

## TECHNICAL MEMORANDUM

To: Greg Plucker, Colusa County  
From: Jamie Gomes and Sean Fisher  
Subject: Colusa County Janus Solar Facility Economic Impact Analysis; EPS #212142  
Date: January 9, 2023

### Introduction and Project Overview

Colusa County (County) retained Economic & Planning Systems, Inc. (EPS) to prepare an economic impact analysis (Analysis) of the proposed Janus Solar Facility (Project), an 80-megawatts alternating current (MWac) solar facility plus battery energy storage system (BESS), located in the western unincorporated portion of the County. The Project is being proposed by Janus Solar PV, LLC, a subsidiary of RWE Solar Development, LLC (Applicant). The Project is anticipated to encompass 768 acres of 1,024 acres of land owned by a private landowner. The Project consists of three major components: a solar energy generating facility, energy storage system, and the generation tie-line. The proposed BESS would extend the period of time each day that the Project could contribute PV-generated energy to the electrical grid. The Project would connect to the electrical grid at the existing Cortina Substation, which is owned and operated by Pacific Gas and Electric Company (PG&E), approximately 3 miles northeast of the Project site.

The Project is located approximately 6.5 miles southwest of the City of Williams. The Project is to be located on 3 adjacent parcels zoned for foothill agriculture and are being used for cattle grazing.

The purpose of this Analysis is to estimate the quantifiable one-time construction and ongoing operational impacts of the proposed Project on the local economy with respect to jobs,

*The Economics of Land Use*



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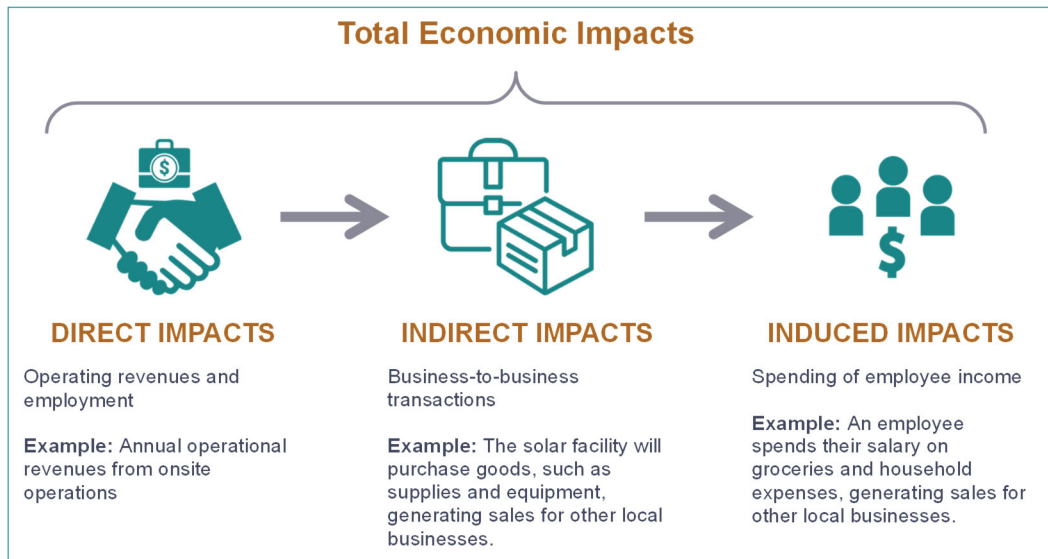
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income, and total economic output.<sup>1</sup> The economic stimulus generated by the Project will have a multiplying effect throughout the economy as local businesses, consumers, and employees associated with the Project make local expenditures. This Analysis quantifies these impacts using an input/output (I/O) economic modeling system, which measures the change in regional economic activity resulting from a specific economic stimulus.

In this Analysis, the local economy is defined as Colusa County (County), and the economic impacts measured include the direct contributions of the Project, as well as indirect and induced impacts resulting from Project construction and operations. **Figure 1** illustrates the activities captured by this Analysis.

**Figure 1. Economic Impact Analysis Components**



Source: EPS.

In addition, this Analysis includes an estimate of revenues generated by the Project to the public sector of the County.

<sup>1</sup> Total economic output refers to the value of goods and services produced in a county as a result of a project’s buildout operations.

## Economic Impact Results

**Table 1** summarizes the estimated one-time construction impacts, ongoing annual direct, indirect, and induced impacts, and public-sector revenues generated by the Project in the County:

- The construction of the Project is anticipated to generate \$15.9 million in one-time economic impacts, supporting 90 jobs.
- On an annual ongoing basis, Project operations are anticipated to generate \$4.0 million annually in total economic impacts, supporting 6 new jobs in the County.
- This Analysis includes an estimate of tax revenues generated in the County. The construction of the Project is anticipated to generate \$788,000 in one-time fiscal revenues to the County. On an annual ongoing basis, the Project is anticipated to generate tax revenue to support public-sector operations ranging from \$155,000 in the first year of operations to \$22,000 once all assets have depreciated (years 12 and beyond).<sup>2</sup>

### One-Time Construction Economic Impact Results

One-time economic impacts are generated by construction and as such are limited to the development period of the construction. To the extent that construction activity is short-term and construction labor markets are tight, construction impacts may represent a shift of resources from other projects in the County. This report, therefore, reports gross economic impacts, not accounting for potential shifts in resources. To the extent that construction labor is used temporarily and laborers may live outside of the County, this Analysis is based on the assumption that construction activities will not generate induced impacts. Construction impacts are based on the anticipated construction employment estimates and hard construction costs for the proposed Project, as provided by the Applicant.

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<sup>2</sup> Ongoing public sector revenues include annual property tax revenues estimated assuming a dual use scenario in which the BESS would in any part be fueled by the existing power grid, resulting in a reduced solar exclusion of 75% of the property value for the BESS not assessed for property tax purposes.

**Table 1**  
**Colusa County Janus Solar Facility**  
**Economic Impact Analysis**  
**Summary of One-Time and Ongoing Impacts (Rounded 2022\$)**

| Activity/Impact Categories   | Estimated Economic Impacts (2022\$) |
|--|-------------------------------------|
| <b>Estimated Economic Impacts of Project Construction and Operations</b> |                                     |
| <b>Colusa County Impacts</b>   |                                     |
| <b>One-Time Economic Impacts</b>   |                                     |
| One-Time Construction Impacts [1]  | \$15.9 M                            |
| One-Time Construction Jobs (Job Years) [2]                               | 90                                  |
| One-Time Fiscal Revenues   | \$788,000                           |
| <b>Annual Ongoing Economic Impacts</b>                                   |                                     |
| Annual Ongoing Operational Impacts [3]                                   | \$4.0 M                             |
| Annual Ongoing Operational Jobs (Annual Average) [4]                     | 6                                   |
| Annual Ongoing Fiscal Revenues   | \$22,000                            |

Source: IMPLAN, 2019 Dataset; RWE Solar Development, LLC; EPS.

- [1] Includes direct and indirect impacts.
- [2] Employment includes both full-time and part-time workers. Job years refer to the number of jobs in each year summed over the entire construction period.
- [3] Includes direct, indirect, and induced impacts of the anticipated Project.
- [4] Reflects Stabilized Operational employment for the Project. Employment includes both full- and part-time workers.

One-time economic impacts stemming from construction of the Project are estimated to generate a **total output of \$15.9 million** (measured in 2022 dollars). It is anticipated that construction of the Project will generate **90 job-years** over the anticipated construction timeline, including 83 direct and 7 indirect job years.<sup>3</sup>

### Ongoing Economic Impact Results

Ongoing economic impacts are measured on a gross annual impact basis, not accounting for shifts in consumer expenditures from other local alternatives. Based on the anticipated operating expenditure of the Project after stabilized operations are reached, approximately **\$4.0 million in total economic activity** (measured in 2022 dollars) is estimated to be generated in the County annually. This level of economic output represents direct, indirect, and induced impacts.

The Project is estimated to result in **6 full- and part-time jobs** in the County as a result of ongoing, annual Project operations, including 3 direct (on-site) Project jobs, 2 indirect jobs, and 1 induced job. These full- and part-time jobs are estimated to generate approximately **\$752,000 in earned employee compensation (wages and benefits)**.

### Public-Sector Revenues

This Analysis estimates tax revenues resulting from the Project that will flow to the County resulting from Project construction and ongoing operations. This Analysis focuses on major sources of tax revenue only, including property tax, property tax in lieu of vehicle license fees, property transfer tax, and sales tax revenues. Under a dual-use scenario, in which only a portion of the assessed BESS is eligible for the State of California's (State) Active Solar Energy System Exclusion (Exclusion), it is estimated that Project operations will generate public-sector tax revenues ranging from approximately **\$155,000 in the first year of Project operations to \$22,000 annually after the Project facilities have depreciated in value (years 12 and beyond)** with an **additional \$788,000 in one time County revenues** related to Project construction (measured in 2022 dollars).

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<sup>3</sup> Note that the employment figures reported for construction impacts represent total job years lasting over the duration of the Project and could reflect the same job that extends over multiple years. For instance, a general laborer employed for 2 years during construction activity would represent 2 job years. Construction employment in any given month of Project development may exceed total job year estimates.

## Detailed Analysis Findings and Assumptions

The following section provides the detailed results of the Analysis, as well as the assumptions used to calculate each impact.

### One-Time Construction Impacts

Impacts associated with construction of the Project through buildout are measured on a one-time basis. Construction activity generates a short-term burst of economic activity that dissipates once construction is complete. One-time impacts include the value of new construction, improvements to existing infrastructure, employment created, and income earned during Project construction. The duration of one-time impacts is limited to the development period of the Project. One-time economic impacts are calculated based on the anticipated Project construction employment estimates provided by the Project Applicant. Based on information provided by the Project Applicant, it is estimated that construction of the Project will last approximately 9 months with employment estimates of up to 175 employees during any given month. As the economic impacts are estimated based on annual job years, EPS converted the monthly job estimates to an annual job year estimate. The conversion of monthly to annual job estimates is shown on **Table B-1** in **Appendix B**.

The section below details the one-time economic impacts results for construction of the Project.

### One-Time Project Construction

**Table 2** details the estimated one-time economic impacts associated with construction of the Project. The resulting impacts are described below:

- **Annual Output:** Construction operations are estimated to generate approximately \$14.5 million in direct one-time industry output. Local spending will result in \$1.4 million in indirect one-time impacts for a total one-time industry output impact of \$15.9 million.
- **Employee Compensation:** Of the \$14.5 million in direct industry output reported above, approximately \$7.1 million will be received by construction employees in the form of salary, wages, and benefits. Indirect employee compensation impacts total approximately \$402,000, for a total annual employee compensation impact of approximately \$7.5 million.
- **Annual Employment:** The 83 direct job years support 7 indirect job years for a total employment impact of 90 job years.

**Table 2**  
**Colusa County Janus Solar Facility**  
**Economic Impact Analysis**  
**Detailed One-Time Economic Impacts of Project Construction (Rounded 2022\$)**

|                     |
|---------------------|
| <b>Construction</b> |
|---------------------|

| Activity/Impact Categories                           | Source    | Impact Type         |                    |             | Total One-Time Impacts |
|--|-----------|---------------------|--------------------|-------------|------------------------|
|  |           | Direct              | Indirect           | Induced [1] |                        |
| <b>Key Input</b>                                     |           |                     |                    |             |                        |
| Estimated Construction Jobs (Annual)                 | Table B-1 | 83                  |                    |             |                        |
| <b>Colusa County One-Time Impacts</b>                |           |                     |                    |             |                        |
| <b>Colusa County Output [2]</b>                      |           |                     |                    |             |                        |
| Industry Output (excl. Income)                       |           | \$7,464,000         | \$957,000          | \$0         | <b>\$8,421,000</b>     |
| Income [3]   |           | \$7,056,000         | \$402,000          | \$0         | <b>\$7,458,000</b>     |
| <b>Total</b>   |           | <b>\$14,520,000</b> | <b>\$1,359,000</b> | <b>\$0</b>  | <b>\$15,879,000</b>    |
| <b>Colusa County Employment (Annual Average) [4]</b> |           |                     |                    |             |                        |
|  |           | 83                  | 7                  | 0           | <b>90</b>              |

Source: IMPLAN, 2019 Dataset; RWE Solar Development, LLC; EPS.

- [1] Note that total construction impacts include direct and indirect impacts only; induced impacts were not estimated because construction activities are temporary and thus are not anticipated to generate net new household expenditures in the local economy.
- [2] Analysis based on construction activity generated in Colusa County data. Output is the amount of business expenditures on goods and services retained within the County economy.
- [3] Includes employee compensation, proprietors income, and other income (profits, rents, and royalties).
- [4] Employment includes both full-time and part-time workers. Job years refer to the number of jobs in each year summed over the entire estimated construction period of the Project.

## Ongoing Operations

This report estimates the ongoing economic impacts occurring annually as a result of the Project operations in the County. Ongoing economic impacts capture the direct, indirect, and induced impacts generated by annual operations of the Project. Impacts associated with these economic activities are estimated based on annual ongoing Project operational expenditures, provided by the Project Applicant, reflecting stabilized operations.

### *Ongoing Project Operations*

**Table 3** summarizes the total estimated annual ongoing impacts associated with Project operations. The resulting impacts are described below:

- **Annual Output:** Project operations are estimated to generate approximately \$3.6 million in direct industry output annually. Local spending will result in approximately \$318,000 in indirect industry output impacts and \$145,000 in induced impacts annually for a total industry output impact of \$4.0 million on an annual basis.
- **Employee Compensation:** Of the \$3.6 million in direct industry output reported above, approximately \$626,000 will be received by employees employed in the Project in the form of salary, wages, and benefits. Indirect and induced employee compensation impacts total approximately \$126,000 for a total annual employee compensation impact of approximately \$752,000.
- **Annual Employment:** The 3 direct jobs will generate approximately 2 indirect and 1 induced jobs annually for a total employment impact of approximately 6 jobs on an annual basis.<sup>4</sup>

## Additional Public-Sector Revenues

The Project will generate additional revenues to the County. This Analysis focuses on major sources of tax revenues, including property tax and sales tax revenues, as shown in **Table 4**. Based on the State's Revenue and Taxation Code section 73, active solar facilities are eligible for the State Exclusion program, which allows for development of active solar facilities with no increase in assessed value for construction of active solar facilities. The property tax revenues estimated in this analysis are based on estimating methodologies derived from the Guidelines for Active Solar Energy Systems New Construction Exclusion (Guidelines), published by the State Board of Equalization in December 2012.

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<sup>4</sup> Job estimates reflect total full- and part-time employment, adjusted for seasonality but not adjusted for hours worked per day.



**Table 3**  
**Colusa County Janus Solar Facility**  
**Economic Impact Analysis**  
**Detailed Annual Economic Impacts of the Ongoing Project Operations (Rounded 2022\$)**

**Annual Ongoing Impacts**

| Activity/Impact Categories                            | Impact Type        |                  |                  | Total Annual Ongoing Impacts |
|---|--------------------|------------------|------------------|------------------------------|
|   | Direct             | Indirect         | Induced          |                              |
| <b>Key Input</b>                                      |                    |                  |                  |                              |
| Ongoing Project Operating Expenditures [1]            | \$3,550,000        |                  |                  |                              |
| <b>Colusa County Annual Ongoing Operating Impacts</b> |                    |                  |                  |                              |
| <b>Colusa County Output [2]</b>                       |                    |                  |                  |                              |
| Industry Output (excl. Income)                        | \$2,924,000        | \$230,000        | \$107,000        | <b>\$3,261,000</b>           |
| Income [3]  | \$626,000          | \$88,000         | \$38,000         | <b>\$752,000</b>             |
| <b>Total</b>  | <b>\$3,550,000</b> | <b>\$318,000</b> | <b>\$145,000</b> | <b>\$4,013,000</b>           |
| <b>Colusa County Employment (Annual Average) [4]</b>  |                    |                  |                  |                              |
|   | 3                  | 2                | 1                | 6                            |

Source: IMPLAN, 2019 Dataset; RWE Solar Development, LLC; EPS.

- [1] Reflects stabilized operational expenditures as provided by the Project Applicant.
- [2] Analysis based direct employment generated in Colusa County data. Output is the amount of business expenditures on goods and services retained within the County economy.
- [3] Includes employee compensation, proprietors income, and other income (profits, rents, and royalties).
- [4] Reflects stabilized operational employment. Employment includes both full-time and part-time workers. Due to the types of employment resulting from the Project, total ongoing employment impacts reflect full time equivalent employment estimates.

**Table 4**  
**Colusa County Janus Solar Facility**  
**Economic Impact Analysis**  
**Summary of One-Time and Annual Fiscal Revenues (Rounded 2022\$)**

| County Revenue Type  | Source    | Estimated Revenues (2022\$) |                       |                       |
|--|-----------|-----------------------------|-----------------------|-----------------------|
|  |           | No Exclusion Scenario [1]   | Dual Use Scenario [2] |                       |
|  |           |                             | Initial Value [3]     | Depreciated Value [4] |
| <b>Estimated Fiscal Impacts of Project Construction and Operations</b> |           |                             |                       |                       |
| <b>Colusa County Revenues</b>  |           |                             |                       |                       |
| <b>One-Time Fiscal Revenues</b>  |           |                             |                       |                       |
| Property Transfer Tax  | Table A-1 | \$3,245                     | \$3,245               | \$3,245               |
| Sales Tax [5]  | Table A-2 | \$784,483                   | \$784,483             | \$784,483             |
| <b>Total One-Time Fiscal Revenues</b>                                  |           | <b>\$787,728</b>            | <b>\$787,728</b>      | <b>\$787,728</b>      |
| <b>Annual Ongoing Fiscal Revenues</b>                                  |           |                             |                       |                       |
| Property Tax [6]   | Table A-3 | \$404,489                   | \$102,395             | \$14,788              |
| Property Tax in Lieu of Vehicle License Fees                           | Table A-3 | \$206,876                   | \$52,370              | \$7,564               |
| <b>Total Annual Ongoing Fiscal Revenues</b>                            |           | <b>\$611,364</b>            | <b>\$154,766</b>      | <b>\$22,352</b>       |

Source: RWE Solar Development, LLC; EPS.

- [1] Represents a scenario estimating the maximum property tax revenue available assuming there is not a property tax exclusion.
- [2] A dual use scenario reflects a scenario in which the battery storage facilities on-site would be in some way fueled by the existing energy infrastructure and not be solely charged by the solar facilities. Under this scenario, 25 percent of assessed value for the battery storage system would not be eligible for property tax exclusions
- [3] Estimates reflect the revenues associated with the total taxable assessed value of the Project under the dual use scenario prior to any assumed depreciation.
- [4] Estimates reflect the revenues associated with the total taxable assessed value of the Project in Year 12, including depreciation of personal property values under a dual use scenario.
- [5] Includes both the one percent Bradley Burns local sales tax rate and the half cent proposition 172 public safety sales tax revenues. Ongoing estimates of sales tax revenues resulting from employee spending is anticipated to be negligible and have not been estimated in this analysis.
- [6] Property tax estimates shown reflect only the County's share of property tax revenues. For the full 1 percent property tax generated by the Project, refer to Table A-3.

This Analysis estimates public-sector revenues under two scenarios related to the State's Exclusion program:

- **No Exclusion Scenario:** The No Exclusion Scenario is provided for informational purposes and estimates the public sector revenues generated by the project assuming no Exclusion for any portions of the Project. No depreciation is assumed in the No Exclusion Scenario.
- **Dual Use Scenario:** The Dual Use Scenario reflects a likely operational scenario for the project in which the BESS will in part be fueled using the existing energy grid and not exclusively new solar facilities. Based on information provided in the Guidelines, this scenario assumes that the active solar facilities within the Project would be eligible for the Exclusion and the dual-use BESS would be eligible for a partial (75 percent) Exclusion. The Dual Use Scenario assumes the value of the BESS will depreciate for the first 12 years of Project operations.

Under the no Exclusion Scenario construction of the Project is anticipated to generate \$788,000 in one-time County revenues and ongoing Project operations are anticipated to generate \$611,000 in additional public-sector tax revenue.

Under the Dual Use Scenario, construction of the Project is anticipated to generate \$788,000 in one-time County revenues and ongoing Project operations are anticipated to generate \$155,000 in additional public-sector tax revenue in the initial year of operations decreasing as the Project depreciates in value to \$22,000 annual for year 12 and beyond.

The Analysis estimates additional public-sector revenues using a marginal-revenue case-study approach, which simulates actual revenue generation resulting from new development. The following sections detail the additional public-sector tax revenues generated by the Project and the case-study methodologies used to calculate each revenue source.

### ***One-Time Revenues Generated by Project Construction***

#### Property Transfer Tax

Real property transfer tax is based on the value of the portion of the Project land to be purchased through a fee simple property sale prior to Project development. Real property transfer tax revenue projections are identified in **Table A-1** in **Appendix A**.

#### Sales Tax

Sales tax revenue is based on estimated taxable sales and the Bradley-Burns local 1-percent Uniform Local Sales Tax rate as summarized in **Table A-2** in **Appendix A**. Due to local purchasing agreements entered into between the County and the Project Applicant, it is anticipated that sales tax generated by Project construction would be registered to a local property in the unincorporated

Colusa County. Based on information provided by the Project Applicant, construction of the Project is estimated to result in \$3.25 million in sales taxes. Due to the local purchasing agreement, the Analysis assumes that all sales tax related to construction materials and services would be generated in Colusa County. The County's share of sales tax revenue is estimated using the share of total sales tax rates benefitting the County, including the Bradley Burns sales tax rate, local transportation taxes, and Proposition 172 public safety sales tax. As shown on Table A-2, Project construction is estimated to generate \$784,000 in sales tax revenue to the County.

In total, construction of the Project is anticipated to generate \$788,000 in one-time County revenues under all scenarios.

### ***Ongoing Annual Revenues Generated by Project Operations***

#### Property Tax Revenues

The Analysis estimates property tax revenues generated by the Project annually under each Exclusion scenario. The Project is estimated to create \$174.9 million in assessed value (net of existing land value) including \$174.1 million in BESS uses and \$1.0 million in other real property, including streets, fencing, and other uses not directly related to solar operations.

#### No Exclusion Scenario

The No Exclusion Scenario estimates annual property tax revenues based on the total value of real property and the BESS with no Exclusion applied. Under this scenario, the Project is estimated to generate \$404,000 in property tax revenues to the County General Fund, annually.

#### Dual Use Scenario

The Dual Use Scenario assumes that the BESS would be in part fueled using energy from the existing power grid and not fully from new solar facilities and would be eligible for a partial exclusion, as detailed in the Guidelines. Due to the dual-use categorization, the BESS would be eligible for a 75 percent exclusion, with property taxes being generated on only 25 percent of the total BESS value. The real property would not be eligible for Exclusion. In addition to the partial Exclusion, the Dual Use Scenario includes annual depreciation of BESS facility values, with the Project being fully depreciated to 13 percent of the beginning value by year 12 of Project operations. In the initial year of Project operations, the Project is estimated to generate \$102,000 in property tax revenue benefitting the County General Fund. After the Project fully depreciates in year 12, it is estimated that the Project will generate \$15,000 in property taxes, annually.

Estimated annual property tax revenue resulting from development in the Project is presented in **Table A-3** in **Appendix A**. The estimated assessed values for Project land uses are assumed to remain static in 2022-dollar values—real growth in assessed value is not estimated. The property taxes the County will receive are derived from the total assessed value of the Project, as provided by the Project

Applicant, and the estimated post-Educational Revenue Augmentation Fund (ERAF) share of the 1 percent ad valorem property tax rate to the County.

#### Property Tax in Lieu of Vehicle License Fee

The Analysis uses a formula provided by the State Controller's Office to forecast Property Tax in Lieu of Vehicle License Fees (PTIL VLF). PTIL VLF is calculated by taking the percentage increase in the County's assessed value resulting from the Project under each scenario and applying that percentage increase to the County's current State allocation of PTIL VLF revenue, as shown in the County's Fiscal Year (FY) 2021-22 budget. This calculation is shown in **Table A-3** in **Appendix A**. As shown, the Project is anticipated to generate approximately \$207,000 in PTIL VLF revenues to the County under the No Exclusion Scenario. Under the Dual Use Scenario, the Project is anticipated to generate approximately \$52,000 in PTIL VLF revenues in the initial year of operations and \$8,000 annually beginning in year 12.

## **Economic Impact Modeling Framework**

The Analysis uses an I/O modeling framework to quantify the project's one-time and ongoing contributions to countywide output, employment, and labor income. The I/O modeling framework is premised on the concept that industries in a geographic region are interdependent in the sense that they purchase output from and supply input to other industries. This regional economic analysis relies on IMPLAN (Impact Analysis for Planning) software, an I/O model that draws on data collected by the IMPLAN Group, LLC, from several state and federal sources, including the Bureau of Economic Analysis, the Bureau of Labor Statistics, and the Census Bureau. The model is used widely for estimating economic impacts across a wide array of industries and economic settings.

Regional economic impact analysis and I/O models in particular provide a means to estimate total regional effects stemming from a particular industry. Specifically, I/O models produce quantitative estimates of the magnitude of regional economic activity resulting from some initial activity (e.g., business operations or building construction). I/O models rely on economic "multipliers" that mathematically represent the relation between the initial change in one sector of the economy and the effect of that change on economic output, income, or employment in other local industries. These economic data provide a quantitative estimate of the magnitude of shifts in jobs and revenues in the regional economy.

Economic impacts using an I/O model are based on an initial change in output or employment in a specific industry sector. The model then translates the initial change into changes in demand for output from other interdependent sectors, corresponding changes in demand for inputs to those sectors, and so on. These effects commonly are described as direct, indirect, or induced and generally are defined as follows:

- The **direct** effect represents the change in output or employment attributable to a certain economic activity. In this case, the annual operations of the Project and the entities directly receiving spending related to the building construction project (e.g., construction contractors, equipment vendors, and consultants).
- The **indirect** effect results from industry-to-industry transactions required to satisfy the direct effect. This effect is a measure of the change in the output of suppliers linked to the industry that is directly affected.
- The **induced** effect consists of impacts from employee spending in the local economy. Specifically, the employees of directly and indirectly affected businesses generate this effect by purchasing goods and services in the local economy. For instance, employees of these businesses spend their paychecks on household needs such as groceries, retail purchases, health care, or mortgage or rent payments, all of which are considered to be induced effects.

The total impact is the sum of the direct, indirect, and induced effects. The total effect measures the impact of an activity as it “ripples” throughout the regional economy. For this Analysis, the regional economy is defined as the County. IMPLAN generates a model of the industrial structure and household profile for the County economy, which in turn determines the extent to which spending is captured and recirculated in the local economy rather than being allowed to leak outside the County. In the following sections, the regional economic effects described above are reported in three categories:

- **Annual Output:** Annual output measures the value of goods and services produced in the County as a result of business operations. Projected Project operational expenditures were used to estimate ongoing annual output of the Project. Construction employment was used to estimate one-time construction impacts.
- **Employment:** Employment estimates the total number of jobs, both full time and part time, created as a result of project operations. Employment is reported in job years. Construction employment represents total job-years over the life of the project (1 job lasting 2 years would be reported as an employment impact of “2”).
- **Labor Income:** Labor income reflects the estimated amount of direct, indirect, and induced annual employment income (salaries, wages, and benefits) resulting from the associated employment. It is important to note that labor income is a component of industry output and is not an additive economic impact.

**I/O Modeling Considerations**

The current IMPLAN dataset relies on I/O relations derived from 2019. Although 2020 data is available, due to the unique nature of the economy as the COVID-19 pandemic impacted the global economy, EPS believes the 2019 data provides a more accurate and reasonable approximation of conditions on an ongoing basis.

All economic impacts depicted in this Analysis reflect gross impacts. As such, the economic impacts do not account for potential shifts in resources or shifts in consumer expenditures from other local alternatives. The I/O methodology is based on the assumption that an industry's demand for goods and services results in a corresponding increase in supply and therefore employment. This implies that key industry suppliers can increase output rather than shift output from one set of consumers or products to another. This assumption may not hold in areas with tight labor or capital markets because companies may find it difficult to obtain these inputs or other resources necessary to expand production. In these cases, accommodating an establishment's demand for labor and other inputs may come at the expense of other establishments in the same or related sectors or may need to be satisfied by increased imports from outside the study area. This phenomenon often is referred to as "crowding out" because the stimulated sector tends to crowd out other sectors, which can reduce the net economic gain.

**APPENDICES:**

- Appendix A: Fiscal Revenue-Estimating  
Tables
- Appendix B: Project Construction  
Employment Estimates







## APPENDIX A:

### Fiscal Revenue-Estimating Tables

|           |   |     |
|-----------|---|-----|
| Table A-1 | One-Time Real Property Transfer Tax .....   | A-1 |
| Table A-2 | Estimated One-Time Taxable Sales and<br>Use Tax Revenue from Project Construction ..... | A-2 |
| Table A-3 | Estimated Annual Property Tax Revenues .....  | A-3 |

**Table A-1  
Colusa County Janus Solar Facility  
Economic Impact Analysis  
One Time Real Property Transfer Tax (2022\$)**

| Description                          | Assumption/<br>Source | Estimated Annual<br>Property Transfer Tax<br>Revenue |
|--------------------------------------|-----------------------|--|
| <b>Rate per \$1,000 of AV</b>        | \$0.55                |  |
| <b>One Time Transfer Tax Revenue</b> | [1]                   | \$3,245  |

Source: Colusa County Auditor-Controller; EPS.

[1] One time transfer tax revenue based on the fee simple purchase value of the portion of the Project area to the purchased via a fee simple property sale as provided by the Project Applicant.

**Table A-2  
Colusa County Janus Solar Facility  
Economic Impact Analysis  
Estimated One-Time Taxable Sales and Use Tax Revenue from Project Construction (2022\$)**

| Item   | Formula                 | Source/<br>Assumptions | Annual Sales<br>Tax Revenue |
|--|-------------------------|------------------------|-----------------------------|
| <b>Estimated Sales Tax</b>                                       |                         |                        |                             |
| Total Estimated Sales Taxes Generated by Project Development [1] | $a$                     |                        | \$3,250,000                 |
| <b>Annual Sales Tax from New Development</b>                     | $b = a$                 |                        | <b>\$3,250,000</b>          |
| <b>Annual Sales Tax Revenue</b>                                  |                         |                        |                             |
| <b>Colusa County Share</b>                                       |                         |                        |                             |
| County Bradley Burns Local Sales Tax Revenue                     | $c = b * 1.00\%/7.25\%$ | 1.0000%                | \$448,276                   |
| County Local Transportation Sales Tax Revenue                    | $d = b * 0.25\%/7.25\%$ | 0.2500%                | \$112,069                   |
| Prop 172 Public Safety Sales Tax Revenue                         | $e = b * 0.50\%/7.25\%$ | 0.5000%                | \$224,138                   |
| <b>Total Colusa County</b>                                       | $f = c + d + e$         | <b>1.7500%</b>         | <b>\$784,483</b>            |
| State of California  | $g = b * 5.50\%/7.25\%$ | 5.5000%                | \$2,465,517                 |
| <b>Total Sales Tax Revenues</b>                                  | $h = b$                 | <b>7.2500%</b>         | <b>\$3,250,000</b>          |

Source: Colusa County; California State Board of Equalization; EPS.

[1] Based on information provided by the Project applicant Project construction is estimated to generate \$3.25 million in sales taxes for materials and service costs. It is anticipated that the Project will be required to establish a local address for billing/delivery of goods resulting in all sales generating local sales tax revenues. Colusa County share of revenues is estimated based on Colusa's share of the total sales tax rate in the County.

**Table A-3  
Colusa County Janus Solar Facility  
Economic Impact Analysis  
Estimated Annual Property Tax Revenues (2022\$)**

| Item   | Assumption/<br>Source | Formula                    | Estimated Property Tax Revenues (2022\$) |                        |                          |
|--|-----------------------|----------------------------|--|------------------------|--------------------------|
|  |                       |                            | No Exclusion<br>Scenario [1]             | Dual Use Scenario [2]  |                          |
|  |                       |                            |  | Initial<br>Value [3]   | Depreciated Value<br>[4] |
| <b>Taxable Assessed Value</b>  |                       |                            |  |                        |                          |
| Real Property  |                       | <i>a</i>                   | \$1,041,023                              | \$1,041,023            | \$1,041,023              |
| <b>Personal Property (Battery Storage Facility)</b>                    |                       |                            |  |                        |                          |
| Total Value  |                       | <i>b</i>                   | \$174,148,984                            | \$174,148,984          | \$22,639,368             |
| Percentage Taxable   |                       | <i>c</i>                   | 100%                                     | 25%                    | 25%                      |
| <b>Total Taxable Personal Property Value</b>                           |                       | <i>d = b * c</i>           | <b>\$174,148,984</b>                     | <b>\$43,537,246</b>    | <b>\$5,659,842</b>       |
| <b>Total Taxable Project Assessed Value</b>                            |                       | <i>e = a + d</i>           | <b>\$175,190,007</b>                     | <b>\$44,578,269</b>    | <b>\$6,700,865</b>       |
| Less Existing Property Base Value                                      | [5]                   | <i>f</i>                   | (\$307,002)                              | (\$307,002)            | (\$307,002)              |
| <b>Net Taxable Assessed Value</b>                                      |                       | <i>g = e - f</i>           | <b>\$174,883,005</b>                     | <b>\$44,271,267</b>    | <b>\$6,393,863</b>       |
| <b>Property Tax Revenue (1% of Assessed Value)</b>                     | 1.0000%               | <i>h = g * 1.00%</i>       | \$1,748,830                              | \$442,713              | \$63,939                 |
| <b>Estimated Property Tax Allocation [6]</b>                           |                       |                            |  |                        |                          |
| Colusa County General Fund   | 23.1%                 | <i>i = h * 23.13%</i>      | \$404,489                                | \$102,395              | \$14,788                 |
| Other Agencies/ERAF  | 76.9%                 | <i>j = h * 76.87%</i>      | \$1,344,341                              | \$340,317              | \$49,150                 |
| <b>Total Colusa County General Fund Property Tax</b>                   |                       | <i>k = i</i>               | <b>\$404,489</b>                         | <b>\$102,395</b>       | <b>\$14,788</b>          |
| <b>Property Tax In-Lieu of Motor Vehicle In-Lieu Fee Revenue (VLF)</b> |                       |                            |  |                        |                          |
| Total Unincorporated County Area Assessed Value                        |                       | <i>l</i>                   | \$2,950,220,068                          | \$2,950,220,069        | \$2,950,220,070          |
| Total Assessed Value of Project  |                       | <i>m</i>                   | \$174,883,005                            | \$44,271,267           | \$6,393,863              |
| <b>Total Assessed Value</b>  |                       | <i>n = l + m</i>           | <b>\$3,125,103,073</b>                   | <b>\$2,994,491,336</b> | <b>\$2,956,613,933</b>   |
| Percent Change in AV   |                       | <i>o = m / n</i>           | 5.93%                                    | 1.50%                  | 0.22%                    |
| <b>Property Tax In-Lieu of VLF [7]</b>                                 | <b>\$3,489,925</b>    | <i>p = o * \$3,489,925</i> | <b>\$206,876</b>                         | <b>\$52,370</b>        | <b>\$7,564</b>           |

Source: Colusa County; Colusa County Treasurer Tax Collector; RWE; EPS.

[1] Represents the maximum property tax revenue available assuming all personal property were to be taxable prior to any assumed depreciation.  
 [2] A dual use scenario reflects a scenario in which the battery storage facilities on site would be in some way fueled by the existing energy infrastructure and not solely be charged by the solar facility. Under this scenario, 25 percent of assessed value for the battery storage system would be taxable.  
 [3] Represents the total taxable assessed value of the Project under the dual use scenario prior to any assumed depreciation.  
 [4] Represents the total taxable assessed value of the Project in Year 12, including depreciation of personal property values under a dual use scenario.  
 [5] Existing value reflects the existing land value for the three parcels containing the Project. As existing improvements are anticipated to remain on the property in the ownership of the existing landowners, no reduction is made for existing improvements.  
 [6] Property tax allocation based on information provided by the Colusa County Treasurer Tax collector  
 [7] Property tax in-lieu of VLF amount derived from the Final Fiscal Year 2021-22 Colusa County Budget.



## APPENDIX B: Project Construction Employment Estimates

|           |   |     |
|-----------|---|-----|
| Table B-1 | Estimated Project Construction<br>Employment Estimates..... | B-1 |
| Table B-2 | Existing Project Parcel Values.....                         | B-2 |

**Table B-1**  
**Colusa County Janus Solar Facility**  
**Economic Impact Analysis**  
**Estimated Project Construction Employment Estimates**

| Item                              | Estimated Construction Jobs |                         |
|-----------------------------------|-----------------------------|-------------------------|
|                                   | Monthly Employment          | Annual Job Estimate [1] |
| <b>Construction Employment</b>    |                             |                         |
| <b>Month</b>                      |                             |                         |
| April                             | 45                          | 4                       |
| May                               | 95                          | 8                       |
| June                              | 135                         | 11                      |
| July                              | 155                         | 13                      |
| August                            | 175                         | 15                      |
| September                         | 175                         | 15                      |
| October                           | 155                         | 13                      |
| November                          | 45                          | 4                       |
| December                          | 20                          | 2                       |
| <b>Total Annual Jobs Estimate</b> |                             | <b>83</b>               |

Source: RWE Solar Development, LLC; EPS.

[1] IMPLAN estimates jobs using an annual job estimate, meaning a job lasting for 6 months would count as 0.5 jobs. To estimate annual construction jobs, monthly construction employment was divided by 12 and summed for all months.

**Table B-2  
Colusa County Janus Solar Facility  
Economic Impact Analysis  
Existing Project Parcel Values**

| <b>Parcel</b>        | <b>Existing Assessed Value</b> |                    |                  | <b>Total</b>       |
|----------------------|--------------------------------|--------------------|------------------|--------------------|
|                      | <b>Land</b>                    | <b>Improvement</b> | <b>Personal</b>  |                    |
| <b>Parcel Number</b> |                                |                    |                  |                    |
| 018-050-005          | \$186,756                      | \$232,628          | \$618,720        | <b>\$1,038,104</b> |
| 018-050-006          | \$74,921                       | \$0                | \$0              | <b>\$74,921</b>    |
| 018-050-013          | \$45,325                       | \$74,652           | \$0              | <b>\$119,977</b>   |
| <b>Total</b>         | <b>\$307,002</b>               | <b>\$307,280</b>   | <b>\$618,720</b> | <b>\$1,233,002</b> |

Source: RWE Solar Development, LLC; Parcelquest; Colusa County Assessors Office; EPS.