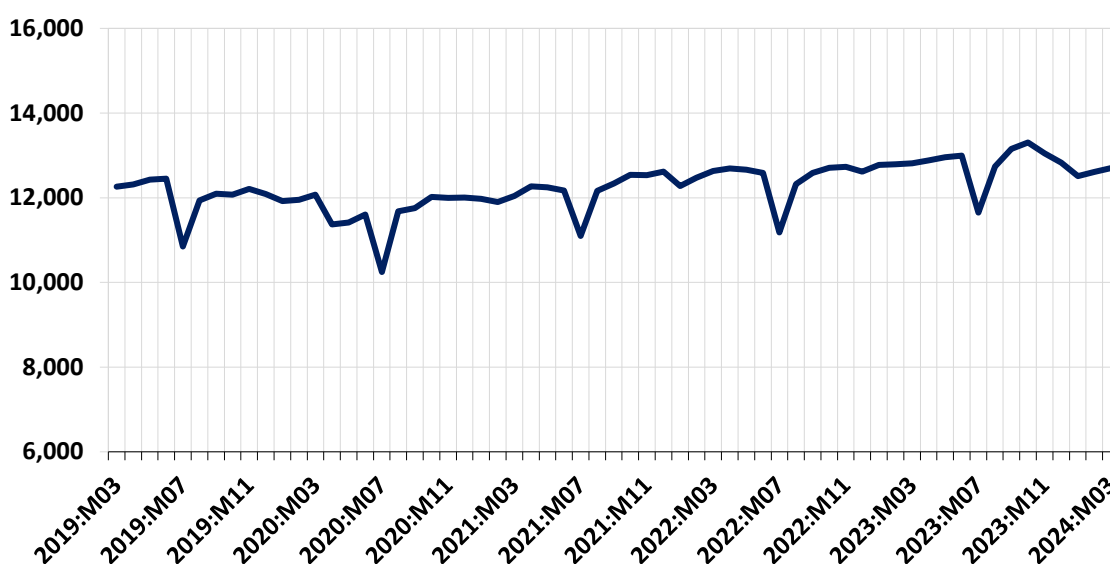
Local Economic Profile

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

Total Employment

Figure 6 depicts the trend in total employment in Pittsylvania County during the five-year period from March 2019 through March 2024. Aside from seasonal fluctuations, employment in the county was generally stable throughout the period until April 2020, when employment declined in response to a decrease in economic activity associated with the COVID-19 pandemic. Total employment has since recovered to pre-pandemic levels. As of March 2024, total employment in the county stood at 12,703 jobs, which represents an overall increase in employment of 3.6 percent (or 439 jobs) over the five-year period. To put this number in perspective, over this same period, total statewide employment in Virginia increased by 3.5 percent.¹⁵

Figure 6: Total Employment in Pittsylvania County – March 2019 to March 2024¹⁶

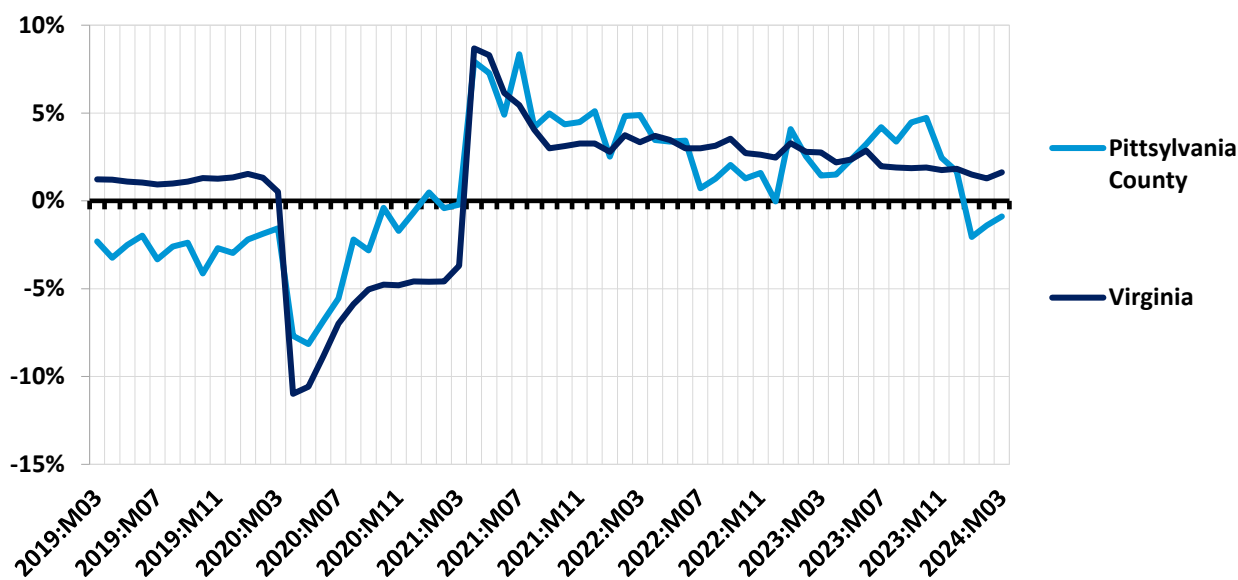


To control for seasonality and provide a point of reference, Figure 7 compares the year-over-year change in total employment in Pittsylvania County to that of the state of Virginia over the same five-year period. Any point above the zero line in this graph indicates an increase in employment, while any point below the zero line indicates a decline in employment. As these data show, Pittsylvania County fluctuated around the statewide average for most of the period. As of March 2024, the year-over-year change in total employment in Pittsylvania County was minus 0.9 percent as compared to 1.6 percent statewide in Virginia.

¹⁵ Data Source: U.S. Bureau of Labor Statistics. *Data for months 1 through 3 in 2024 is preliminary.*

¹⁶ Data Source: U.S. Bureau of Labor Statistics. *Data for months 1 through 3 in 2024 is preliminary.*

Figure 7: Year-Over-Year Change in Total Employment – March 2019 to March 2024¹⁷



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 Pittsylvania County by industry supersector.¹⁸

Figure 8 provides an indication of the distribution of private sector employment across industry supersectors in Pittsylvania County in 2023. As these data indicate, the county's largest industry sectors that year were Trade, Transportation and Utilities (2,350 jobs), followed by Manufacturing (2,323 jobs), and Education and Health Services (1,824 jobs).

Figure 9 provides a similar ranking for average private sector weekly wages by industry supersector in Pittsylvania County in 2023. As these data show, the highest paying industry sectors that year were Information (\$1,306 per week), Manufacturing (\$1,119 per week), and Construction (\$1,051 per week). To provide a point of reference, the average private sector weekly wage across all industry sectors in Pittsylvania County that year was \$918 per week.

¹⁷ Data Source: U.S. Bureau of Labor Statistics. *Data for months 1 through 3 in 2024 is preliminary.*

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 Pittsylvania County – 2023¹⁹

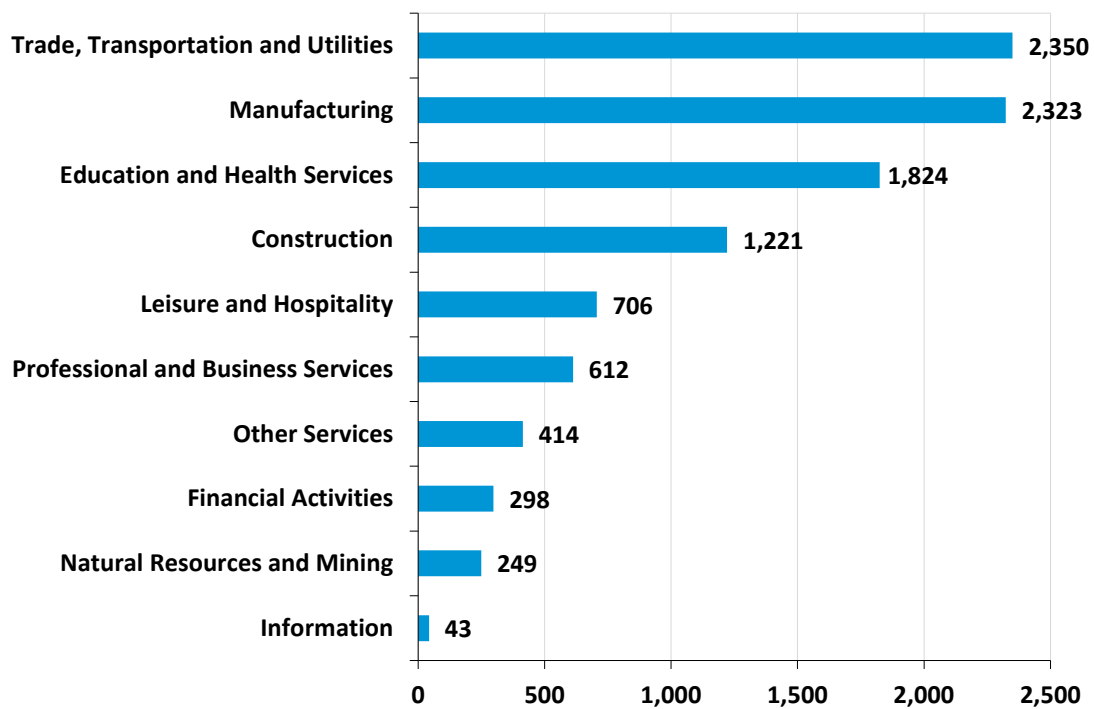
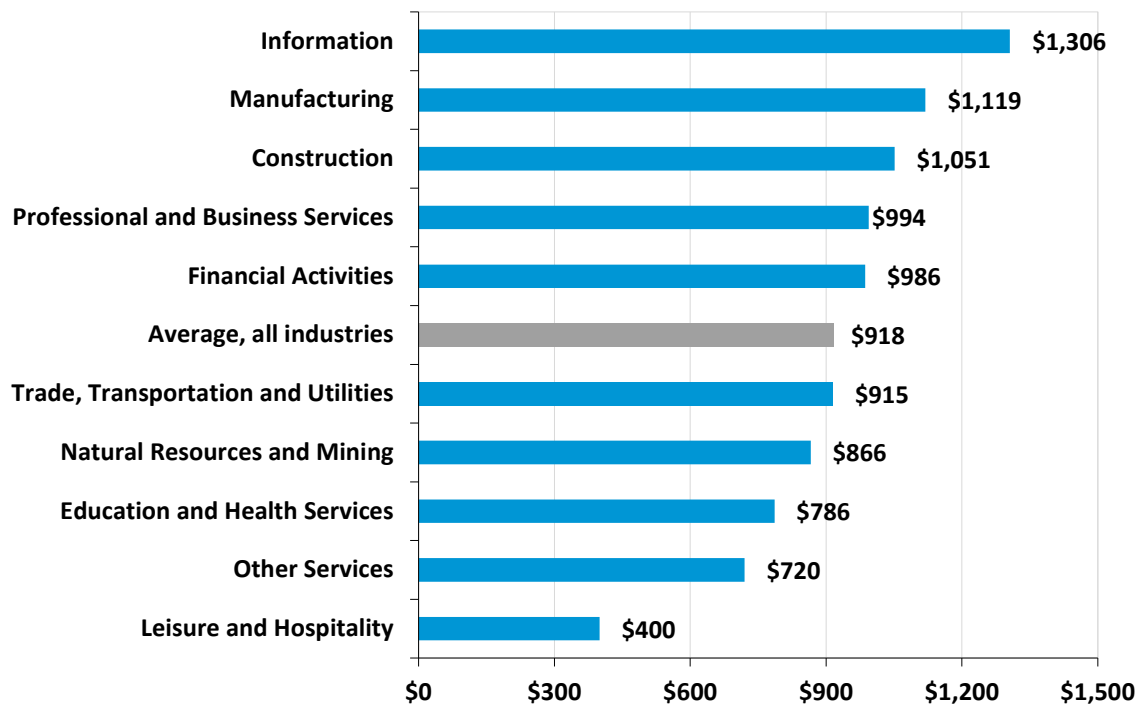


Figure 9: Average Private Weekly Wages by Industry Supersector in Pittsylvania County – 2023²⁰

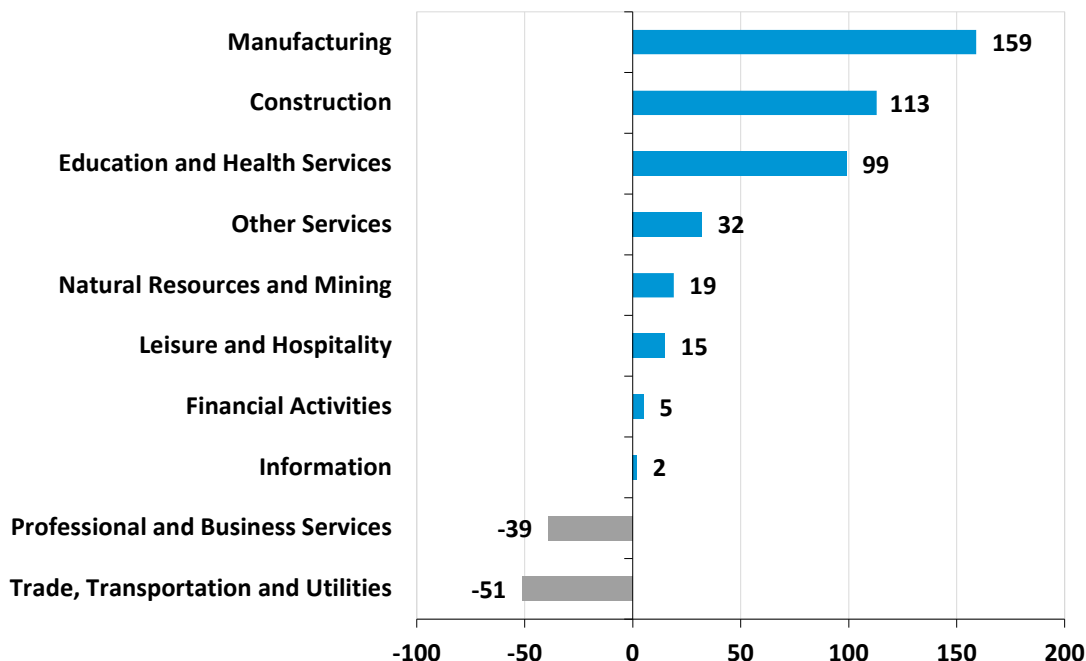


¹⁹ Data Source: U.S. Bureau of Labor Statistics.

²⁰ Data Source: U.S. Bureau of Labor Statistics.

Figure 10 details the year-over-year change in private sector employment from 2022 to 2023 in Pittsylvania County by industry supersector. Over this period, the largest employment gains occurred in the Manufacturing (up 159 jobs), Construction (up 113 jobs), and Education and Health Services (up 99 jobs) sectors. The only employment losses occurred in the Trade, Transportation and Utilities (down 51 jobs) and Professional and Business Services (down 39 jobs) sectors.

Figure 10: Change in Private Employment by Industry Supersector in Pittsylvania County from 2022 to 2023²¹

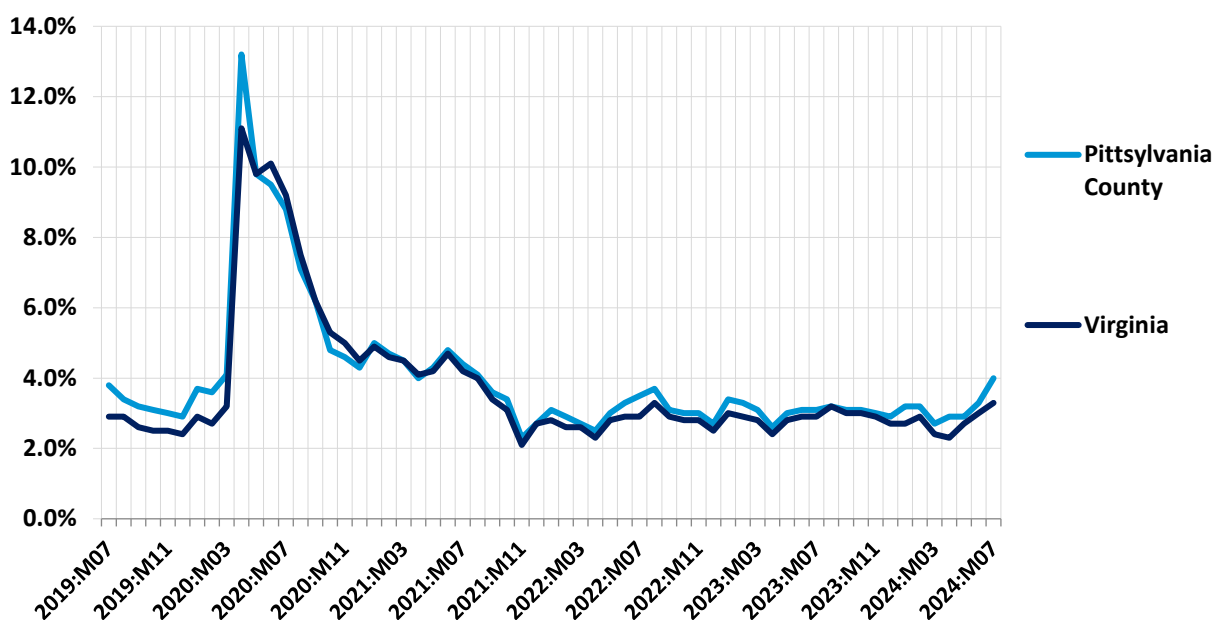


Unemployment

Figure 11 illustrates the trend in Pittsylvania County's unemployment rate over the five-year period from July 2019 through July 2024 and benchmarks those data against the statewide trend for Virginia. As these data show, unemployment rates in Pittsylvania County tracked closely with the statewide trend throughout the period. In April 2020 unemployment in the county and state significantly rose as a result of the labor dislocations caused by the COVID-19 pandemic. As of July 2024, unemployment stood at 4.0 percent in Pittsylvania County compared to 3.3 percent in Virginia as a whole.

²¹ Data Source: U.S. Bureau of Labor Statistics.

Figure 11: Unemployment Rate – July 2019 to July 2024²²



²² Data Source: U.S. Bureau of Labor Statistics. *July 2024 data is preliminary.*

Economic Impact

This section quantifies the economic and fiscal contribution that the proposed Firefly Solar project would make to Pittsylvania County. The analysis separately evaluates the one-time 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 operations phase.

Method

To empirically evaluate the likely local economic impact attributable to the proposed Firefly Solar project, the analysis employs a regional economic impact model called IMPLAN.²³ 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 Firefly Solar 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 Firefly Solar 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).

²³ IMPLAN is produced by IMPLAN Group, LLC.

Construction Phase

This portion of the section assesses the economic and fiscal impact that the one-time pulse of activity associated with construction of the proposed Firefly Solar project would have on Pittsylvania County.

Economic Impact Assumptions

The analysis is based on the following inputs and assumptions:

- Total investment in the Firefly Solar project is estimated to be approximately \$271.3 million.²⁴
- Of that total:
 - Architecture, engineering, site preparation, and other construction and development costs are estimated to be approximately \$156.9 million.²⁵
 - Capital equipment costs are estimated to be approximately \$114.4 million.²⁶ It is anticipated that no capital equipment would be purchased from vendors in Pittsylvania County.²⁷
- Firefly Solar would employ approximately 470 local and non-local full-time equivalent construction workers.²⁸
- For ease of explanation, all construction expenditures are assumed to take place in a representative 12-month period.

Economic Impact

Applying these inputs in the IMPLAN model results in the following estimates of one-time economic and fiscal impact. As shown in Table 1, construction of the proposed Firefly Solar project would directly provide a one-time pulse supporting approximately: 1) 77 job years, 2) \$3.9 million in wages and benefits, and 3) \$20.8 million in economic output to Pittsylvania County.

Taking into account the economic ripple effects that direct investment would generate, the total estimated one-time impact on Pittsylvania County would support approximately: 1) 111 job years, 2) \$5.3 million in wages and benefits, 3) \$26.4 million in economic output, and 4) \$1.0 million in state and local tax revenue.

²⁴ Data Source: Recurrent Energy. Investment estimate subject to change based on final design and vendor contracts.

²⁵ Data Source: Recurrent Energy.

²⁶ Data Source: Recurrent Energy.

²⁷ Data Source: IMPLAN Group LLC.

²⁸ Data Source: Recurrent Energy.

Table 1: Estimated One-Time Economic and Fiscal Impact on Pittsylvania County from Construction of Firefly Solar^{29,30}

Economic Impact	Employment (Job Years)	Wages and Benefits	Output
1st Round Direct Economic Activity	77	\$3,868,700	\$20,835,900
2nd Round Indirect and Induced Economic Activity	34	\$1,412,700	\$5,607,700
Total Economic Activity	111	\$5,281,400	\$26,443,500
Fiscal Impact			
State and Local Tax Revenue			\$968,200

**Totals may not sum due to rounding.*

Ongoing Operations Phase

This portion of the section assesses the annual economic impact that the proposed Firefly Solar project would have on Pittsylvania County during its anticipated 35-year operational phase.

Economic Impact Assumptions

The analysis is based on the following assumptions:

- Firefly Solar would employ approximately 2 technicians and would source locally available services and materials for maintenance of the facility.³¹
- Vegetative maintenance would be outsourced to third-party contractors.³²
- Firefly Solar would make confidential lease payments to local landowners.³³

Economic Impact

Applying these assumptions in the IMPLAN model results in the following estimates of annual economic impact. As shown in Table 2, annual operation of the proposed Firefly Solar project would directly support approximately: 1) 5 jobs, 2) \$0.3 million in wages and benefits, and 3) \$0.9 million in economic output to Pittsylvania County.

²⁹ Please note that construction sector jobs are not necessarily new jobs, but the investments made can also support an existing job during the construction of the project. A construction sector job, also referred to as a job year, is equal to one job over one year. It is used to denote employment on construction projects to account for the fact that actual on-site employment may vary over the period and may not exactly be one year.

³⁰ Please note that although employment within a local construction sector can sometimes quickly expand to take advantage of new opportunities, it is not possible to know with certainty what proportion of these jobs would go to county construction contractors or be filled by county residents.

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

³² Data Source: Recurrent Energy.

³³ Data Source: Recurrent Energy.

Taking into account the economic ripple effects that direct impact would generate, the total estimated annually supported impact on Pittsylvania County would be approximately: 1) 7 jobs, 2) \$0.4 million in wages and benefits, and 3) \$1.3 million in economic output.

Table 2: Estimated Annual Economic Impact on Pittsylvania County from the Ongoing Operation of the Firefly Solar Project

Economic Impact	Employment	Wages and Benefits	Output
1st Round Direct Economic Activity	5	\$317,800	\$881,300
2nd Round Indirect and Induced Economic Activity	2	\$87,500	\$385,000
Total Economic Activity	7	\$405,300	\$1,266,300

**Totals may not sum due to rounding.*

Fiscal Impact

This section quantifies the direct fiscal contribution that the proposed Firefly Solar project would make to Pittsylvania County. The analysis considers two revenue sources. The first source is the additional revenue that the Firefly Solar project would generate for Pittsylvania County over a 35-year period from the increased real property value associated with reassessing the site for solar use. The second source is revenue associated with a siting agreement between Firefly Solar and Pittsylvania County.

Fiscal Impact Assumptions

The analysis is based on the following assumptions:

- Firefly Solar would enter into a siting agreement with Pittsylvania County.³⁴
- Firefly Solar project would be situated on approximately 1,040 acres of fenced-in, purchased and leased land.³⁵
- The fenced-in acreage would be reassessed at \$11,000 per acre.³⁶
- Tax rates remain constant throughout the analysis.

Reassessment of Property

Table 3 details the increased property assessments associated with reassessing the 1,040-acre fenced-in site as solar use property. The county real estate tax revenue from the project after reassessment is estimated to be approximately \$64,100 per year, for a cumulative total of approximately \$2.3 million over the project's anticipated 35-year operational life expectancy, including one-time rollback taxes of

³⁴ Data Source: Recurrent Energy.

³⁵ Data Source: Recurrent Energy.

³⁶ Data Source: Pittsylvania County Commissioner of Revenue's office. Current assessment value of existing solar farm in the county.

approximately \$60,100. In contrast, the property currently generates approximately \$6,000 per year in real estate tax revenue for the county, for a cumulative total of approximately \$0.2 million over 35 years.³⁷

Table 3: Estimated County Revenue Generated by the Proposed Firefly Solar Project over 35 Years from Real Estate Taxes

Estimated Increased Assessed Value of Property under Solar Use	\$11,440,000
Pittsylvania County Real Estate Tax Rate (per \$100) ³⁸	0.56
Annual County Real Estate Tax – Solar Use	\$64,100
Cumulative Revenue over 35 Years	\$2,242,200
One-time Rollback Taxes	\$60,100
Total Cumulative Revenue over 35 Years	\$2,302,300

**Totals may not sum due to rounding.*

Siting Agreement

Siting agreements add significant value to the overall fiscal impact of solar projects to their host localities. The Code of Virginia §15.2-2316.7 stipulates that a solar project is required to request a meeting with its potential host locality to discuss a voluntary siting agreement. The terms and conditions of a siting agreement vary by locality and project.

Table 4 separately details the additional annual revenue that the proposed Firefly Solar project would generate for Pittsylvania County over a 35-year period from a siting agreement negotiated between Pittsylvania County and Firefly Solar. The payments consist of an initial payment upon commencement of commercial electrical production as well as annual payments.

As the data in Table 4 indicate, the initial payment would be approximately \$1.1 million and the annual payments associated with the proposed Firefly Solar project would be approximately \$0.5 million for the project's first fifteen years of operation and approximately \$0.1 million per year in the remainder of the project's operations, for a cumulative total of approximately \$11.1 million over 35 years.

³⁷ Derived from Pittsylvania County's Parcel Search website.

³⁸ Data Source: Pittsylvania County's Commissioner of the Revenue.

Table 4: Estimated County Revenue Generated by the Proposed Firefly Solar Project's Siting Agreement over 35 Years

Year	Additional Annual County Revenue ³⁹
Initial Payment	\$1,125,000
1	\$498,100
2	\$498,100
3	\$498,100
4	\$498,100
5	\$498,100
6	\$498,100
7	\$498,100
8	\$498,100
9	\$498,100
10	\$498,100
11	\$498,100
12	\$498,100
13	\$498,100
14	\$498,100
15	\$498,100
16	\$124,500
17	\$124,500
18	\$124,500
19	\$124,500
20	\$124,500
21	\$124,500
22	\$124,500
23	\$124,500
24	\$124,500
25	\$124,500
26	\$124,500
27	\$124,500
28	\$124,500
29	\$124,500
30	\$124,500
31	\$124,500
32	\$124,500
33	\$124,500
34	\$124,500
35	\$124,500
Cumulative Total	\$11,086,500

**Totals may not sum due to rounding.*

³⁹ Data Source: Recurrent Energy.

Total Fiscal Impact

Table 5 combines the results from the calculations depicted in Tables 3 through 4 to provide an estimate of the cumulative fiscal contribution that the proposed Firefly Solar project would make to Pittsylvania County over its anticipated 35-year operational life. As these data indicate that cumulative total is approximately \$13.4 million.

Table 5: Estimated Cumulative County Revenue from the Proposed Firefly Solar Project over 35 Years

County Real Estate Tax	\$2,302,300
County Revenue from Siting Agreement	\$11,086,500
Total Cumulative Revenue over 35 Years	\$13,388,900

**Totals may not sum due to rounding.*

Current Use

This section provides a benchmark for the previous estimates of the economic contribution that the proposed Firefly Solar project would make to Pittsylvania 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:

- The proposed Firefly Solar project would be situated on approximately 1,040 acres of timber tracts and agricultural land used for cattle grazing and the production of hay and row crops.⁴⁰

Economic Impact

Applying these inputs in the IMPLAN model results in the following estimates of annual economic impact. As shown in Table 6, in its current use, the proposed Firefly Solar project site on average directly supports approximately: 1) 2 jobs, 2) \$18,400 in wages and benefits, and 3) \$62,900 in economic output to Pittsylvania County.

Taking into account the economic ripple effects that direct impact generates, on average, the total annually supported impact on Pittsylvania County is approximately: 1) 2 jobs, 2) \$22,700 in wages and benefits, and 3) \$77,200 in economic output.

Table 6: Total Estimated Annual Economic Impact of the Firefly Solar Project Site on Pittsylvania County – Current Use⁴¹

Economic Impact	Employment	Wages and Benefits	Output
1st Round Direct Economic Activity	2	\$18,400	\$62,900
2nd Round Indirect and Induced Economic Activity	< 1	\$4,280	\$14,300
Total Economic Activity	2	\$22,700	\$77,200

**Totals may not sum due to rounding.*

Fiscal Impact Assumptions

The analysis is based on the following assumptions:

- The current assessment value of the affected acreage is approximately \$1.1 million.⁴²

⁴⁰ Data Source: Recurrent Energy.

⁴¹ Calculations based data from the U.S. Department of Agriculture and IMPLAN Group, LLC for Virginia and Pittsylvania County.

⁴² Data Source: Derived from Pittsylvania County's Parcel Search website.

Fiscal Impact

Table 7 details the estimated tax revenue that the proposed Firefly Solar project site generates for Pittsylvania County in its current use. As the data in Table 7 indicate, the current county real estate tax revenue from the project site is estimated to be approximately \$6,000 per year, for a cumulative total of approximately \$0.2 million over 35 years.

Table 7: Estimated County Revenue Generated by the Proposed Firefly Solar Project Site over 35 Years from Real Estate Taxes – Current Use

Estimated Assessed Value of Property – Current Use ⁴³	\$1,076,200
Pittsylvania County Current Real Estate Tax Rate (per \$100)	0.56
Estimated Annual County Real Estate Tax – Current Use	\$6,000
Total Cumulative Revenue over 35 Years	\$210,900

**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.

⁴³ Data Source: Derived from Pittsylvania County's Parcel Search website.