

# **Attachment J. Socioeconomic Review**

This page intentionally left blank

# CARRIGER SOLAR

## ECONOMIC & FISCAL CONTRIBUTION TO Klickitat County AND THE STATE OF WASHINGTON



Prepared for

CYPRESS CREEK  
RENEWABLES 

**MANGUM**   
economics

4201 DOMINION BOULEVARD, SUITE 114  
GLEN ALLEN, VIRGINIA 23060  
804-346-8446

APRIL 2022

MANGUMECONOMICS.COM

## 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:

- **Information Technology:** Working with some of the largest names in the industry, to date the Mangum Team has produced analyses of the economic and fiscal impact of the data center industry in Virginia, home to the largest concentration of data centers in the world, and in five other states.
- **Energy:** The Mangum Team has produced analyses of the economic and fiscal impact of over 13 GW of proposed solar, wind, battery storage, and hydro projects spanning Virginia and eleven other states. Among those projects was Dominion Energy'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.
- **Economic Development and Special Projects:** The Mangum Team has performed hundreds of analyses of proposed economic development projects. Most recently, we were called upon by Henrico County to provide 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 industries that were likely recruitment targets because of the high-speed MAREA and BRUSA sub-sea cable landings in Virginia Beach.
- **Education and Workforce:** The Mangum Team has worked with multiple post-secondary and secondary education institutions to quantify their economic contribution to their host communities as well as their impact on regional and statewide workforce needs.

### The Project Team

Martina Arel, M.B.A.

*Director – Economic Development &  
Renewable Energy Research*

Rebecca Kyle

*Research Analyst*

A. Fletcher Mangum, Ph.D.

*Founder and CEO*



## Table of Contents

Executive Summary.....	3
Introduction .....	7
The Project.....	7
Electricity Production in Washington .....	7
Overall Market .....	7
Sources of Production.....	8
Local Economic Profile .....	10
Total Employment.....	10
Employment and Wages by Major Industry Sector .....	11
Unemployment .....	13
Economic and Fiscal Impact.....	15
Method .....	15
Construction Phase .....	16
Assumptions.....	16
Economic Impact on Klickitat County .....	16
Economic Impact on Washington Statewide .....	17
Results – Fiscal Impact .....	17
Ongoing Operations Phase .....	18
Economic Impact Assumptions.....	18
Economic Impact on Klickitat County .....	18
Economic Impact on Washington Statewide .....	18
Fiscal Impact Assumptions.....	19
Results – Fiscal Impact .....	19
Real Estate Tax Revenue .....	20
Personal Property Tax Revenue .....	22
Total Fiscal Impact .....	34
Current Agricultural Use .....	36
Assumptions.....	36
Results – Economic Impact .....	36



Results – Fiscal Impact ..... 37

Appendix: Socioeconomic Impact Analysis – WAC 463-60-535 ..... 39

Population and Labor Force ..... 39

Housing Impacts..... 44

## Executive Summary

---

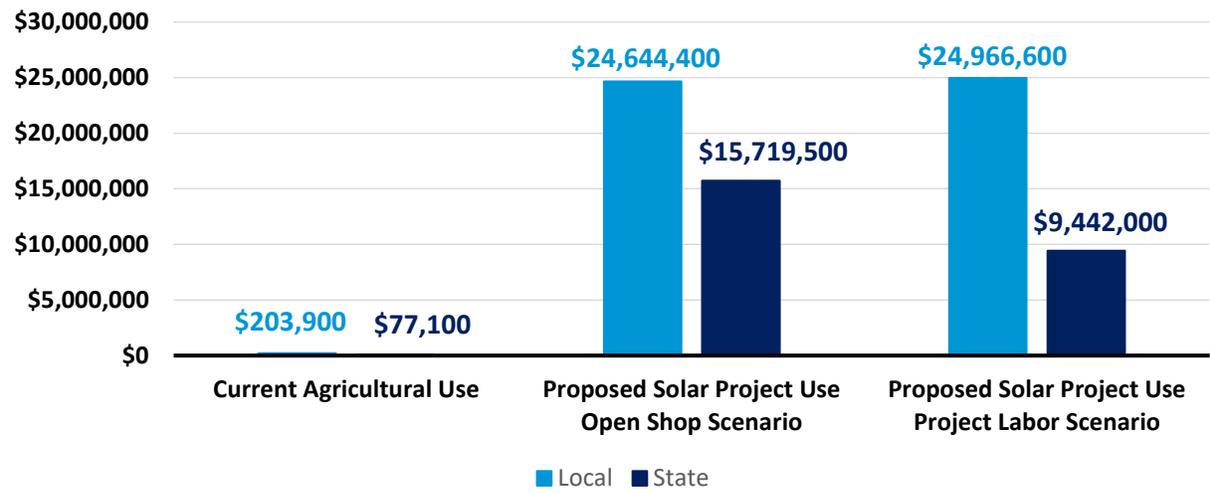
This report assesses the economic and fiscal contribution that the proposed Carriger Solar project would make to Klickitat County and to the State of Washington. The primary findings from that assessment are as follows:

- **Carriger Solar is a proposed 160-Megawatt (MW) AC utility-scale solar photovoltaic power generating facility that would be developed by Cypress Creek Renewables. The project would be located along Knight Road, Mesecher Road W, Fish Hatchery Road, Pine Forest Road, Tucker Hill Road, and Butts Road near the city of Goldendale in Klickitat County, Washington. The acreage to be leased and purchased for the project would be approximately 2,113 acres. The actively used, fenced-in acreage for the project would be approximately 1,448 acres of agricultural land.**
- **The proposed Carriger Solar project would make a significant economic contribution to Klickitat County and to the state of Washington during construction of the project:**
  - The proposed Carriger Solar project would provide an estimated one-time pulse of economic activity to Klickitat County supporting approximately:
    - 124 direct, indirect, and induced jobs.
    - \$3.8 million in associated labor income.
    - \$19.2 million in economic output.
  - The proposed Carriger Solar project would provide an estimated one-time pulse of economic activity to the state of Washington (including Klickitat County) supporting approximately:
    - 543 direct, indirect, and induced jobs.
    - \$37.4 million in associated labor income.
    - \$105.5 million in economic output.
- **The proposed Carriger Solar project would make a significant economic contribution to Klickitat County and to the state of Washington during its ongoing operational phase:**
  - The proposed Carriger Solar project would provide an estimated annual economic impact to Klickitat County supporting approximately:
    - 6 direct, indirect, and induced jobs.
    - \$344,000 in associated labor income.
    - \$1.1 million in economic output.
  - The proposed Carriger Solar project would provide an estimated annual economic impact to the state of Washington (including Klickitat County) supporting approximately:
    - 7 direct, indirect, and induced jobs.
    - \$379,800 in associated labor income.
    - \$1.2 million in economic output.



- The proposed Carriger Solar project would have a significantly greater fiscal impact on Klickitat County, its local taxing districts, and the State of Washington than the property generates in its current agricultural use:<sup>1</sup>
  - The proposed Carriger Solar project would generate approximately between \$24.6 and \$25.0 million in cumulative county and local taxing district tax revenue over the facility’s anticipated 40-year operational life, as compared to approximately \$203,900 in cumulative county and local taxing district tax revenue in the property’s current agricultural use.
  - The proposed Carriger Solar project would also generate approximately between 9.4 and \$15.7 million in cumulative state tax revenue over the facility’s anticipated 40-year operational life, as compared to approximately \$77,100 in cumulative state tax revenue in the property’s current agricultural use.

**Estimated Cumulative Klickitat County and State of Washington Tax Revenue over 40 Years (2022 Dollars)**

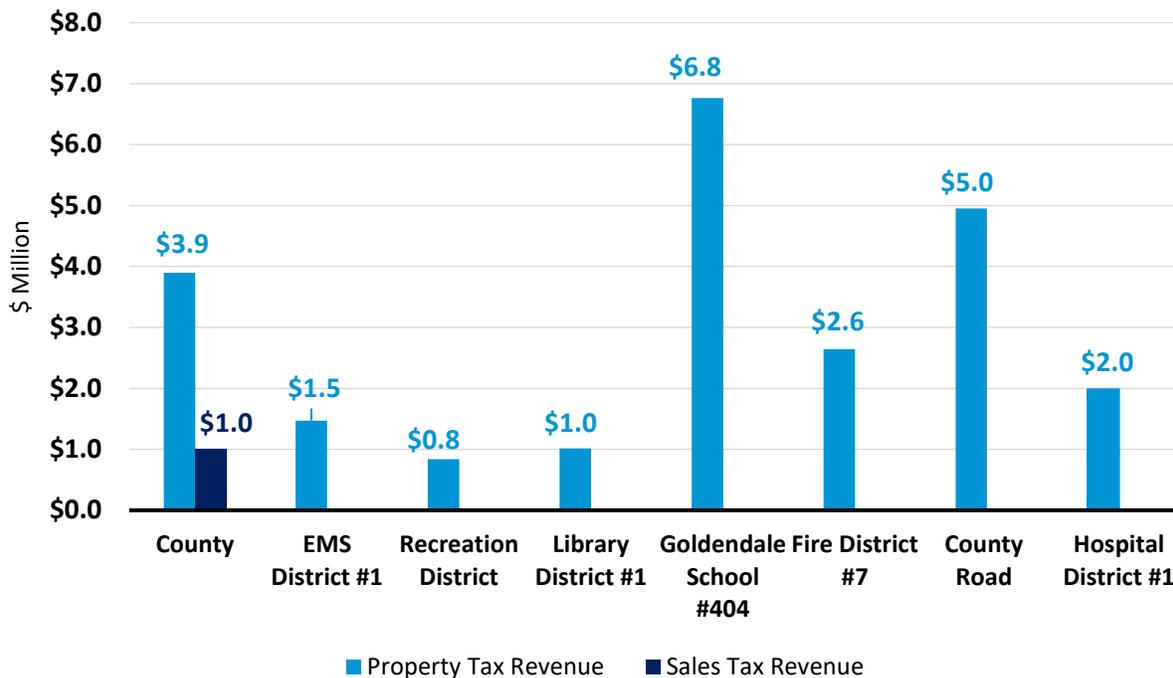


- Taxation of the proposed Carriger Solar project over the facility’s anticipated 40-year operational life would generate approximately \$24.6 million under an open shop scenario, consisting of approximately:
  - \$4.9 million for the County (including \$1.0 million in local sales tax revenue from construction)
  - \$1.5 million for the EMS District #1
  - \$0.8 million for the Recreation District
  - \$1.0 million for the Library District #1
  - \$6.8 million for the Goldendale School District #404
  - \$2.6 million for the Fire District #7
  - \$5.0 million for the County Road fund, and
  - \$2.0 million for the Hospital District #1.

<sup>1</sup> Open Shop scenario includes sales tax revenue from construction phase.



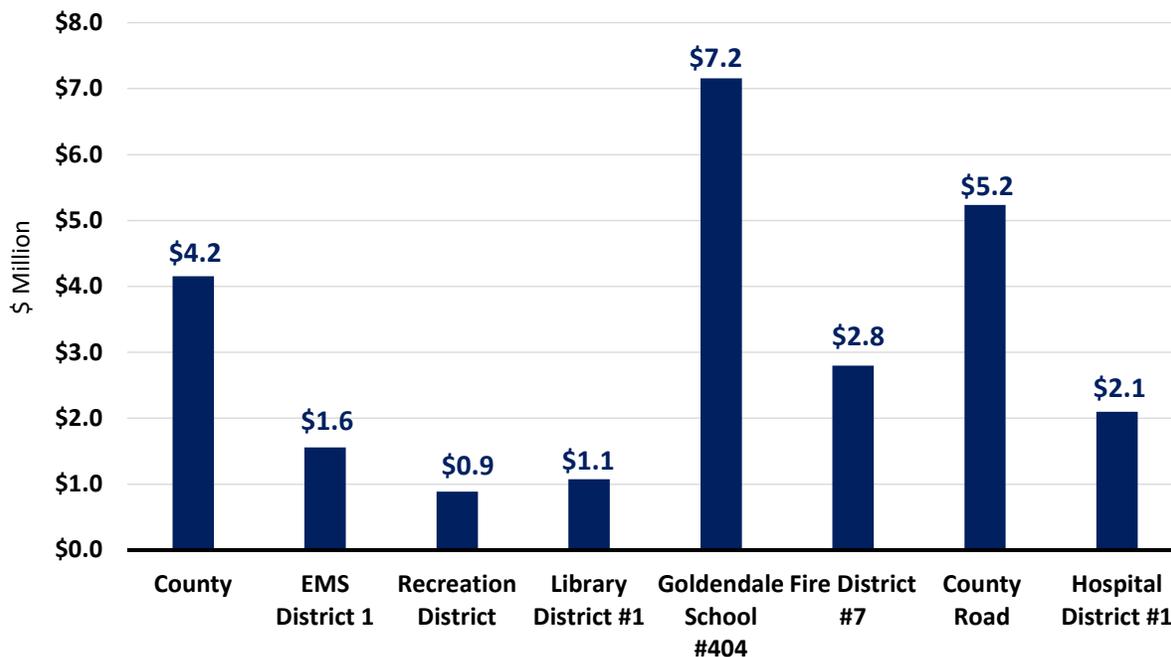
### Estimated Cumulative Klickitat County and Local Taxing District Tax Revenue over 40 Years (2022 Dollars) - Open Shop Scenario



- Taxation of the proposed Carriger Solar project over the facility’s anticipated 40-year operational life would generate approximately \$25.0 million under a project labor scenario, consisting of approximately:
  - \$4.2 million for the County
  - \$1.6 million for the EMS District #1
  - \$0.9 million for the Recreation District
  - \$1.1 million for the Library District #1
  - \$7.2 million for the Goldendale School District #404
  - \$2.8 million for the Fire District #7
  - \$5.2 million for the County Road fund, and
  - \$2.1 million for the Hospital District #1.



### Estimated Cumulative Klickitat County and Local Taxing District Tax Revenue over 40 Years (2022 Dollars) - Project Labor Scenario



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



## Introduction

---

This report assesses the economic and fiscal contribution that the proposed Carriger Solar project would make to Klickitat County and to Washington State. This report was commissioned by Cypress Creek Renewables and produced by Mangum Economics.

## The Project

---

Carriger Solar is a proposed 160-Megawatt (MW) AC utility-scale solar photovoltaic power generating facility that would be developed by Cypress Creek Renewables. The project would be located along Knight Road, Mesecher Road W, Fish Hatchery Road, Pine Forest Road, Tucker Hill Road, and Butts Road near the city of Goldendale in Klickitat County, Washington. The acreage to be leased and purchased for the project would be approximately 2,113 acres. The actively used, fenced-in acreage for the project would be approximately 1,448 acres of agricultural land.

## Electricity Production in Washington

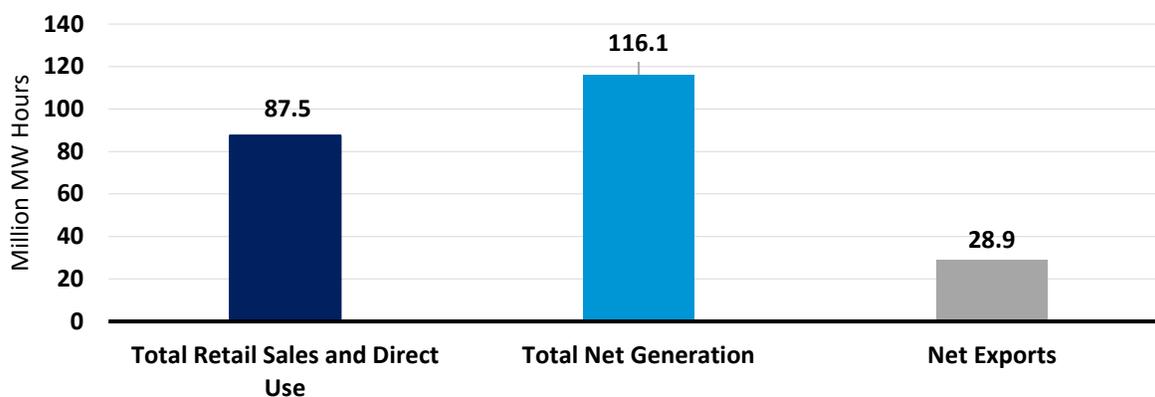
---

In this section, we provide a backdrop for the proposed Carriger Solar project by profiling Washington’s electricity production sector and the role that solar energy could play in that sector.

### Overall Market

As shown in Figure 1, electricity sales and direct use in Washington totaled 87.5 million megawatt hours in 2020. Washington’s entire demand that year was met by in-state utilities, independent producers, and other sources. As a result, the state was able to export about one quarter of the electricity it produced to other states. As with all exports, this means that the jobs, wages, and economic output created by that production remained in Washington.

Figure 1: Demand and Supply of Electricity in Washington in 2020 (in millions of megawatt-hours)<sup>2</sup>



<sup>2</sup> Data Source: U.S. Energy Information Administration. In this chart, “Net Exports” does not directly equal the residual of “Total Net Generation” minus “Total Retail Sales and Direct Use” because of losses during transmission.



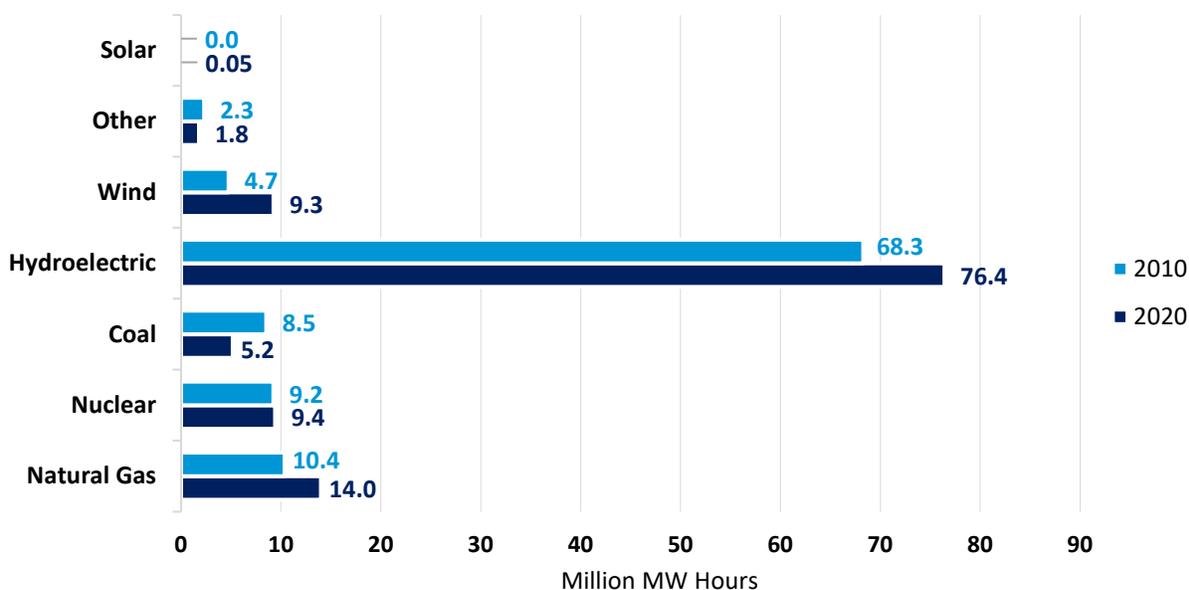
## Sources of Production

The total amount of electricity produced in Washington between 2010 and 2020 increased from 103.5 to 116.1 million megawatt hours, while retail and direct consumption of electricity fluctuated, but ultimately decreased from 91.4 to 87.5 million megawatt hours. Consequently, exports of electricity increased during this time.

Figure 2 provides a comparison of the energy sources that were used to produce electricity in Washington in 2010 and 2020. As these data show, the most significant change between 2010 and 2020 was an increase in the use of renewable sources and natural gas and a small decrease in the use of coal. Specifically, Washington reduced its use of coal from 8.5 million megawatt hours in 2010 to 5.2 million megawatt hours (or 5 percent) of total production in 2020.

Hydroelectric, which already was the state’s largest source of electricity in 2010, accounting for 68.3 million megawatt hours of production, further increased its share to 76.4 million megawatt hours (or 66 percent) of total production. Additionally, wind almost doubled its production from 4.7 million megawatt hours in 2010 to 9.3 million megawatt hours (or 8.0 percent) of total production in 2020. Natural gas added 3.7 million megawatt hours to its share, increasing total production to 14.0 million megawatt hours (or 12 percent). Although small-scale solar entered the Washington market in 2007, the state’s first utility-scale solar farm began operations in 2018, and solar production totaled 0.05 million megawatt hours in 2020.

Figure 2: Electricity Generation in Washington by Energy Source in 2010 and 2020  
(in millions of megawatt-hours)<sup>3</sup>

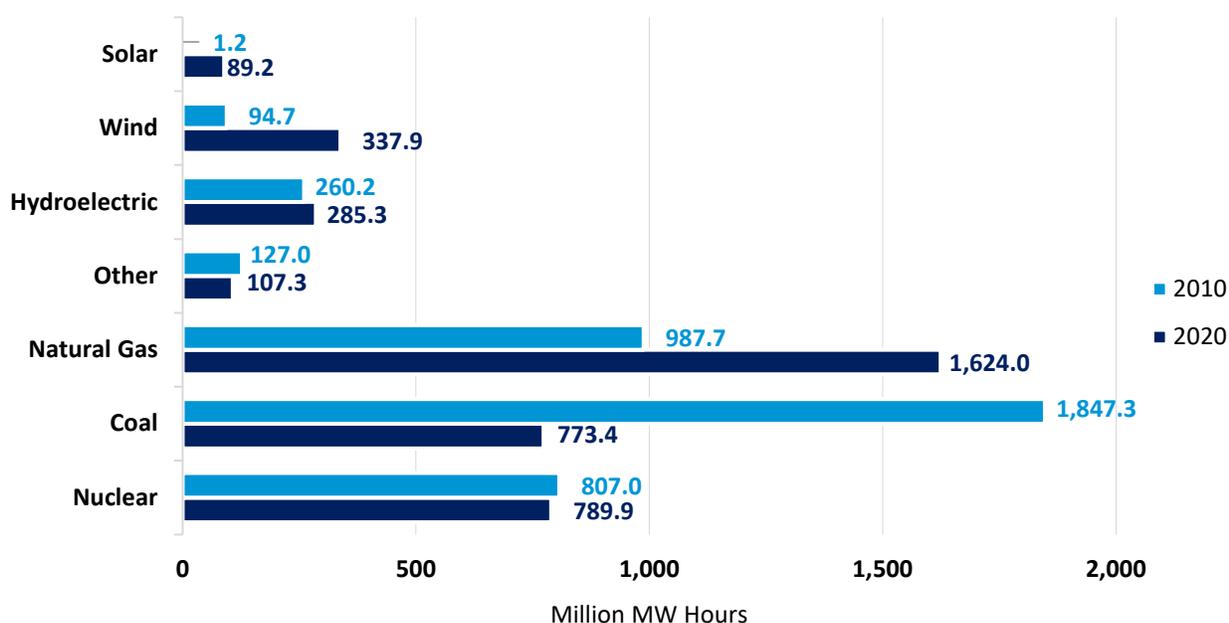


<sup>3</sup> Data Source: U.S. Energy Information Administration. “Other” includes battery, other biomass, other, other gas, petroleum, pumped storage, and wood.



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 significantly different between the U.S. and Washington, the trend toward lower-emissions and renewable energy sources is the same. Nationally, between 2010 and 2020 the amount of electricity produced using coal declined by 1,073.9 million megawatt hours from 45 to 19 percent of production, while in contrast the amount of electricity produced using natural gas increased by 636.4 million megawatt hours from 24 to 41 percent of production. Nationwide, as in Washington, the reliance on renewable energy sources increased during this time but the nation is still behind Washington in the overall reliance on renewable sources with 18 percent of total production coming from hydroelectric, wind, and solar in 2020, compared to 74 percent in Washington. However, between 2010 and 2020, the amount of electricity produced using solar increased by 88.0 million megawatt hours to 2 percent of total electricity production nationwide compared to 0.04 percent of total electricity production in Washington.

Figure 3: Electricity Generation in the United States by Energy Source in 2010 and 2020  
(in millions of megawatt-hours)<sup>4</sup>



<sup>4</sup> Data Source: U.S. Energy Information Administration. “Other” includes battery, geothermal, other, other biomass, other gas, petroleum, pumped storage, and wood.



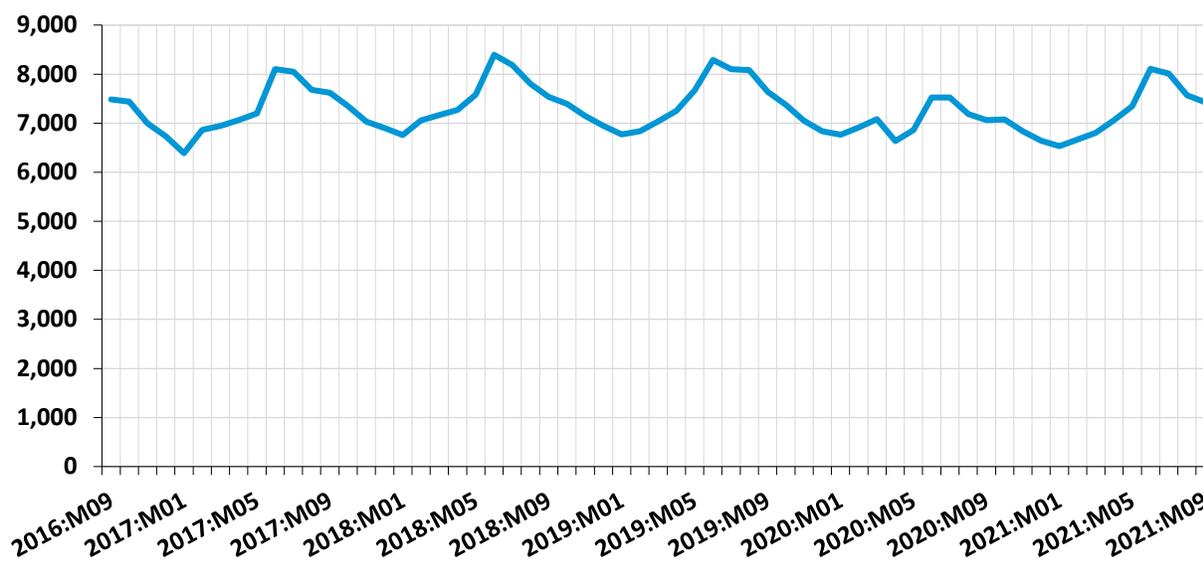
## Local Economic Profile

The local economic profile offers context for the economic and fiscal impact assessments to follow by profiling the local economy of Klickitat County.

### Total Employment

Figure 5 depicts the trend in total employment in Klickitat County from September 2016 to September 2021. As these data show, aside from seasonal fluctuations, employment in Klickitat County has generally remained steady throughout the five-year period. As of September 2021, total employment stood at 7,427 jobs, which represents an overall decrease of 60 jobs or 0.8 percent over the entire five-year period. To put this number in perspective, over this same five-year period, total statewide employment in Washington increased by 4.2 percent.<sup>5</sup>

Figure 5: Total Employment in Klickitat County – September 2016 to September 2021<sup>6</sup>



To control for seasonality and provide context for the growth numbers given above, Figure 6 compares the year-over-year change in total employment in Klickitat County to that of Washington as a whole 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, Klickitat County’s year-over-year employment fluctuated around the statewide trend. In April 2020 Klickitat County and Washington state both experienced decline in year-over-year change in employment as a result of labor dislocations caused by the coronavirus pandemic. Since then, both the state and county have recovered and surpassed pre-pandemic levels. As of September 2021, the year-

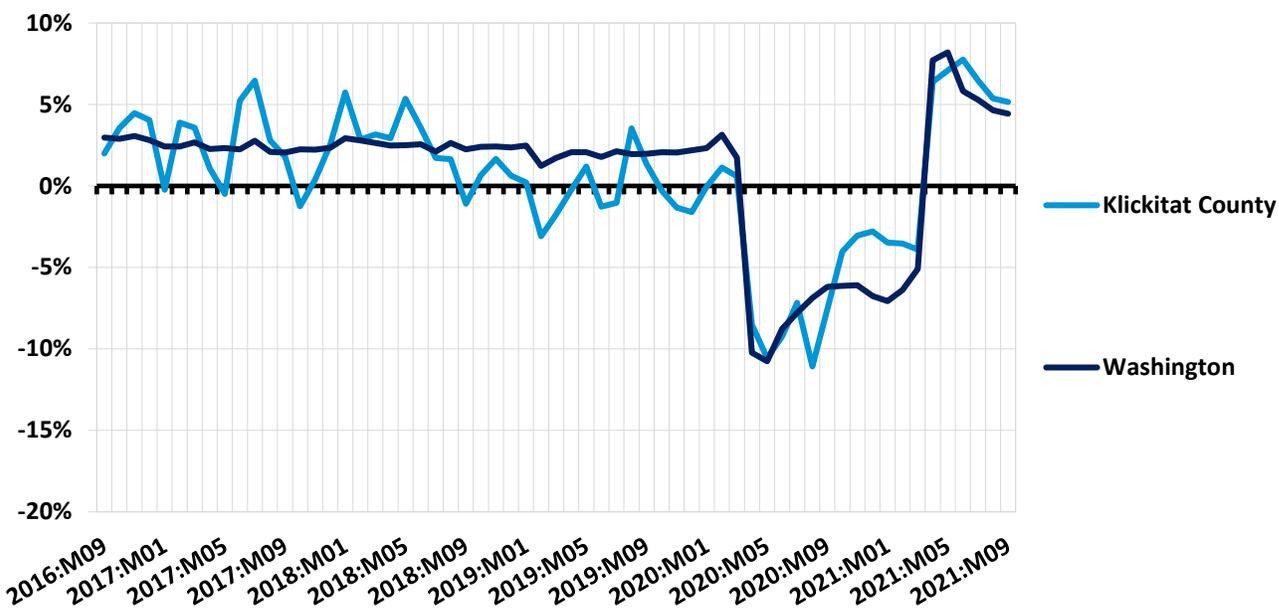
<sup>5</sup> Data Source: Bureau of Labor Statistics.

<sup>6</sup> Data Source: Bureau of Labor Statistics.



over-year change in total employment in Klickitat County was 5.2 percent while the year-over-year change in employment for Washington as a whole was 4.4 percent.

Figure 6: Year-Over-Year Change in Total Employment – September 2016 to September 2021<sup>7</sup>



## Employment and Wages by Major Industry Sector

To provide a better understanding of the underlying factors motivating the total employment trends depicted in Figures 5 and 6, Figures 7 through 9 provide data on private employment and wages in Klickitat County by industry super sector.<sup>8</sup>

Figure 7 provides an indication of the distribution of private sector employment across industry super sectors in Klickitat County for the third quarter of 2021. As these data indicate, the county’s largest industry super sector that quarter was Manufacturing (1,483 jobs), followed by Natural Resources and Mining (1,473 jobs), and Trade, Transportation, and Utilities (820 jobs).

Figure 8 provides a similar ranking for average private sector weekly wages by industry super sector in Klickitat County for the third quarter of 2021. As these data show, the highest paying industry super sectors that quarter were Information (\$2,827 per week), Manufacturing (\$1,366 per week), and Professional and Business Services (\$1,328 per week). For reference, the average private sector weekly wage across all industry sectors in Klickitat County that quarter was \$1,017 per week.

<sup>7</sup> Data Source: Bureau of Labor Statistics.

<sup>8</sup> A “super sector” is the highest level of aggregation in the coding system that the Bureau of Labor Statistics uses to classify industries.



Figure 7: Private Employment by Industry Super Sector in Klickitat County – Qu. 3 2021<sup>9</sup>

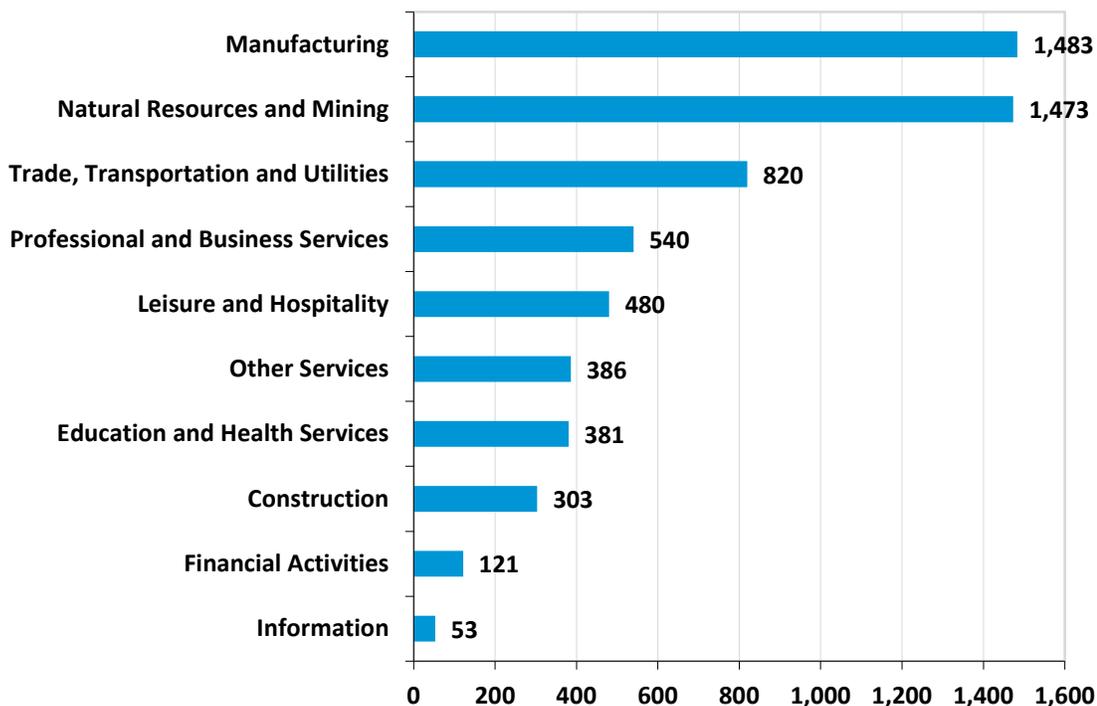
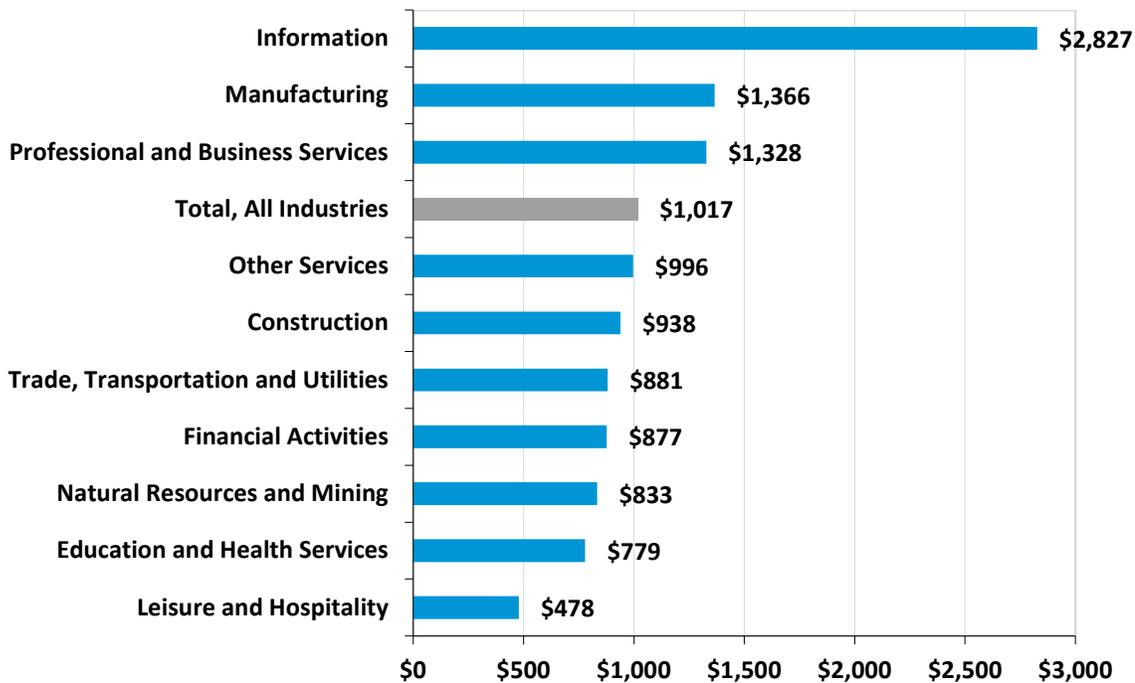


Figure 8: Average Private Weekly Wages by Industry Super Sector in Klickitat County – Qu. 3 2021<sup>10</sup>



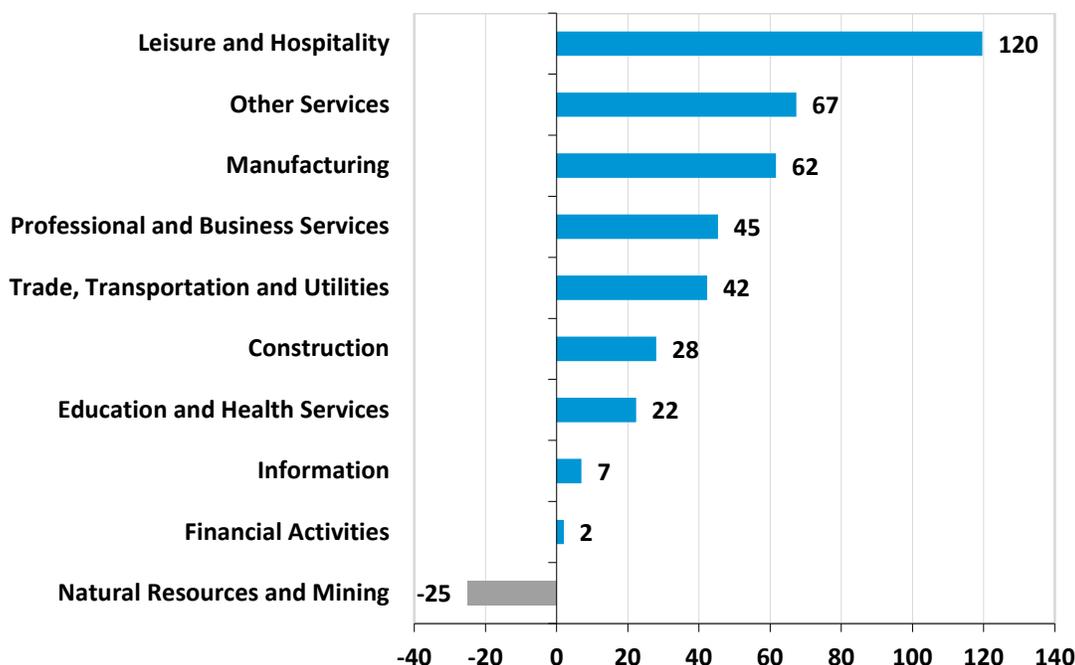
<sup>9</sup> Data Source: Bureau of Labor Statistics.

<sup>10</sup> Data Source: Bureau of Labor Statistics.



Lastly, Figure 9 details the year-over-year change in private sector employment from the third quarter of 2020 to the third quarter of 2021 in Klickitat County by industry super sector. The largest employment gains occurred in the Leisure and Hospitality (up 120 jobs), Other Services (up 67 jobs), and Manufacturing (up 62 jobs) sectors. The only employment loss occurred in the Natural Resources and Mining (down 25 jobs) sector.

**Figure 9: Change in Private Employment by Industry Super Sector in Klickitat County from Qu. 3 2020 to Qu. 3 2021<sup>11</sup>**



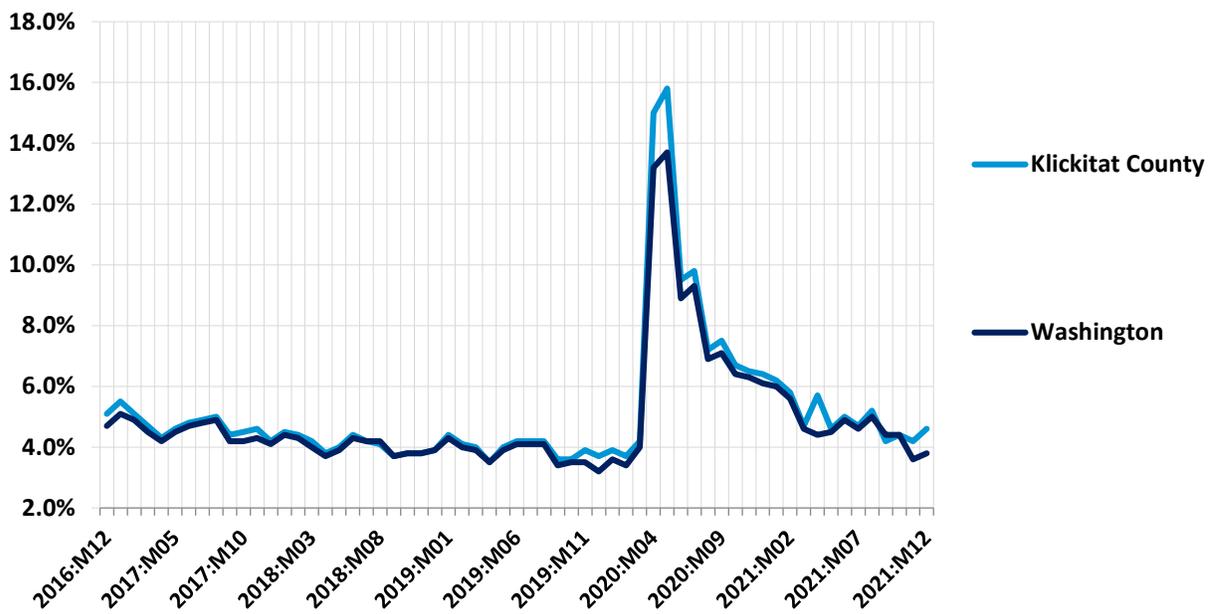
## Unemployment

Figure 10 illustrates the trend in Klickitat County’s unemployment rate over the five-year period from December 2016 through December 2021 and benchmarks those data against the statewide trend for Washington. As these data show, unemployment rates in Klickitat County generally tracked closely with statewide trends. During the recovery from the pandemic, unemployment rates in Klickitat County were slightly higher than the statewide average, and as of December 2021, unemployment stood at 4.6 percent in Klickitat County as compared to 4.0 percent in Washington as a whole.

<sup>11</sup> Data Source: Bureau of Labor Statistics.



Figure 10: Unemployment Rate – December 2016 to December 2021<sup>12</sup>



<sup>12</sup> Data Source: Bureau of Labor Statistics.

## Economic and Fiscal Impact

---

The analysis provided in this section quantifies the economic and fiscal contribution that the proposed Carriger Solar project would make to Klickitat County and the State of Washington. 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 Carriger Solar project, the analysis employs a regional economic impact model called IMPLAN.<sup>13</sup> The IMPLAN model is one of the most commonly used economic impact simulation models in the U.S. and is frequently employed by universities, 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 Carriger Solar project purchases goods and services – or when employees or 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. goods and services purchased by the Carriger 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).

---

<sup>13</sup> IMPLAN is produced by IMPLAN Group, LLC.

## Construction Phase

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

### Assumptions

The analysis is based on the following assumptions:

- Total capitalized investment in the Carriger Solar project is estimated to be approximately \$252.8 million.<sup>14</sup>
- Of that total:
  - Architecture, engineering, site preparation, and other development and construction costs are estimated to be approximately \$91.7 million.<sup>15</sup>
  - Capital equipment costs are estimated to be approximately \$161.1 million.<sup>16</sup> It is anticipated that no capital equipment would be purchased from vendors in Klickitat County.<sup>17</sup>
- For ease of analysis, all construction expenditures are assumed to take place in a single year.
- The estimated total sales tax revenue generated by the Carriger Solar project during the construction phase under a project labor scenario is approximately \$7.8 million.<sup>18</sup>

### Economic Impact on Klickitat County

Applying these assumptions in the IMPLAN model results in the following estimates of one-time economic impact on Klickitat County. As shown in Table 1, construction of the proposed Carriger Solar project would directly provide a one-time pulse supporting approximately: 1) 101 jobs, 2) \$2.8 million in labor income, and 3) \$15.4 million in economic output to Klickitat County (in 2022 dollars).<sup>19</sup>

Taking into account the economic ripple effects that direct investment would generate, the estimated total one-time impact on Klickitat County would support approximately: 1) 124 jobs, 2) \$3.8 million in labor income, and 3) \$19.2 million in economic output (in 2022 dollars).

---

<sup>14</sup> Data Source: Cypress Creek Renewables. Investment estimate is subject to change based on final design and vendor contracts.

<sup>15</sup> Data Source: Cypress Creek Renewables.

<sup>16</sup> Data Source: Cypress Creek Renewables.

<sup>17</sup> Data Source: IMPLAN Group, LLC.

<sup>18</sup> Data Source: Cypress Creek Renewables.

<sup>19</sup> It is important to note that construction sector jobs are not necessarily new jobs, but the investments made can also support a job during the construction of the project.

**Table 1: Estimated One-Time Economic and Fiscal Impact on Klickitat County from Construction of Carriger Solar (2022 Dollars)**

Economic Impact	Employment	Labor Income	Output
<b>1<sup>st</sup> Round Direct Economic Activity</b>	101	\$2,793,300	\$15,366,400
<b>2<sup>nd</sup> Round Indirect and Induced Economic Activity</b>	23	\$986,200	\$3,846,600
<b>Total Economic Activity</b>	<b>124</b>	<b>\$3,779,500</b>	<b>\$19,213,000</b>

### Economic Impact on Washington Statewide

*(Includes Klickitat County impact)*

Applying the above stated assumptions in the IMPLAN model results in the following estimates of one-time economic impact on the state of Washington. As shown in Table 2, construction of the proposed Carriger Solar project would directly provide a one-time pulse of economic activity supporting approximately: 1) 350 jobs, 2) \$24.6 million in labor income, and 3) \$64.8 million in economic output to the state of Washington as a whole (in 2022 dollars).<sup>20</sup>

Taking into account the economic ripple effects that direct investment would generate, the total estimated one-time impact on the state of Washington would support approximately: 1) 543 jobs, 2) \$37.4 million in labor income, and 3) \$105.5 million in economic output (in 2022 dollars).

**Table 2: Estimated One-Time Economic and Fiscal Impact on the State of Washington from Construction of Carriger Solar (2022 Dollars)**

Economic Impact	Employment	Labor Income	Output
<b>1<sup>st</sup> Round Direct Economic Activity</b>	350	\$24,632,100	\$64,835,200
<b>2<sup>nd</sup> Round Indirect and Induced Economic Activity</b>	193	\$12,748,500	\$40,664,200
<b>Total Economic Activity</b>	<b>543</b>	<b>\$37,380,600</b>	<b>\$105,499,400</b>

### Results – Fiscal Impact

Table 3 shows the distribution of the estimated sales tax generated during the construction phase of the project under a project labor scenario between Klickitat County and the State of Washington. As indicated in Table 3, the local sales tax is estimated to be approximately \$1.0 million, and the state portion of the sales tax is estimated to be approximately \$6.8 million (in 2022 dollars).

**Table 3: Estimated One-Time Sales Tax Revenue from Construction of Carriger Solar (2022 Dollars)**

Fiscal Impact	Klickitat County	State of Washington	Total
<b>Sales Tax Rate</b>	1%	6.5%	\$7.5%
<b>Estimated Sales Tax Revenue</b>	<b>\$1,045,333</b>	<b>\$6,794,667</b>	<b>\$7,840,000</b>

<sup>20</sup> Please note that construction sector jobs are not necessarily new jobs, but the investments made can also support a job during the construction of the project.

## Ongoing Operations Phase

This portion of the section assesses the annual economic and fiscal impact that the proposed Carriger Solar project would have on Klickitat County and the state of Washington during its anticipated 40-year operational phase.

### Economic Impact Assumptions

The analysis is based on the following assumptions:

- The Carriger Solar project would spend approximately \$670,000 each year for vegetative control, maintenance and repair, and other operational expenditures.<sup>21</sup>
- The Carriger Solar project would make confidential lease payments to local landowners.

### Economic Impact on Klickitat County

Applying these assumptions in the IMPLAN model results in the following estimates of annual economic impact on Klickitat County. As shown in Table 4, annual operation of the proposed Carriger Solar project would directly support approximately: 1) 3 jobs, 2) \$218,000 in labor income, and 3) \$517,600 in economic output in Klickitat County (in 2022 dollars).

Taking into account the economic ripple effects that direct impact would generate, the total estimated annually supported impact on Klickitat County would be approximately: 1) 6 jobs, 2) \$344,000 in labor income, and 3) \$1.1 million in economic output (in 2022 dollars).

**Table 4: Estimated Annual Economic Impact on Klickitat County from the Ongoing Operation of the Carriger Solar Project (2022 Dollars)**

Economic Impact	Employment	Labor Income	Output
<b>1<sup>st</sup> Round Direct Economic Activity</b>	3	\$218,000	\$517,600
<b>2<sup>nd</sup> Round Indirect and Induced Economic Activity</b>	3	\$126,000	\$572,300
<b>Total Economic Activity</b>	<b>6</b>	<b>\$344,000</b>	<b>\$1,089,900</b>

### Economic Impact on Washington Statewide

*(Includes Klickitat County impact)*

Applying these assumptions in the IMPLAN model results in the following estimates of annual economic impact on the state of Washington. As shown in Table 5, annual operation of the proposed Carriger Solar project would directly support approximately: 1) 3 jobs, 2) \$218,000 in labor income, and 3) \$517,600 in economic output to the state of Washington (in 2022 dollars).

<sup>21</sup> Data Source: Cypress Creek Renewables. Subject to change based on final design and vendor contracts.

Taking into account the economic ripple effects that direct impact would generate, the total estimated annually supported impact on the state of Washington would be approximately: 1) 7 jobs, 2) \$379,800 in labor income, and 3) \$1.2 million in economic output (in 2022 dollars).

**Table 5: Estimated Annual Economic Impact on the State of Washington from the Ongoing Operation of the Carriger Solar Project (2022 Dollars)**

Economic Impact	Employment	Labor Income	Output
<b>1<sup>st</sup> Round Direct Economic Activity</b>	3	\$218,000	\$517,600
<b>2<sup>nd</sup> Round Indirect and Induced Economic Activity</b>	4	\$161,800	\$690,400
<b>Total Economic Activity</b>	<b>7</b>	<b>\$379,800</b>	<b>\$1,208,000</b>

### Fiscal Impact Assumptions

The analysis is based on the following assumptions:

- The Carriger Solar project would lease and purchase approximately 2,113 acres of land located in Tax Code Area 37 in Klickitat County.<sup>22</sup>
- The actively used, fenced-in acreage (approximately 1,448 acres) would be removed from the current farm use classification and assessed at its current market value.<sup>23</sup>
- The residual acreage would continue to be farmed and assessed at its current farm use value.<sup>24</sup>
- Millage rates remain constant throughout the analysis.
- Total capitalized investment in the Carriger Solar project is estimated to be approximately<sup>25</sup>
  - \$252.8 million under an open shop scenario, consisting of approximately \$179.9 million in taxable solar property, \$65.0 million in taxable battery storage property, and \$7.8 million in sales taxes.
  - \$258.3 million under a project labor scenario consisting of approximately \$193.3 million in taxable solar property and \$65.0 million in taxable battery storage property.

### Results – Fiscal Impact

The analysis on the following pages quantifies the direct fiscal contribution that the proposed Carriger Solar project would make to Klickitat County, its local taxing districts, and Washington State from taxation of real and personal property associated with the project. It should be noted at the outset, however, that the analysis that follows likely understates the actual fiscal impact that Carriger Solar would have as it only accounts for the direct fiscal impact that Carriger Solar would have on Klickitat

<sup>22</sup> Data Source: Cypress Creek Renewables.

<sup>23</sup> Data Source: Cypress Creek Renewables.

<sup>24</sup> Data Source: Cypress Creek Renewables.

<sup>25</sup> Data Source: Cypress Creek Renewables.

County, its local jurisdictions, and the state. It does not take into account any additional tax revenue that would be generated as a result of the indirect economic activity attributable to the ongoing operation of Carriger Solar.

### *Real Estate Tax Revenue*

Table 6 details the revenue that the proposed Carriger Solar project would generate for Klickitat County and the state of Washington over a 40-year period from the increased property assessments associated with the reclassification of the affected acreage from its current agricultural use to its current market value.

As the data in Table 6 indicate, the annual local real estate tax revenue from the project after reassessment is estimated to be approximately \$16,852 per year for a cumulative total of approximately \$0.7 million over 40 years (in 2022 dollars). Adding one-time Additional Tax (rollback) revenue of approximately \$92,133 increases that total to approximately \$0.8 million (in 2022 dollars).<sup>26</sup> This consists of approximately: \$127,553 for the county, \$47,799 for the EMS District #1, \$27,265 for the Recreation District, \$32,933 for the Library District #1, \$219,564 for the Goldendale School District #404, \$85,921 for the Fire District #7, \$160,720 for the county road fund, and \$64,453 for the Hospital District #1 (in 2022 dollars).

Table 6 also shows the state real estate tax revenue from the project after reclassification, which is estimated to be approximately \$6,373 per year for a cumulative total of approximately \$254,925 over 40 years (in 2022 dollars). Adding one-time Additional Tax (rollback) revenue of approximately \$34,843 increases that total to approximately \$0.3 million (in 2022 dollars).

The total revenue from state and local taxation of the real property associated with Carriger Solar project is estimated to be approximately \$1.1 million over 40 years (in 2022 dollars).

---

<sup>26</sup> Additional tax calculated as the tax on the difference of the current use value and the market value of the land for seven years plus interest. Does not account for changes in assessment value or tax rates. Does not include penalty.



**Table 6: Estimated Tax Revenue Generated by the Proposed Carriger Solar Project over 40 Years from Additional Real Property Taxes (2022 Dollars)**

	County	EMS District 1	Recreation District	Library District #1	Golden-dale School #404	Fire District #7	County Road	Hospital District #1	Total Local Tax Revenue	Total State of Washing-ton	Total
<b>Tax Rate per \$1000<sup>27</sup></b>	\$1.234	\$0.462	\$0.264	\$0.319	\$2.124	\$0.831	\$1.555	\$0.623	\$7.411	\$2.803	\$10.214
Estimated Value of Land <sup>28</sup>											\$2,273,837
Annual Real Estate Tax Revenue	\$2,805	\$1,051	\$600	\$724	\$4,829	\$1,890	\$3,535	\$1,418	\$16,852	\$6,373	\$23,225
<b>Cumulative Real Estate Tax Revenue (over 40 Years)</b>	<b>\$112,215</b>	<b>\$42,051</b>	<b>\$23,987</b>	<b>\$28,973</b>	<b>\$193,163</b>	<b>\$75,589</b>	<b>\$141,394</b>	<b>\$56,703</b>	<b>\$674,075</b>	<b>\$254,925</b>	<b>\$929,000</b>
Additional (Rollback) Tax <sup>29</sup>	\$15,338	\$5,748	\$3,279	\$3,960	\$26,402	\$10,332	\$19,326	\$7,750	\$92,133	\$34,843	\$126,976
<b>Total Real Estate Tax Revenue</b>	<b>\$127,553</b>	<b>\$47,799</b>	<b>\$27,265</b>	<b>\$32,933</b>	<b>\$219,564</b>	<b>\$85,921</b>	<b>\$160,720</b>	<b>\$64,453</b>	<b>\$766,208</b>	<b>\$289,768</b>	<b>\$1,055,976</b>

*\*Totals may not sum due to rounding*

<sup>27</sup> Data Source: Klickitat County Consolidated Tax Code Areas and rates for tax year 2022. Rates shown rounded to third digit.

<sup>28</sup> Estimated based on data provided on the Klickitat County Parcel Information Online tool. Value includes current market value of the fenced-in acreage and current agricultural use value of the residual project acreage.

<sup>29</sup> Additional tax calculated as the tax on the difference of the current use value and the market value of the land for seven years plus interest. Does not account for changes in assessment value or tax rates. Does not include penalty.

## Personal Property Tax Revenue

The following section details the revenue that the proposed Carriger Solar project would generate for Klickitat County, its local taxing districts, and the state of Washington over a 40-year period from taxation of the investment in personal property associated with the project. The Washington Department of Revenue annually publishes “Personal and Industrial Property Valuation Guidelines” to assist county assessor offices in determining the assessed values of personal property located in their counties. The current guidelines contain guidance on combined trended investment tables for solar panels and solar farm battery storage. However, SB 5910, which was passed in the 2022 Legislative Session, requires the Department of Revenue to jointly develop a cost-based appraisal method and industry-specific valuation tables for renewable energy facilities with industry stakeholders. Revised valuation tables will have to be published by January 1, 2023. The analysis on the following pages is therefore based on the currently available guidelines.

Tables 7 and 8 summarize the additional annual revenue that the proposed Carriger Solar project would generate for Klickitat County, its local taxing districts, and the state of Washington over a 40-year period from taxes levied on capital investment. These calculations are based on: 1) the original cost of installation, times 2) the applicable percent good indicators for solar panels and for solar farm battery storage<sup>30</sup>, times 3) the applicable tax rate.

### Open Shop Scenario

Table 7 details the tax revenue from taxation of the capital investment in the project under an open shop scenario.

As the data in Table 7 indicate, the total local personal property tax revenue from taxation of the investments in the Carriger Solar project would be approximately \$1.6 million in the first year of operation, with that figure projected to decline to approximately \$0.3 million in year 27 and thereafter as the value of the proposed capital investments is depreciated, for a cumulative total of approximately \$22.8 million over 40 years (in 2022 dollars).

Table 7 also shows the total state personal property tax revenue from taxation of the investments in the Carriger Solar project. The tax revenue in the first year of operation would be approximately \$0.6 million, with that figure projected to decline to approximately \$0.1 million in year 27 and thereafter as the value of the proposed capital investments is depreciated, for a cumulative total of approximately \$8.6 million over 40 years (in 2022 dollars).

The combined total local and state tax revenue from taxation of the investments in the Carriger Solar project would be approximately \$31.5 million over 40 years under an open shop scenario (in 2022 dollars).

---

<sup>30</sup> Data Source: Washington Department of Revenue, 2022 Guidelines for Property Taxation. Percent Good Indicator based on Trend I 8.5% and 18 year economic life for solar and Percent Good Indicator based on Trend I 16% and 9 year economic life for solar farm battery storage.



**Table 7: Estimated Tax Revenue Generated by the Proposed Carriger Solar Project over 40 Years from Personal Property Taxes (2022 Dollars) – Open Shop Scenario**

Age	Depreciated Value of Taxable Investment in Solar Farm <sup>31</sup>	Depreciated Value of Taxable Investment in Battery Storage <sup>32</sup>	Total Depreciated Taxable Value of Capital Investment	Total Local Tax Revenue	Total State of Washington	Total Tax Revenue
<b>Taxable Capital Investment / Tax Rate<sup>33</sup></b>	<b>\$179,928,033</b>	<b>\$65,001,475</b>	<b>\$244,929,508</b>	<b>\$7.411</b>	<b>\$2.803</b>	<b>\$10.214</b>
1	\$164,634,150	\$54,601,239	\$219,235,389	\$1,624,799	\$614,473	\$2,239,273
2	\$158,336,669	\$48,231,094	\$206,567,763	\$1,530,917	\$578,968	\$2,109,885
3	\$147,540,987	\$41,275,937	\$188,816,924	\$1,399,362	\$529,216	\$1,928,578
4	\$138,904,441	\$35,620,808	\$174,525,250	\$1,293,443	\$489,160	\$1,782,603
5	\$129,908,040	\$30,615,695	\$160,523,735	\$1,189,675	\$449,916	\$1,639,591
6	\$120,371,854	\$26,000,590	\$146,372,444	\$1,084,797	\$410,253	\$1,495,050
7	\$110,115,956	\$21,840,496	\$131,956,452	\$977,957	\$369,848	\$1,347,805
8	\$102,019,195	\$18,590,422	\$120,609,617	\$893,863	\$338,045	\$1,231,908
9	\$94,462,217	\$15,795,358	\$110,257,576	\$817,142	\$309,030	\$1,126,172
10	\$87,804,880	\$13,520,307	\$101,325,187	\$750,942	\$283,994	\$1,034,937
11	\$82,586,967	\$11,635,264	\$94,222,231	\$698,301	\$264,086	\$962,387
12	\$76,829,270	\$9,815,223	\$86,644,493	\$642,140	\$242,847	\$884,988
13	\$70,891,645	\$9,750,221	\$80,641,866	\$597,654	\$226,023	\$823,677
14	\$66,933,228	\$9,750,221	\$76,683,450	\$568,317	\$214,928	\$783,246
15	\$63,334,668	\$9,750,221	\$73,084,889	\$541,647	\$204,842	\$746,490
16	\$60,275,891	\$9,750,221	\$70,026,112	\$518,978	\$196,269	\$715,247
17	\$57,576,971	\$9,750,221	\$67,327,192	\$498,976	\$188,705	\$687,681
18	\$55,057,978	\$9,750,221	\$64,808,199	\$480,307	\$181,645	\$661,952
19	\$51,459,417	\$9,750,221	\$61,209,639	\$453,637	\$171,558	\$625,196
20	\$47,501,001	\$9,750,221	\$57,251,222	\$424,301	\$160,464	\$584,765
21	\$43,902,440	\$9,750,221	\$53,652,661	\$397,631	\$150,378	\$548,009
22	\$40,483,807	\$9,750,221	\$50,234,029	\$372,295	\$140,796	\$513,091
23	\$37,425,031	\$9,750,221	\$47,175,252	\$349,626	\$132,223	\$481,849
24	\$34,186,326	\$9,750,221	\$43,936,548	\$325,623	\$123,145	\$448,768

<sup>31</sup> Data Source: Washington Department of Revenue, 2022 Guidelines for Property Taxation. Percent Good Indicator based on Trend I 8.5% and 18 year economic life for solar.

<sup>32</sup> Data Source: Washington Department of Revenue, 2022 Guidelines for Property Taxation. Percent Good Indicator based on Trend I 16% and 9 year economic life for solar farm battery storage.

<sup>33</sup> Data Source: Cypress Creek Renewables for investment. Tax rates: Per \$1,000; Klickitat County Consolidated Tax Code Areas and Rates for tax year 2022. Rates shown rounded to third digit.



Age	Depreciated Value of Taxable Investment in Solar Farm <sup>31</sup>	Depreciated Value of Taxable Investment in Battery Storage <sup>32</sup>	Total Depreciated Taxable Value of Capital Investment	Total Local Tax Revenue	Total State of Washington	Total Tax Revenue
25	\$31,307,478	\$9,750,221	\$41,057,699	\$304,287	\$115,077	\$419,364
26	\$28,608,557	\$9,750,221	\$38,358,778	\$284,285	\$107,512	\$391,797
27	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
28	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
29	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
30	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
31	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
32	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
33	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
34	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
35	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
36	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
37	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
38	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
39	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
40	\$26,989,205	\$9,750,221	\$36,739,426	\$272,284	\$102,973	\$375,257
<b>Cumulative Total</b>				<b>\$22,832,871</b>	<b>\$8,635,029</b>	<b><u>\$31,467,901</u></b>

*\*Totals may not sum due to rounding*

Table 8 details the local tax revenue generated for all affected taxing districts in Klickitat County from taxation of the capital investment in the project under an open shop scenario.

As the data in Table 8 indicate, the total local personal property tax revenue from taxation of the investments in the Carriger Solar project over 40 years would be approximately \$22.8 million consisting of approximately: \$3.8 million for the County, \$1.4 million for the EMS District #1, \$0.8 million for the Recreation District, \$1.0 million for the Library District #1, \$6.5 million for the Goldendale School District #404, \$2.6 million for the Fire District #7, \$4.8 million for the county road fund, and \$1.9 million for the Hospital District #1 (in 2022 dollars).



**Table 8: Estimated Local Tax Revenue Generated by the Proposed Carriger Solar Project over 40 Years from Personal Property Taxes (2022 Dollars) – Open Shop Scenario**

Age	Total Depreciated Value of Capital Investment <sup>34</sup>	County	EMS District #1	Recreation District	Library District #1	Golden-dale School #404	Fire District #7	County Road	Hospital District #1	Total Local Tax Revenue
<b>Capital Investment / Tax Rate<sup>35</sup></b>	<b>\$244,929,508</b>	<b>\$1.234</b>	<b>\$0.462</b>	<b>\$0.264</b>	<b>\$0.319</b>	<b>\$2.124</b>	<b>\$0.831</b>	<b>\$1.555</b>	<b>\$0.623</b>	<b>\$7.411</b>
1	\$219,235,389	\$270,486	\$101,360	\$57,818	\$69,837	\$465,602	\$182,201	\$340,818	\$136,677	\$1,624,799
2	\$206,567,763	\$254,857	\$95,504	\$54,477	\$65,802	\$438,699	\$171,674	\$321,125	\$128,779	\$1,530,917
3	\$188,816,924	\$232,956	\$87,297	\$49,796	\$60,147	\$401,001	\$156,921	\$293,530	\$117,713	\$1,399,362
4	\$174,525,250	\$215,324	\$80,689	\$46,027	\$55,595	\$370,649	\$145,044	\$271,313	\$108,803	\$1,293,443
5	\$160,523,735	\$198,049	\$74,216	\$42,334	\$51,134	\$340,913	\$133,407	\$249,546	\$100,074	\$1,189,675
6	\$146,372,444	\$180,590	\$67,673	\$38,602	\$46,627	\$310,859	\$121,647	\$227,547	\$91,252	\$1,084,797
7	\$131,956,452	\$162,804	\$61,008	\$34,800	\$42,034	\$280,243	\$109,666	\$205,136	\$82,265	\$977,957
8	\$120,609,617	\$148,804	\$55,762	\$31,808	\$38,420	\$256,145	\$100,236	\$187,497	\$75,191	\$893,863
9	\$110,257,576	\$136,032	\$50,976	\$29,078	\$35,122	\$234,160	\$91,632	\$171,404	\$68,737	\$817,142
10	\$101,325,187	\$125,012	\$46,846	\$26,722	\$32,277	\$215,190	\$84,209	\$157,518	\$63,169	\$750,942
11	\$94,222,231	\$116,248	\$43,562	\$24,849	\$30,014	\$200,105	\$78,306	\$146,476	\$58,740	\$698,301
12	\$86,644,493	\$106,899	\$40,059	\$22,850	\$27,600	\$184,012	\$72,008	\$134,695	\$54,016	\$642,140
13	\$80,641,866	\$99,493	\$37,284	\$21,267	\$25,688	\$171,264	\$67,020	\$125,364	\$50,274	\$597,654
14	\$76,683,450	\$94,610	\$35,453	\$20,223	\$24,427	\$162,857	\$63,730	\$119,210	\$47,806	\$568,317
15	\$73,084,889	\$90,170	\$33,790	\$19,274	\$23,281	\$155,214	\$60,739	\$113,616	\$45,563	\$541,647
16	\$70,026,112	\$86,396	\$32,376	\$18,468	\$22,307	\$148,718	\$58,197	\$108,861	\$43,656	\$518,978
17	\$67,327,192	\$83,066	\$31,128	\$17,756	\$21,447	\$142,986	\$55,954	\$104,665	\$41,973	\$498,976
18	\$64,808,199	\$79,958	\$29,963	\$17,092	\$20,645	\$137,637	\$53,861	\$100,749	\$40,403	\$480,307
19	\$61,209,639	\$75,518	\$28,299	\$16,143	\$19,498	\$129,994	\$50,870	\$95,155	\$38,160	\$453,637
20	\$57,251,222	\$70,635	\$26,469	\$15,099	\$18,237	\$121,588	\$47,580	\$89,001	\$35,692	\$424,301
21	\$53,652,661	\$66,195	\$24,806	\$14,150	\$17,091	\$113,945	\$44,589	\$83,407	\$33,448	\$397,631
22	\$50,234,029	\$61,977	\$23,225	\$13,248	\$16,002	\$106,685	\$41,748	\$78,093	\$31,317	\$372,295
23	\$47,175,252	\$58,203	\$21,811	\$12,441	\$15,028	\$100,189	\$39,206	\$73,337	\$29,410	\$349,626
24	\$43,936,548	\$54,207	\$20,313	\$11,587	\$13,996	\$93,310	\$36,515	\$68,303	\$27,391	\$325,623

<sup>34</sup> Data Source: Washington Department of Revenue, 2022 Guidelines for Property Taxation. Percent Good Indicator based on Trend I 8.5% and 18 year economic life for solar and Percent Good Indicator based on Trend I 16% and 9 year economic life for solar farm battery storage.

<sup>35</sup> Data Source: Cypress Creek Renewables for investment. Tax rates: Per \$1,000; Klickitat County Consolidated Tax Code Areas and Rates for tax year 2022. Rates shown rounded to third digit.



Age	Total Depreciated Value of Capital Investment <sup>34</sup>	County	EMS District #1	Recreation District	Library District #1	Golden-dale School #404	Fire District #7	County Road	Hospital District #1	Total Local Tax Revenue
25	\$41,057,699	\$50,656	\$18,982	\$10,828	\$13,079	\$87,197	\$34,122	\$63,827	\$25,596	\$304,287
26	\$38,358,778	\$47,326	\$17,735	\$10,116	\$12,219	\$81,465	\$31,879	\$59,632	\$23,914	\$284,285
27	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
28	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
29	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
30	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
31	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
32	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
33	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
34	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
35	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
36	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
37	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
38	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
39	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
40	\$36,739,426	\$45,328	\$16,986	\$9,689	\$11,703	\$78,026	\$30,533	\$57,114	\$22,904	\$272,284
<b>Cumulative Total</b>		<b>\$3,801,061</b>	<b>\$1,424,390</b>	<b>\$812,504</b>	<b>\$981,400</b>	<b>\$6,542,986</b>	<b>\$2,560,426</b>	<b>\$4,789,423</b>	<b>\$1,920,681</b>	<b><u>\$22,832,871</u></b>

\*Totals may not sum due to rounding.

## Project Labor Scenario

Table 9 details the tax revenue from taxation of the capital investment in the project under project labor scenario.

As the data in Table 9 indicate, the total local personal property tax revenue from taxation of the investments in the Carriger Solar project would be approximately \$1.7 million in the first year of operation, with that figure projected to decline to approximately \$0.3 million in year 27 and thereafter as the value of the proposed capital investments is depreciated, for a cumulative total of approximately \$24.2 million over 40 years (in 2022 dollars).

Table 9 also shows the total state personal property tax revenue from taxation of the investments in the Carriger Solar project. The tax revenue in the first year of operation would be approximately \$0.6 million, with that figure projected to decline to approximately \$0.1 million in year 27 and thereafter as the value of the proposed capital investments is depreciated, for a cumulative total of approximately \$9.2 million over 40 years (in 2022 dollars).

The combined total local and state tax revenue from taxation of the investments in the Carriger Solar project would be approximately \$33.4 million over 40 years under a project labor scenario (in 2022 dollars).



**Table 9: Estimated Tax Revenue Generated by the Proposed Carriger Solar Project over 40 Years from Personal Property Taxes (2022 Dollars) – Project Labor Scenario**

Age	Depreciated Value of Taxable Investment in Solar Farm <sup>36</sup>	Depreciated Value of Taxable Investment in Battery Storage <sup>37</sup>	Total Depreciated Value of Capital Investment	Total Local Tax Revenue	Total State of Washington	Total Tax Revenue
<b>Taxable Capital Investment / Tax Rate<sup>38</sup></b>	<b>\$193,313,364</b>	<b>\$65,001,475</b>	<b>\$258,314,839</b>	<b>\$7.411</b>	<b>\$2.803</b>	<b>\$10.214</b>
1	\$176,881,728	\$54,601,239	\$231,482,967	\$1,715,569	\$648,801	\$2,364,369
2	\$170,115,760	\$48,231,094	\$218,346,855	\$1,618,214	\$611,983	\$2,230,197
3	\$158,516,958	\$41,275,937	\$199,792,895	\$1,480,707	\$559,980	\$2,040,687
4	\$149,237,917	\$35,620,808	\$184,858,725	\$1,370,027	\$518,122	\$1,888,149
5	\$139,572,249	\$30,615,695	\$170,187,944	\$1,261,298	\$477,003	\$1,738,301
6	\$129,326,641	\$26,000,590	\$155,327,231	\$1,151,163	\$435,351	\$1,586,514
7	\$118,307,779	\$21,840,496	\$140,148,274	\$1,038,668	\$392,808	\$1,431,476
8	\$109,608,677	\$18,590,422	\$128,199,099	\$950,110	\$359,317	\$1,309,427
9	\$101,489,516	\$15,795,358	\$117,284,875	\$869,223	\$328,726	\$1,197,949
10	\$94,336,922	\$13,520,307	\$107,857,228	\$799,352	\$302,302	\$1,101,655
11	\$88,730,834	\$11,635,264	\$100,366,098	\$743,834	\$281,306	\$1,025,140
12	\$82,544,806	\$9,815,223	\$92,360,029	\$684,499	\$258,867	\$943,366
13	\$76,165,465	\$9,750,221	\$85,915,687	\$636,739	\$240,805	\$877,544
14	\$71,912,571	\$9,750,221	\$81,662,793	\$605,220	\$228,885	\$834,105
15	\$68,046,304	\$9,750,221	\$77,796,525	\$576,566	\$218,048	\$794,615
16	\$64,759,977	\$9,750,221	\$74,510,198	\$552,211	\$208,837	\$761,048
17	\$61,860,276	\$9,750,221	\$71,610,498	\$530,720	\$200,710	\$731,430
18	\$59,153,889	\$9,750,221	\$68,904,111	\$510,663	\$193,125	\$703,787
19	\$55,287,622	\$9,750,221	\$65,037,843	\$482,009	\$182,288	\$664,297
20	\$51,034,728	\$9,750,221	\$60,784,949	\$450,490	\$170,368	\$620,858
21	\$47,168,461	\$9,750,221	\$56,918,682	\$421,836	\$159,532	\$581,368
22	\$43,495,507	\$9,750,221	\$53,245,728	\$394,615	\$149,237	\$543,852
23	\$40,209,180	\$9,750,221	\$49,959,401	\$370,260	\$140,026	\$510,286
24	\$36,729,539	\$9,750,221	\$46,479,760	\$344,471	\$130,274	\$474,745

<sup>36</sup> Data Source: Washington Department of Revenue, 2022 Guidelines for Property Taxation. Percent Good Indicator based on Trend I 8.5% and 18 year economic life for solar.

<sup>37</sup> Data Source: Washington Department of Revenue, 2022 Guidelines for Property Taxation. Percent Good Indicator based on Trend I 16% and 9 year economic life for solar farm battery storage.

<sup>38</sup> Data Source: Cypress Creek Renewables for investment. Tax rates: Per \$1,000; Klickitat County Consolidated Tax Code Areas and Rates for tax year 2022. Rates shown rounded to third digit.



Age	Depreciated Value of Taxable Investment in Solar Farm <sup>36</sup>	Depreciated Value of Taxable Investment in Battery Storage <sup>37</sup>	Total Depreciated Value of Capital Investment	Total Local Tax Revenue	Total State of Washington	Total Tax Revenue
25	\$33,636,525	\$9,750,221	\$43,386,747	\$321,548	\$121,604	\$443,153
26	\$30,736,825	\$9,750,221	\$40,487,046	\$300,058	\$113,477	\$413,535
27	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
28	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
29	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
30	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
31	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
32	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
33	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
34	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
35	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
36	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
37	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
38	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
39	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
40	\$28,997,005	\$9,750,221	\$38,747,226	\$287,164	\$108,601	\$395,765
<b>Cumulative Total</b>				<b>\$24,200,364</b>	<b>\$9,152,193</b>	<b>\$33,352,557</b>

*\*Totals may not sum due to rounding*

Table 10 details the local tax revenue generated for all affected taxing districts in Klickitat County from taxation of the capital investment in the project under a project labor scenario.

As the data in Table 10 indicate, the total local personal property tax revenue from taxation of the investments in the Carriger Solar project over 40 years would be approximately \$24.2 million consisting of approximately: \$4.0 million for the county, \$1.5 million for the EMS District #1, \$0.9 million for the Recreation District, \$1.0 million for the Library District #1, \$6.9 million for the Goldendale School District #404, \$2.7 million for the Fire District #7, \$5.1 million for the county road fund, and \$2.0 million for the Hospital District #1 (in 2022 dollars).



**Table 10: Estimated Local Tax Revenue Generated by the Proposed Carriger Solar Project over 40 Years from Personal Property Taxes (2022 Dollars) – Project Labor Scenario**

Age	Total Depreciated Value of Capital Investment <sup>39</sup>	County	EMS District #1	Recreation District	Library District #1	Golden-dale School #404	Fire District #7	County Road	Hospital District #1	Total Local Tax Revenue
<b>Capital Investment / Tax Rate<sup>40</sup></b>	<b>\$244,929,508</b>	<b>\$1.234</b>	<b>\$0.462</b>	<b>\$0.264</b>	<b>\$0.319</b>	<b>\$2.124</b>	<b>\$0.831</b>	<b>\$1.555</b>	<b>\$0.623</b>	<b>\$7.411</b>
1	\$231,482,967	\$285,596	\$107,023	\$61,048	\$73,738	\$491,613	\$192,380	\$359,858	\$144,312	\$1,715,569
2	\$218,346,855	\$269,389	\$100,950	\$57,584	\$69,554	\$463,715	\$181,463	\$339,437	\$136,123	\$1,618,214
3	\$199,792,895	\$246,498	\$92,371	\$52,691	\$63,644	\$424,311	\$166,043	\$310,593	\$124,556	\$1,480,707
4	\$184,858,725	\$228,073	\$85,467	\$48,752	\$58,886	\$392,595	\$153,632	\$287,377	\$115,245	\$1,370,027
5	\$170,187,944	\$209,972	\$78,684	\$44,883	\$54,213	\$361,438	\$141,439	\$264,570	\$106,099	\$1,261,298
6	\$155,327,231	\$191,638	\$71,813	\$40,964	\$49,479	\$329,877	\$129,089	\$241,468	\$96,835	\$1,151,163
7	\$140,148,274	\$172,910	\$64,796	\$36,961	\$44,644	\$297,641	\$116,474	\$217,871	\$87,372	\$1,038,668
8	\$128,199,099	\$158,168	\$59,271	\$33,810	\$40,838	\$272,264	\$106,543	\$199,295	\$79,922	\$950,110
9	\$117,284,875	\$144,702	\$54,225	\$30,931	\$37,361	\$249,084	\$97,473	\$182,328	\$73,118	\$869,223
10	\$107,857,228	\$133,071	\$49,866	\$28,445	\$34,358	\$229,062	\$89,638	\$167,672	\$67,241	\$799,352
11	\$100,366,098	\$123,828	\$46,403	\$26,469	\$31,971	\$213,153	\$83,412	\$156,027	\$62,571	\$743,834
12	\$92,360,029	\$113,951	\$42,701	\$24,358	\$29,421	\$196,150	\$76,758	\$143,581	\$57,579	\$684,499
13	\$85,915,687	\$106,000	\$39,722	\$22,658	\$27,368	\$182,464	\$71,402	\$133,562	\$53,562	\$636,739
14	\$81,662,793	\$100,753	\$37,756	\$21,537	\$26,014	\$173,432	\$67,868	\$126,951	\$50,911	\$605,220
15	\$77,796,525	\$95,983	\$35,968	\$20,517	\$24,782	\$165,221	\$64,655	\$120,941	\$48,500	\$576,566
16	\$74,510,198	\$91,928	\$34,449	\$19,650	\$23,735	\$158,241	\$61,924	\$115,832	\$46,451	\$552,211
17	\$71,610,498	\$88,351	\$33,108	\$18,886	\$22,811	\$152,083	\$59,514	\$111,324	\$44,644	\$530,720
18	\$68,904,111	\$85,012	\$31,857	\$18,172	\$21,949	\$146,335	\$57,265	\$107,117	\$42,956	\$510,663
19	\$65,037,843	\$80,242	\$30,069	\$17,152	\$20,718	\$138,124	\$54,051	\$101,106	\$40,546	\$482,009
20	\$60,784,949	\$74,994	\$28,103	\$16,031	\$19,363	\$129,092	\$50,517	\$94,495	\$37,895	\$450,490
21	\$56,918,682	\$70,224	\$26,316	\$15,011	\$18,131	\$120,881	\$47,304	\$88,484	\$35,484	\$421,836
22	\$53,245,728	\$65,693	\$24,617	\$14,042	\$16,961	\$113,081	\$44,251	\$82,774	\$33,195	\$394,615
23	\$49,959,401	\$61,638	\$23,098	\$13,176	\$15,914	\$106,102	\$41,520	\$77,666	\$31,146	\$370,260
24	\$46,479,760	\$57,345	\$21,489	\$12,258	\$14,806	\$98,712	\$38,628	\$72,256	\$28,977	\$344,471

<sup>39</sup> Data Source: Washington Department of Revenue, 2022 Guidelines for Property Taxation. Percent Good Indicator based on Trend I 8.5% and 18 year economic life for solar and Percent Good Indicator based on Trend I 16% and 9 year economic life for solar farm battery storage.

<sup>40</sup> Data Source: Cypress Creek Renewables for investment. Tax rates: Per \$1,000; Klickitat County Consolidated Tax Code Areas and Rates for tax year 2022. Rates shown rounded to third digit.



Age	Total Depreciated Value of Capital Investment <sup>39</sup>	County	EMS District #1	Recreation District	Library District #1	Golden-dale School #404	Fire District #7	County Road	Hospital District #1	Total Local Tax Revenue
25	\$43,386,747	\$53,529	\$20,059	\$11,442	\$13,821	\$92,143	\$36,058	\$67,448	\$27,048	\$321,548
26	\$40,487,046	\$49,952	\$18,719	\$10,678	\$12,897	\$85,985	\$33,648	\$62,940	\$25,241	\$300,058
27	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
28	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
29	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
30	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
31	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
32	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
33	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
34	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
35	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
36	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
37	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
38	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
39	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
40	\$38,747,226	\$47,805	\$17,914	\$10,219	\$12,343	\$82,290	\$32,202	\$60,235	\$24,156	\$287,164
<b>Cumulative Total</b>		<b>\$4,028,712</b>	<b>\$1,509,699</b>	<b>\$861,166</b>	<b>\$1,040,178</b>	<b>\$6,934,854</b>	<b>\$2,713,774</b>	<b>\$5,076,268</b>	<b>\$2,035,713</b>	<b><u>\$24,200,364</u></b>

*\*Totals may not sum due to rounding.*

### *Total Fiscal Impact*

Tables 11 and 12 combine the results from the calculations in Tables 3 and 6 through 10 to provide an estimate of the cumulative fiscal contribution that the proposed Carriger Solar project would make to Klickitat County, its taxing districts, and the state of Washington over its 40-year anticipated operational life.

### **Open Shop Scenario**

As the data in Table 11 indicate, under an open shop scenario, the total local tax revenue from the project is estimated to be approximately \$24.6 million over 40 years (in 2022 dollars). This consists of approximately: \$5.0 million for the county, \$1.5 million for the EMS District #1, \$0.8 million for the Recreation District, \$1.0 million for the Library District 1, \$6.8 million for the Goldendale School District #404, \$2.6 million for the Fire District #7, \$5.0 million for the county road fund, and \$2.0 million for the Hospital District #1 (in 2022 dollars).

Table 11 also shows the state tax revenue from the project, which is estimated to be approximately \$15.7 million over 40 years (in 2022 dollars).

The total revenue from state and local taxation associated with the Carriger Solar project under an open shop scenario is estimated to be approximately \$40.4 million over 40 years (in 2022 dollars).

### **Project Labor Scenario**

As the data in Table 12 indicate, under a project labor scenario, the total local tax revenue from the project is estimated to be approximately \$25.0 million over 40 years (in 2022 dollars). This consists of approximately: \$4.2 million for the county, \$1.6 million for the EMS District #1, \$0.9 million for the Recreation District, \$1.1 million for the Library District #1, \$7.2 million for the Goldendale School District #404, \$2.8 million for the Fire District #7, \$5.2 million for the county road fund, and \$2.1 million for the Hospital District #1 (in 2022 dollars).

Table 12 also shows the state tax revenue from the project, which is estimated to be approximately \$9.4 million over 40 years (in 2022 dollars).

The total revenue from state and local taxation associated with Carriger Solar project under a project labor scenario is estimated to be approximately \$34.4 million over 40 years (in 2022 dollars).



**Table 11: Total Estimated Tax Revenue Generated by the Proposed Carriger Solar Project over 40 Years under an Open Shop Scenario (2022 Dollars)**

	County	EMS District #1	Recreation District	Library District #1	Golden-dale School #404	Fire District #7	County Road	Hospital District #1	Total Local Tax Revenue	Total State of Washington	Total
Estimated One-Time Sales Tax Revenue	\$1,045,333								\$1,045,333	\$6,794,667	\$7,840,000
Total Real Estate Tax Revenue	\$127,553	\$47,799	\$27,265	\$32,933	\$219,564	\$85,921	\$160,720	\$64,453	\$766,208	\$289,768	\$1,055,976
Total Personal Property Tax Revenue	\$3,801,061	\$1,424,390	\$812,504	\$981,400	\$6,542,986	\$2,560,426	\$4,789,423	\$1,920,681	\$22,832,871	\$8,635,029	\$31,467,901
<b>Cumulative Tax Revenue (over 40 Years)</b>	<b>\$4,973,947</b>	<b>\$1,472,188</b>	<b>\$839,770</b>	<b>\$1,014,333</b>	<b>\$6,762,550</b>	<b>\$2,646,347</b>	<b>\$4,950,143</b>	<b>\$1,985,134</b>	<b><u>\$24,644,413</u></b>	<b><u>\$15,719,464</u></b>	<b><u>\$40,363,876</u></b>

*\*Totals may not sum due to rounding*

**Table 12: Total Estimated Tax Revenue Generated by the Proposed Carriger Solar Project over 40 Years under a Project Labor Scenario (2022 Dollars)**

	County	EMS District #1	Recreation District	Library District #1	Golden-dale School #404	Fire District #7	County Road	Hospital District #1	Total Local Tax Revenue	Total State of Washington	Total
Total Real Estate Tax Revenue	\$127,553	\$47,799	\$27,265	\$32,933	\$219,564	\$85,921	\$160,720	\$64,453	\$766,208	\$289,768	\$1,055,976
Total Personal Property Tax Revenue	\$4,028,712	\$1,509,699	\$861,166	\$1,040,178	\$6,934,854	\$2,713,774	\$5,076,268	\$2,035,713	\$24,200,364	\$9,152,193	\$33,352,557
<b>Cumulative Tax Revenue (over 40 Years)<sup>41</sup></b>	<b>\$4,156,265</b>	<b>\$1,557,497</b>	<b>\$888,432</b>	<b>\$1,073,111</b>	<b>\$7,154,419</b>	<b>\$2,799,695</b>	<b>\$5,236,988</b>	<b>\$2,100,166</b>	<b><u>\$24,966,572</u></b>	<b><u>\$9,441,961</u></b>	<b><u>\$34,408,533</u></b>

*\*Totals may not sum due to rounding*

<sup>41</sup> Data Source: Cypress Creek Renewables. Under a project labor scenario, capital investments in the Carriger Solar project would be exempt from state and local sales taxes.

## Current Agricultural Use

This section provides a benchmark for the previous estimates of the economic and fiscal contribution that the proposed Carriger Solar project would make to Klickitat County by estimating the economic and fiscal contribution that the site makes to the county in an active agricultural use.

### Assumptions

The analysis is based on the following assumptions:

- The proposed Carriger Solar project would lease and purchase approximately 2,113 acres of land located in Tax Code Area 37 in Klickitat County.<sup>42</sup>
- The actively used, fenced-in acreage (approximately 1,448 acres) is currently used to produce winter wheat and for grazing cattle.<sup>43</sup>
- The leased and purchased acreage involved in the project is currently assessed at approximately \$687,798.<sup>44</sup>

### Results – Economic Impact

Applying these assumptions in the IMPLAN model results in the following estimates of annual economic impact. As shown in Table 13, in an agricultural use, the proposed Carriger Solar project site directly supports approximately: 1) 1 job, 2) \$35,900 in labor income, and 3) \$142,400 in economic output to Klickitat County (in 2022 dollars).

Taking into account the economic ripple effects that direct impact generates, the total annually supported impact on Klickitat County is approximately: 1) 2 jobs, 2) \$61,800 in labor income, and 3) \$219,600 in economic output (in 2022 dollars).

**Table 13: Total Annual Economic Impact of the Carriger Solar Project Site on Klickitat County – Current Agricultural Use (2022 Dollars)**

Economic Impact	Employment	Labor Income	Output
<b>1<sup>st</sup> Round Direct Economic Activity</b>	1	\$35,900	\$142,400
<b>2<sup>nd</sup> Round Indirect and Induced Economic Activity</b>	1	\$25,900	\$77,200
<b>Total Economic Activity</b>	<b>2</b>	<b>\$61,800</b>	<b>\$219,600</b>

<sup>42</sup> Data Source: Cypress Creek Renewables.

<sup>43</sup> Data Source: Cypress Creek Renewables.

<sup>44</sup> Data Source: Derived from Klickitat County's Parcel Information Online tool.

## Results – Fiscal Impact

Table 14 details the estimated current real property tax revenue generated from taxation of the leased and purchased acreage associated with the Carriger Solar project in its current agricultural use.

As the data in Table 14 indicate, the current annual local real estate tax revenue from the affected acreage is estimated to be approximately \$5,097 per year (in 2022 dollars) for a cumulative total of approximately \$203,897 over 40 years (in 2022 dollars). This consists of approximately: \$33,943 for the County, \$12,720 for the EMS District #1, \$7,256 for the Recreation District, \$8,764 for the Library District #1, \$58,429 for the Goldendale School District #404, \$22,865 for the Fire District #7, \$42,769 for the County road fund, and \$17,152 for the Hospital District #1 (in 2022 dollars).

Table 14 also shows the state real estate tax revenue from the affected acreage under current use, which is estimated to be approximately \$1,928 per year (in 2022 dollars) for a cumulative total of approximately \$77,110 over 40 years (in 2022 dollars).

The total revenue from state and local taxation of the affected acreage under current use is estimated to be approximately \$281,007 over 40 years (in 2022 dollars).



**Table 14: Estimated Real Estate Tax Revenue Generated by the Project Site under Current Agricultural Use over 40 Years (2022 Dollars)**

	County	EMS District #1	Recreation District	Library District #1	Golden-dale School #404	Fire District #7	County Road	Hospital District #1	Total Local Tax Revenue	Total State of Washington	Total
Tax Rate per \$1000 <sup>45</sup>	\$1.234	\$0.462	\$0.264	\$0.319	\$2.124	\$0.831	\$1.555	\$0.623	\$7.411	\$2.803	\$10.214
Estimated Value of Land <sup>46</sup>											\$687,798
Annual Real Estate Tax Revenue	\$849	\$318	\$181	\$219	\$1,461	\$572	\$1,069	\$429	\$5,097	\$1,928	\$7,025
<b>Cumulative Real Estate Tax Revenue (over 40 Years)</b>	<b>\$33,943</b>	<b>\$12,720</b>	<b>\$7,256</b>	<b>\$8,764</b>	<b>\$58,429</b>	<b>\$22,865</b>	<b>\$42,769</b>	<b>\$17,152</b>	<b><u>\$203,897</u></b>	<b><u>\$77,110</u></b>	<b><u>\$281,007</u></b>

*\*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 that information. However, because these estimates attempt to foresee circumstances that have not yet occurred, it is not possible to provide any assurance that they will be representative of actual events. These estimates are intended to provide a general indication of likely future outcomes and should not be construed to represent a precise measure of those outcomes.*

<sup>45</sup> Data Source: Klickitat County Consolidated Tax Code Areas and Rates for tax year 2022. Rates shown rounded to third digit.

<sup>46</sup> Estimated based on data provided on the Klickitat County Parcel Information Online tool. Current agricultural use value of the 2,113 acres under site control.

## Appendix: Socioeconomic Impact Analysis – WAC 463-60-535

The following sections address sections 1 and 2 of the WAC 463-60-535 socioeconomic impact analysis requirement of the application.

### Population and Labor Force

#### a) Population and growth rate data for the most current ten-year period

Table A1 shows the population in the state of Washington and in Klickitat County in 2011 and in 2021, as well as the change over the 10-year period. As the data indicate, population growth in Klickitat County (12.0 percent) is slightly below the statewide population growth (14.5 percent) during that timeframe. Population growth in Goldendale City (1.7 percent) and Bingen City (8.0 percent) is lower than in the county as a whole.

**Table A1: Population and Population Growth<sup>47</sup>**

Jurisdiction	2011 Population Estimate	2021 Population Estimate	Change 2011-2021	Percent Change
Washington	6,781,551	7,766,975	985,424	14.5%
Klickitat County	20,530	23,000	2,470	12.0%
Unincorporated Klickitat County	14,177	16,255	2,078	14.7%
Incorporated Klickitat County	6,353	6,745	392	6.2%
Bingen City	722	780	58	8.0%
Goldendale City	3,417	3,475	58	1.7%
White Salmon City	2,214	2,490	276	12.5%

#### b) Published forecast population figures for the study area for both the construction and operations periods

Table A2 displays the low, medium, and high population projections for Klickitat County and the state of Washington. The low and medium level projections for Klickitat County both show a decrease in population in the county between the current 2021 estimates (see Table A1) and 2025 and 2050. The high level projections show an increase of 8 percent during the construction period and an increase of 21 percent during the operations period.

<sup>47</sup> Data Source: Washington Office of Financial Management.

**Table A2: Population Projections<sup>48</sup>**

		2025	2030	2040	2050	Δ 2021-2025	Δ 2021-2050
Washington	Low	7,323,309	7,551,759	7,920,676	8,252,578	-6%	6%
	Medium	8,085,043	8,503,178	9,242,022	9,855,117	4%	27%
	High	9,098,447	9,757,009	10,984,980	12,138,203	17%	56%
Klickitat County	Low	19,158	18,917	17,583	16,114	-17%	-30%
	Medium	21,882	22,189	21,930	21,466	-5%	-7%
	High	24,881	25,870	26,954	27,882	8%	21%

**c) Numbers and percentages describing the race/ethnic composition**

Table A3 details the population by race and ethnicity in the state of Washington, in Klickitat County, and in Goldendale City. The majority of the population in Klickitat County (93 percent) and in Goldendale City (95 percent) is white, compared to about 75 percent of the total population statewide. Klickitat County's proportion of American Indians and Alaskan Natives (3 percent) is above the statewide average (1 percent).

**Table A3: Population by Race/Ethnicity<sup>49</sup>**

	Washington	Klickitat County	Goldendale City
<b>Total</b>	<b>7,404,107</b>	<b>21,721</b>	<b>3,459</b>
White alone	5,581,128	20,173	3,286
Black or African American alone	281,683	160	1
American Indian and Alaska Native alone	94,449	548	73
Asian alone	631,333	155	54
Native Hawaiian/Other Pacific Islander alone	49,090	2	-
Some other race alone	333,038	210	-
Two or more races:	433,386	473	45
Two races including Some other race	43,021	21	-
Two races excl. some other race/three+ races	390,365	452	45
<b>%</b>	<b>Washington</b>	<b>Klickitat County</b>	<b>Goldendale City</b>
<b>Total</b>	<b>7,404,107</b>	<b>21,721</b>	<b>3,459</b>
White alone	75.4%	92.9%	95.0%
Black or African American alone	3.8%	0.7%	-
American Indian and Alaska Native alone	1.3%	2.5%	2.1%
Asian alone	8.5%	0.7%	1.6%
Native Hawaiian/Other Pacific Islander alone	0.7%	0.0%	-
Some other race alone	4.5%	1.0%	-

<sup>48</sup> Data Source: Washington Office of Financial Management.

<sup>49</sup> Data Source: U.S. Census Bureau.

Two or more races:	5.9%	2.2%	1.3%
Two races including Some other race	0.6%	0.1%	-
Two races excl. some other race/three+ races	5.3%	2.1%	1.3%

**d) Average per capita and household incomes, including the number and percentage of the population below the poverty level**

Table A4 summarizes the average income and poverty levels in Klickitat County, in Goldendale City, and in the state of Washington. The median household income in Klickitat County (\$55,773) is approximately 29 percent below the statewide average (\$78,687) and the county’s per capita income (\$29,521) is approximately 24 percent below the statewide average (\$38,915). Approximately 16 percent of Klickitat County’s population is below the poverty level compared to 11 percent statewide. Goldendale City’s poverty rate (12.2 percent) is slightly below the countywide average and income levels are somewhat higher than the countywide average.

**Table A4: Population by Race/Ethnicity<sup>50</sup>**

	Median Household Income	Per Capita Income	Below Poverty Level	Below Poverty Level %
Washington	\$78,687	\$38,915	785,244	10.8%
Klickitat	\$55,773	\$29,521	3,371	15.6%
Goldendale	\$47,000	\$32,615	418	12.2%

**e) A description of whether or not any minority or low-income populations would be displaced by this project or disproportionately impacted**

Carriger Solar will be entirely located on agricultural farmland and no residences will be impacted by the development.<sup>51</sup>

**f) The average annual work force size, total number of employed workers, and the number and percentage of unemployed workers including the year that data are most recently available. Employment numbers and percentage of the total work force should be provided for the primary employment sectors**

Klickitat County’s civilian labor force in 2020 was 9,811, of which approximately 808 (or 8.2 percent) were unemployed, compared to a statewide unemployment rate of 8.4 percent.

<sup>50</sup> Data Source: U.S. Census Bureau.

<sup>51</sup> Data Source: Cypress Creek Renewables.

**Table A5: Labor Force and Employment<sup>52</sup>**

	Washington	Klickitat County
Civilian Labor Force	3,914,869	9,811
Total Employment	3,585,782	9,003
Total Unemployment	329,087	808
Unemployment Rate	8.4%	8.2%

Table A6 shows the county and statewide employment by major industry sector. Klickitat’s largest industry sector in 2020 was the Government (23 percent), followed by Manufacturing (20 percent), and Agriculture, Forestry, Fishing, and Hunting (19 percent). Washington’s largest industry sector in 2020 also was the Government (17 percent), followed by Healthcare and Social Assistance (13 percent), and Retail Trade (12 percent).

**Table A6: Employment by Industry Sector<sup>53</sup>**

	Washington		Klickitat County	
	Average employment	% of total	Average employment	% of total
<b>Total</b>	<b>3,255,985</b>	<b>100%</b>	<b>7,004</b>	<b>100%</b>
Agriculture, forestry, fishing, and hunting	99,281	3%	1,326	19%
Mining	2,059	0%	n.d.	n.d.
Utilities	5,224	0%	\$54	1%
Construction	199,845	6%	268	4%
Manufacturing	268,654	8%	1,422	20%
Wholesale trade	128,791	4%	146	2%
Retail trade	379,946	12%	401	6%
Transportation & warehousing	101,215	3%	138	2%
Information	148,235	5%	45	1%
Finance and insurance	95,043	3%	79	1%
Real estate, rental and leasing	52,642	2%	44	1%
Professional, scientific, and technical services	210,649	6%	172	2%
Management of companies and enterprises	43,516	1%	n.d.	n.d.
Administrative and waste management services	160,913	5%	\$290	4%
Educational services	40,898	1%	25	0%
Healthcare and social assistance	426,047	13%	351	5%
Arts, entertainment, and recreation	34,968	1%	57	1%
Accommodation and food services	220,795	7%	233	3%
Other services (except public administration)	89,077	3%	312	4%
Government	548,188	17%	1,616	23%
Not elsewhere classified	0	0%	24	0%

<sup>52</sup> Data Source: Washington State Employment Security Department.

<sup>53</sup> Data Source: Washington State Employment Security Department.

**g) An estimate by month of the average size of the project construction, operational work force by trade, and work force peak periods**

**Table A7: Construction Schedule<sup>54</sup>**

	Proposed Timing	Duration	Employee Numbers on Site & Frequency
Site Preparation / Construction	4/2023	12-18 months	350
Operation/Use	12/2024-12/2064	40 years	3
Closure/Reclamation	TBD	TBD	TBD

**h) An analysis of whether or not the locally available work force would be sufficient to meet the anticipated demand for direct workers and an estimate of the number of construction and operation workers that would be hired from outside of the study area if the locally available work force would not meet the demand**

The analysis on the economic impact of the construction of Carriger Solar in the Economic Impact Study on pages 13f showed that the Carriger Solar project would support approximately a total of 364 construction workers in the state of Washington, of which an estimated 100 workers could be sourced locally. These workers could be existing construction workers and unemployed workers re-entering the workforce. The analysis also showed that ongoing operations would support four direct jobs in Klickitat County and the state of Washington.

**i) A list of the required trades for the proposed project construction**

Construction of a solar farms requires a variety of trades and skills levels including construction managers, civil engineers, construction laborers for site preparation and general construction (i.e. fencing, foundations), specialized electrical installation, metalworkers, steel workers, material handlers; equipment operators.

**j) An estimate of how many direct or indirect operation and maintenance workers (including family members and/or dependents) would temporarily relocate**

The analysis on the economic impact of Carriger Solar showed that the operation of the facility could support up to four local jobs for the maintenance operations of the facility. While solar projects generally try to hire locally as much as possible, final vendor contracts and the availability of candidates determines whether maintenance technicians live locally or commute to the site.

<sup>54</sup> Data Source: Cypress Creek Renewables.

**k) An estimate of how many workers would potentially commute on a daily basis and where they would originate**

As previously mentioned, the project could support approximately 100 local construction workers while the remaining workers would be sourced from within the state. Workers would commute to the site or stay in local accommodations in Klickitat County or surrounding areas.

## Housing Impacts

**a) Housing data from the most recent ten-year period that data are available, including the total number of housing units in the study area, number of units occupied, number and percentage of units vacant, median home value, and median gross rent. A description of the available hotels, motels, bed and breakfasts, campgrounds or other recreational facilities.**

Table A8 summarizes information on the total housing units in the state of Washington and in Klickitat County. The total number of housing units in Klickitat County increased between 2010 and 2019 by approximately 812 units (or 8 percent), which is somewhat lower than the statewide growth rate (11 percent). Housing values and rental rates in the county are below the statewide average but local vacancy rates are higher.

**Table A8: Population by Race/Ethnicity<sup>55</sup>**

	Washington		Klickitat County	
	2010	2019	2010	2019
Total housing units	2,888,594	3,195,098	9,612	10,424
Occupied housing units	2,606,863	91.8%	8,405	85.2%
Vacant housing units	281,731	8.2%	1,207	14.8%
Homeowner vacancy rate	2.6	1.1	1.8	1.6
Rental vacancy rate	5.8	4.3	7.6	3.9
Owner Occupied Units Median (dollars)	271,800	387,600	200,200	261,000
Median gross rent (dollars)	\$908	\$1,359	\$661	\$847

Klickitat County has a number of hotels and motels including:

- Quality Inn & Suites in Goldendale
- Ponderosa Motel in Goldendale
- The Lyle Hotel in Lyle
- The Society Hotel in Bingen
- Inn of White Salmon in White Salmon

<sup>55</sup> Data Source: U.S. Census Bureau.

**b) How and where the direct construction and indirect work force would likely be housed. A description of the potential impacts on area hotels, motels, bed and breakfasts, campgrounds and recreational facilities**

As previously mentioned, the project could support approximately 100 local construction workers while the remaining workers would be sourced from within the state. Workers would commute to the site or stay in local accommodations in Klickitat County or surrounding areas.

**c) Whether or not meeting the direct construction and indirect work force's housing needs might constrain the housing market for existing residents and whether or not increased demand could lead to increased median housing values or median gross rents and/or new housing construction. Describe mitigation plans, if needed, to meet shortfalls in housing needs for these direct and indirect work forces.**

Construction of the Carriger Solar project is not expected to have a negative impact on the existing housing market as the workers would either be existing local construction workers, workers that would commute to Klickitat County, or stay in local accommodations during the duration of the project. Consequently, there would not be an impact on median housing value nor median gross rents or new housing construction.