

# **Ebba Solar Project**

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## **Economic Impact Analysis**

**FINAL REPORT**  
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# **Ebba Solar Project — Economic Impact Analysis**

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## **About the Author**

Adam Orens is the Founder and Managing Director of MPG Consulting. Adam has 19 years of experience in economic and public policy consulting, including market analysis, public finance, and regional economic analysis. Adam has completed numerous studies that analyze the relationships between markets, demographics, economic impacts, and government policy, including economic impact analyses of various development projects, industries, and events.

Prior to starting MPG Consulting, Adam was Managing Director of BBC Research & Consulting, one of the oldest and largest privately held consulting firms in the Rocky Mountain Region. At BBC, Adam directed consulting engagements for businesses and governments across the US, Canada, Mexico and Asia. Past clients include NASCAR, Vail Resorts, US Marine Corps, and Intrawest/Alterra Mountain Co.

Adam's demographic and economic research related to public lands management and emerging markets has been recognized by the *White House Council on Environmental Quality*, *The New York Times*, the *Washington Post*, the *Wall Street Journal* and the *Economist*.

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## **Executive Summary**

Balanced Rock Power is developing the Ebba Solar Project in Lincoln County, Colorado located to the south of the city of Limon. The purpose of this report is to develop estimates of the economic impact of the project on Lincoln County and the State of Colorado. The analysis provides estimates in terms of the direct, indirect, and induced impacts on job creation, wages, and total economic output resulting from the construction and operation of the Ebba Solar Project. Property tax and permit fee estimates are also included. The study presents results for Lincoln County, and the state of Colorado.

The proposed Ebba Solar Project is a 3,115-acre, 300-megawatt (MW) utility-scale, solar powered electric generation facility that utilizes photovoltaic (PV) panels installed on a single-axis tracking system, and an onsite 600 megawatt-hour (MWh) Battery Energy Storage System (BESS). In total, the Project represents an investment of \$520 million.



If approved by local authorities, project development would occur in two, one-year phases starting in 2026. Construction would begin in the middle of 2026 and operations would commence in 2027, increasing to full-scale by the middle of 2028.

The economic impact of large-scale utility development generally occurs in two ways, an initial temporary construction period that can produce direct economic activity through local employment and materials purchases. The following operations phase will create a modest permanent local workforce and purchase materials and services related to facility operations and site maintenance. The project developer intends to hire local workers and buy materials locally where possible for construction and operations.

In addition to direct employment and related spending, the project developer will purchase materials and equipment for site development and will stimulate additional impacts through multiplier effects. Multiplier effects include indirect impacts that result from additional rounds of spending by businesses in the project supply chain and induced impacts from household spending by new project-related employees. Employees at the project and at related businesses will spend their income on housing, transport, medicine, and a variety of household goods and services in region.

In total, the construction project's direct, indirect, and induced effects in the Lincoln County economy are expected to result in a total of \$13.6 million of economic output, supporting 54 total jobs per year, and \$5.5 million in total labor earnings over the two-year construction period. The project will also produce \$914,000 of economic output, 5.6 total jobs per year and \$683,000 of total labor earnings during the operations period. Results at the state level include a total of \$283.7 million in economic output, supporting over 670 jobs per year, and \$105.1 million in labor earnings over the construction period. The Project also supports \$3.8 million in economic output, 18.9 total jobs per year and \$1.7 million of labor earnings per year for the state of Colorado during the operations period.

**Figure 1.**  
**Summary of Results – Ebba Solar Project Economic Impacts**

		Lincoln County	State of Colorado
			
Impact Type			
<b>Construction Phase (2-5 yrs)</b>	<b>Direct Employment Impact (FTE)*</b>	<b>36.1</b>	<b>194.2</b>
	<b>Total Employment Impact (FTE)*</b>	<b>54.3</b>	<b>671.7</b>
	<b>Direct Earnings</b>	<b>\$3.4M</b>	<b>\$37.4M</b>
	<b>Total Earnings</b>	<b>\$5.5M</b>	<b>\$111.3M</b>
	<b>Direct Economic Impact</b>	<b>\$8.4M</b>	<b>\$66.1M</b>
	<b>Total Economic Impact</b>	<b>\$13.6M</b>	<b>\$283.7M</b>
	<b>Construction Permits, Fees, Taxes</b>	<b>\$7.7M</b>	<b>\$5.0M</b>
<b>Operations Phase (Annual)</b>	<b>Direct Employment Impact (FTE)</b>	<b>5.0</b>	<b>5.0</b>
	<b>Total Employment Impact (FTE)</b>	<b>5.6</b>	<b>18.9</b>
	<b>Direct Earnings</b>	<b>\$625K</b>	<b>\$625K</b>
	<b>Total Earnings</b>	<b>\$683K</b>	<b>\$1.7M</b>
	<b>Direct Economic Impact</b>	<b>\$625K</b>	<b>\$625K</b>
	<b>Total Economic Impact</b>	<b>\$914K</b>	<b>\$3.8M</b>
	<b>Property Tax Revenue (40-yr)</b>	<b>\$42.3M</b>	<b>N/A</b>

Note: \* Employment figures are stated as total full-time equivalents per year over a two-year construction period, or about 72 direct and 108 total FTE in Lincoln County over two years.

Source: NREL; IMPLAN, Inc.; MPG Consulting LLC.

## **Project and Regional Background**

Balanced Rock Power, Inc. plans to construct and operate the Ebba Solar Project, a 300-megawatt (MW) photovoltaic (PV) solar electric power generating and Battery Energy Storage System (BESS) facility (Project) that will serve a portion of the electrical load requirements of Colorado.

The Project will be developed on 3,115 acres of private land in Lincoln County. The Project is designed to have a useful life of about 40 years, although the life span may be extended by upgrades and refurbishments. MPG Consulting LLC was retained to estimate the potential economic and select fiscal impacts of the Ebba Solar Project on Lincoln County and the state of Colorado.

The following sections present information on the regional economy, the Colorado solar power generation industry; and the estimated economic impacts of the Project on the county, and the state of Colorado. Direct, indirect, and induced economic impacts are presented in terms of employment, labor earnings, economic output, and local government tax revenue.

### **Colorado Solar Industry**

According to the Solar Energy Industries Association (SEIA), Colorado is ranked 12th in the U.S. in installed solar PV capacity in 2023. California, Texas, and Florida are the top 3 states for solar PV which may not be surprising because of the high solar irradiation that they receive. The eastern part of Colorado receives a high degree of solar irradiation, and it has promising solar potential. In 2022, Colorado ranked 25<sup>th</sup> in terms of installed PV capacity, underscoring its future growth potential. In 2023, Colorado installed nearly over 1,600 MW of solar electric capacity bringing its cumulative capacity to 4,112 MW.

Colorado has several large utility-scale solar facilities in operation: Neptune Energy Center (325 MW) and Bighorn Solar (250 MW) both located in Pueblo County are two of the largest operating utility-scale solar facilities in the state. Lincoln County currently has two other solar facilities in the planning stages (Dunaway and Sandy Hill Solar Projects).

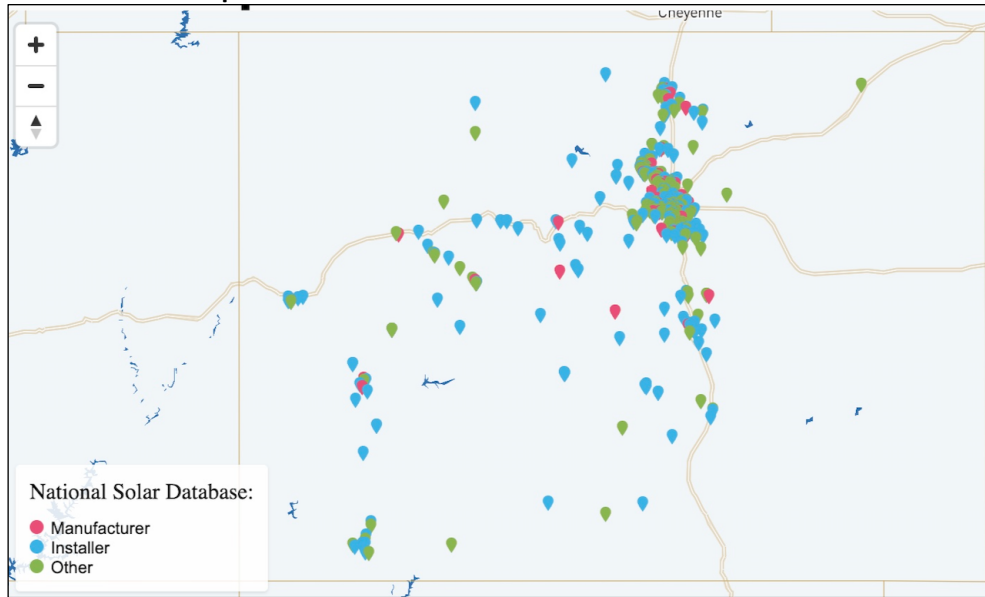
There are more than 394 solar companies in Colorado including 38 manufacturers, 182 installers/developers, and 174 others. Figure 2 shows the locations of solar companies in Colorado as of the time of this report. Most of these companies focus on residential-scale solar service and installation, but there is a class of companies that manufacture and sell components for utility-scale projects.<sup>1,2</sup> Currently, there are 7,626 solar jobs in the State of Colorado according to SEIA.

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<sup>1</sup> <https://www.cpr.org/2023/07/25/new-solar-facility-colorado-springs/>

<sup>2</sup> <https://www.evrazna.com/products>

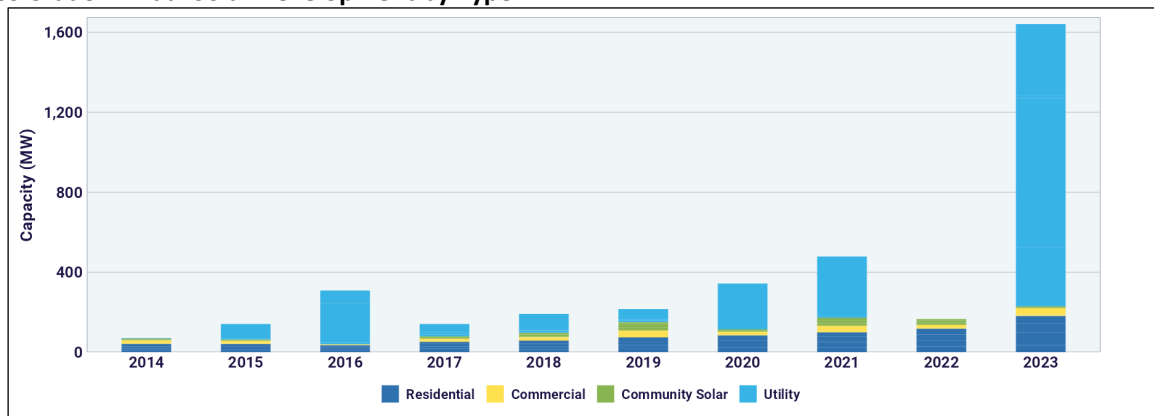
**Figure 2.**  
**Colorado Solar Companies**



Source: Solar Energy Industries Association, 2024.

Figure 3 shows the Colorado historical installed capacity by year according to the SEIA. Unprecedented growth was seen in 2023 after a slower 2022. Over the next five years, solar in Colorado is projected to grow by 4,084 MW.

**Figure 3.**  
**Colorado Annual Solar Development by Type**



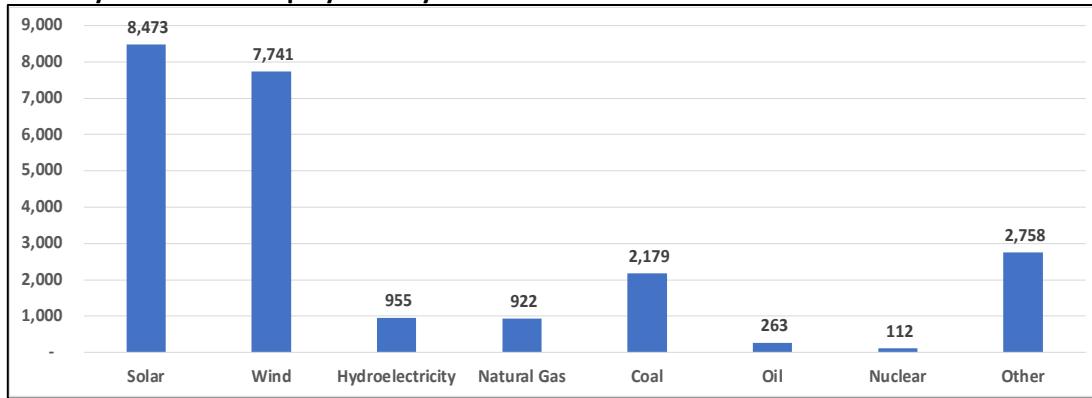
Source: Solar Energy Industries Association, 2024.

The U.S. Department of Energy sponsors the U.S. Energy and Employment Report (USEER) each year. USEER covers all utility and non-utility employment across electric generating technologies, including fossil fuels, nuclear, and renewable technologies. It also includes employees engaged in facility construction, turbine and other generation equipment



manufacturing, operations and maintenance, and wholesale parts distribution for all electric generation technologies.

**Figure 4.**  
**Electricity Generation Employment by Source**



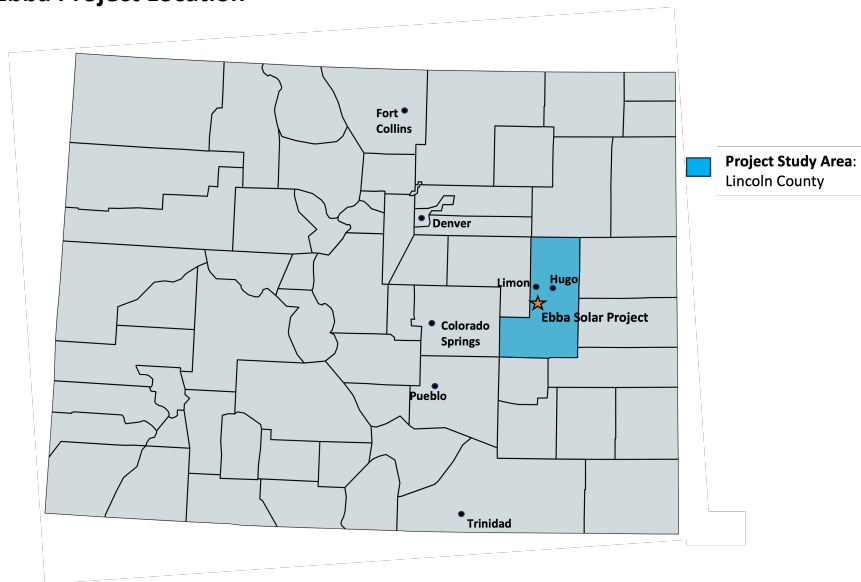
Source: US Department of Energy, Energy and Employment Report (Colorado), 2023.

According to the US Department of Energy, (Figure 4), employment in the solar energy industry (8,473) is larger than coal generation (2,179) and wind electric generation (7,741) in Colorado.

### **Project Description**

The proposed Ebba Solar Project is a 300-megawatt (MW) utility-scale, solar powered electric generation facility that utilizes photovoltaic (PV) panels installed on a single-axis tracking system, and an onsite 600-megawatt hour (MWh) Battery Energy Storage System (BESS). In total, the Project represents an investment of \$520 million that will be constructed over two, one-year phases. The developer is Balanced Rock Power, a solar energy investment and development company headquartered in Moab, Utah. If approved by local authorities, construction would begin in 2026 and operations would commence by 2028.

**Figure 5.  
Ebba Project Location**



Source: Balanced Rock Power, MPG Consulting.

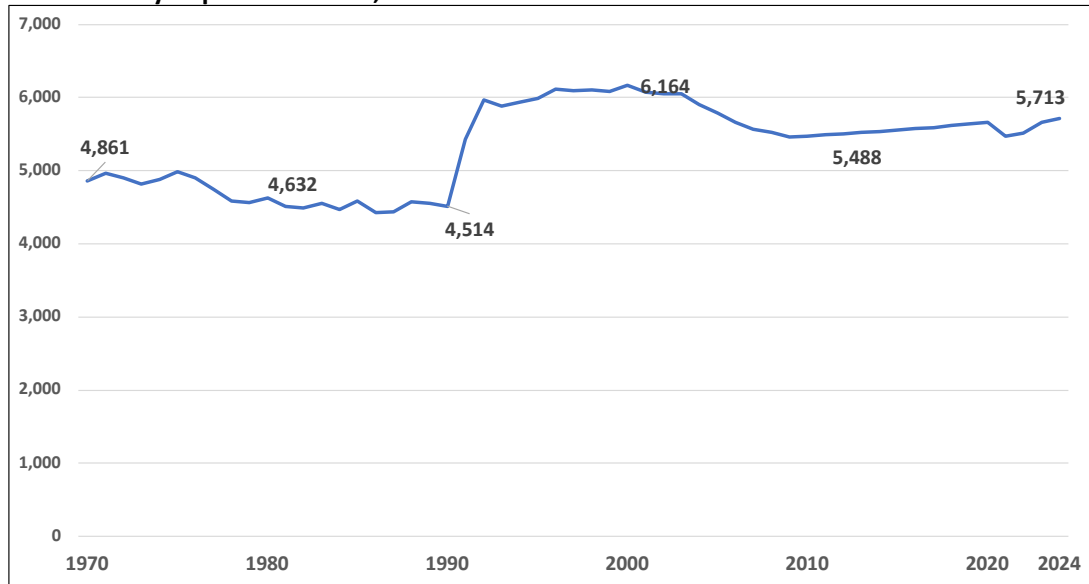
The project is located south of the cities of Limon and Hugo, in unincorporated Lincoln County. The site's ample sunny days, proximity to Colorado Springs, the Denver metropolitan area, nearby transmission lines, and Interstate Highway 70 make it an advantageous location for solar power generation.

### **Analysis Area – Lincoln County, Colorado**

Lincoln County has historically been a center for agricultural production and services, construction, and energy development. Recently, the region has seen increased utility scale PV Solar development activity, the result of favorable federal and state tax incentives, and proximity to transmission lines.

The following figures show population trend and employment by sector, for Lincoln County, and the state of Colorado.

**Figure 6.**  
**Lincoln County Population Trend, 1970-2024**



Source: US Census Bureau, Colorado Department of Local Affairs, State Demography Division.

The U.S. Census and the Colorado State Demographer’s Office estimate the most recent population at 5,713 in Lincoln County. Lincoln County population has remained between 5,500 and 6,000 since the mid 1990s.

Figure 7 shows employment by sector in the analysis area and in the state of Colorado. Shaded industries indicate the top 5 sectors by employment in Lincoln County and in the state.

**Figure 7.**  
**Employment by Sector, Lincoln County and State of Colorado, 2022**

Source: IMPLAN Group, Inc., Bureau of Economic Analysis, MPG Consulting.

Description	Lincoln County	State of Colorado
Agriculture, Forestry, Fishing and Hunting	813	61,227
Mining, Quarrying, and Oil and Gas Extraction	18	38,775
Utilities	50	9,694
Construction	195	292,943
Manufacturing	44	169,660
Wholesale Trade	40	123,830
Retail Trade	328	315,471
Transportation and Warehousing	77	189,248
Information	31	89,787
Finance and Insurance	93	251,825
Real Estate and Rental and Leasing	109	245,378
Professional, Scientific, and Technical Services	73	437,361
Management of Companies and Enterprises	7	52,751
Administrative and Support Services	28	216,927
Educational Services	4	62,910
Health Care and Social Assistance	157	360,020
Arts, Entertainment, and Recreation	74	97,014
Accommodation and Food Services	345	327,439
Other Services (except Public Administration)	82	251,240
Government Enterprises	21	24,953
Administrative Government	1044	461,940

Lincoln County is an historical home to agriculture, as well as serving as a regional services center in eastern Colorado. Current leading employment sectors in Lincoln County include

agriculture, retail, government, and construction. In the state of Colorado, government, professional services, and health care sectors are the current leading employers.

Based on existing strong economic sectors, and its location near a transmission line, Lincoln County is well-suited to absorb economic activity and employment related to construction and energy development.

The project is 3,115 acres and requires the temporary conversion of dry grazing or pasture agricultural land to renewable energy utility land use. The conversion represents 0.2 percent of Lincoln County farmland according to the 2022 Census of Agriculture.<sup>3</sup> Balanced Rock is currently investigating the use of agrivoltaic techniques, where grazing and solar power generation occur simultaneously on the same land, reducing any actual agricultural land conversion. In any case, the project is projected to produce local property tax revenue of \$1.4 million per year for Lincoln County, Limon School District RE-4J, and Limon Fire Protection District, offsetting any loss of agricultural land value. Please refer to p. 15 for additional detail on local government tax revenue.

## **Economic Impact Methodology**

This economic analysis uses the latest available Jobs and Economic Development Impacts (JEDI) PV Model (PV 05.20.21) from the National Renewable Energy Laboratory (NREL).<sup>4</sup> The JEDI PV Model is an input-output model that measures the spending patterns and location-specific economic structures that reflect expenditures supporting varying levels of employment, income, and economic output associated with PV solar projects.

The JEDI Model takes into account that the output of one industry can be used as an input for other industries. For example, when a PV system is installed, there are both soft costs consisting of permitting, planning and labor costs, as well as hardware costs, of which the PV module and BESS batteries are the largest components.

The purchase of modules and batteries not only increases demand for manufactured components and raw materials, but also supports labor for manufacturing and installation. When specialized materials are purchased from a manufacturing facility, the manufacturer uses some of that money to pay employees. The employees use a portion of their compensation to purchase goods and services within their community.

Likewise, when a developer pays workers to install the systems, those workers spend money in the local economy that boosts economic activity and employment in other sectors. The goal of

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<sup>3</sup> Based on 1.6 million acres of Lincoln County land in farms, USDA Census of Agriculture, 2022.

[https://www.nass.usda.gov/Publications/AgCensus/2022/Online\\_Resources/County\\_Profiles/Colorado/cp08073.pdf](https://www.nass.usda.gov/Publications/AgCensus/2022/Online_Resources/County_Profiles/Colorado/cp08073.pdf)

<sup>4</sup> <https://www.nrel.gov/analysis/jedi/pv.html>

economic impact analysis is to quantify economic and employment activity captured in the local, regional, and state economy.

The first JEDI Model was developed in 2002 to demonstrate the economic benefits associated with developing wind farms in the United States. Since then, JEDI models have been developed for biofuels, PV solar, natural gas, coal, transmission lines and many other forms of energy. All models are created by NREL.

The JEDI model utilizes state-specific industry multipliers obtained from IMPLAN (IMpact analysis for PLANning). IMPLAN software and data are an industry-standard economic modeling package, managed and updated by the IMPLAN Group, Inc., using data collected at federal, state, and local levels.<sup>5</sup>

The JEDI model takes the economic multipliers and adapts them specifically to a PV development and operations framework, to provide results tailored for this specific application of economic impact analysis.

The total economic impact can be broken down into three effects: direct impacts, indirect impacts, and induced impacts. Direct impacts during the construction period refer to the changes that occur in the onsite construction industries in which the direct final demand (i.e., spending on construction related labor and services) change is made. Onsite construction-related services include installation labor, engineering, design, and other professional services. Direct impacts during operating years refer to the final demand changes that occur in the onsite spending for the solar operations and maintenance workers.

The initial spending on the construction and operation of the solar PV installation will create another layer of impacts, referred to as “supply chain impacts” or “indirect impacts.” Indirect impacts during the construction period consist of changes in intermediate purchases resulting from the direct final demand changes and include construction spending on materials and PV equipment, as well as other purchases of goods and offsite services. Utility-scale solar PV indirect impacts are derived from purchase and installation of PV modules, inverters, tracking systems, cabling, and foundations.

Induced impacts during construction refer to the changes that occur in household spending as household income changes because of the direct and indirect effects of final demand changes. Local spending by employees working directly or indirectly on the Project that receive their paychecks and then spend money in the community is included in the results. The model includes additional local jobs and economic activity that are supported by the purchases of these goods and services.

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<sup>5</sup> <https://implan.com/>

Several assumptions were developed to complete the analysis and to adapt the models to expected local conditions. Significant assumptions are listed below:

- Local and state construction spending:
  - Most specialized equipment, like PV modules, industrial scale batteries, and inverters are purchased outside Lincoln County and outside Colorado, although efforts will be made to source materials within Colorado where possible.
  - Other materials used in construction, like ready mixed concrete, gravel and aggregate, and other materials, as well as general construction costs and services for engineering, legal, permitting support, and site preparation, are assumed to be 5 percent sourced within the local study area and larger portions within Colorado, but outside the study area.
  - The Project is expected to hire 5 percent of the construction workforce locally in Lincoln County. About 35 percent of the installation workforce is expected to be from Colorado, according to Balanced Rock Power and MPG Consulting estimates. Companies are required to use 12.5%-15.0% apprentice labor to qualify for Federal tax credits under the Inflation Reduction Act (2022) and the figures in this report reflect the strong preference for local apprentices for cost efficiency.<sup>6</sup>
- Local operational spending:
  - Materials and services for operations are expected to be 5 percent locally sourced in Lincoln County and 80 percent Colorado-sourced.
  - All labor for operations is sourced and based locally in Lincoln County.

MPG analysts also updated the JEDI model using the latest county, regional, and state economic multipliers obtained from IMPLAN to create a custom analysis from the core model.

## Economic Impact Results

The economic impact results were derived from detailed project cost estimates supplied by Balanced Rock Power. In addition, the report authors and Balanced Rock Power estimated the percentages of spending on project materials and labor that will be sourced from within Lincoln County and the state of Colorado.

Balanced Rock Power plans to invest nearly \$520 million in the Ebba solar project. Of this, the majority (72.1 percent) will be for solar modules, batteries, inverters, and related materials (Figure 8). Other major expenditures include civil engineering services, site development, and labor.

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<sup>6</sup> <https://www.irs.gov/credits-deductions/frequently-asked-questions-about-the-prevailing-wage-and-apprenticeship-under-the-inflation-reduction-act#apprenticeship>

The manufacturing and installation of solar equipment and materials is highly specialized—most of the materials needed are not produced in Lincoln County or in Colorado. Therefore, only a small portion of direct spending in the region and in Colorado is captured and recirculated in the economy.

The balance of economic activity occurs on-site or nearby, such as site preparation and development, and installation of solar panels and BESS facilities. In JEDI and IMPAN modeling systems, a portion of labor payments are captured locally since workers are generally located on-site during the construction period. Site and project development costs include items such as civil engineering and design, grading, weed and dust mitigation, surveying, general site construction, and planning and legal services. These activities will be sourced locally in Lincoln County and in the Colorado Springs and/or Denver Metropolitan Areas. Please refer to the appendix for detailed figures on local construction spending.

It is estimated that, of the \$520 million in total investment, \$10.8 million will be directly spent in Lincoln County and \$149.8 million will be spent with companies in Colorado (which includes the Lincoln County spending). These estimates also include implementing the project decommissioning plan, which returns the land to predevelopment conditions after the 40-year project operational lifespan.

**Figure 8.  
Direct  
Construction  
Spending,  
Ebba Solar  
Project,  
Lincoln County,  
Colorado**

Note:  
Local spending includes all permitting/fees, 5 percent of installation labor, and 5 percent of 'other costs', which includes site development, civil and other services, and materials. Please see the appendix for detailed tables on local spending capture by line item.

Source:  
Balanced Rock Power,  
MPG Consulting.

Category	Amount
<b>Materials &amp; Equipment</b>	
Mounting (rails, clamps, fittings, etc.)	\$ 48,642,358
Modules & Batteries	205,446,131
Electrical (wire, connectors, breakers, etc.)	101,763,020
Inverters	18,829,944
<b>Subtotal</b>	<b>\$ 374,681,453</b>
<b>Labor</b>	
Installation	28,389,270
<b>Subtotal</b>	<b>\$ 28,389,270</b>
<b>Other Costs</b>	
Permitting and Fees	\$ 12,682,718
Other Costs (Site Dev., Civil, other)	32,935,523
Business Overhead	71,441,212
<b>Subtotal</b>	<b>\$ 117,059,453</b>
<b>Total Investment</b>	<b>\$ 520,130,176</b>
<b>Total Local Spending (\$)</b>	<b>\$10,794,844</b>
<b>Total Local Spending (%)</b>	<b>2.1%</b>
<b>Estimated In-state spending (\$)</b>	<b>\$149,795,999</b>
<b>Estimated In-state spending (%)</b>	<b>28.8%</b>

Once project construction is complete, the operational phase begins. Balanced Rock Power anticipates spending \$8.9 million annually on operations and maintenance (O&M) as shown in Figure 9. The company plans on hiring five (5) employees at the site.

O&M costs in Figure 9 include items such as maintenance materials, site management services, and facility management. Certain O&M costs (for example, specialized replacement parts) will be sourced outside of the region.

**Figure 9.**  
**Direct Operations Spending, Ebba Solar Project, Lincoln County, Colorado**

Source:  
Balanced Rock Power, MPG Consulting.

Category	Amount
Labor	625,000
Materials & Equipment	2,194,529
Services	6,057,870
<b>Total</b>	<b>8,877,399</b>
<b>Total Annual Local Spending (\$)</b>	<b>1,037,620</b>
<b>Total Annual Local Spending (%)</b>	<b>12%</b>
<b>Total In-state spending (\$)</b>	<b>7,226,919</b>
<b>Total In-state spending (%)</b>	<b>81.4%</b>

Balanced Rock Power will also be making annual lease payments to landowners that will total about \$2.2 million per year over 40 years. To be conservative, MPG has held these lease payments out of the economic estimates as the payments are concentrated among a small group of landowners that are unlikely to alter their local spending patterns as a result of these payments.

Two separate JEDI models were produced to show the economic impact of Ebba Solar Project. The first JEDI model uses the 2022 Lincoln County multipliers from IMPLAN and project construction and operations parameters. The second JEDI model uses the state of Colorado multipliers and the total project costs. Because geography-specific multipliers from IMPLAN and actual expected cost data from Ebba Solar Project are used, the JEDI model most significantly serves to translate project costs into economic sectors based on the unique features of the project.

Figures 10 through 12 show the results of the economic analysis. Figure 10 presents the total employment impact from the Ebba Solar Project in Lincoln County and the state of Colorado. Figure 11 shows the impact on total labor earnings and Figure 12 provides the impact on total economic output.

**Figure 10.**  
**Employment per year, Ebba Solar Project, Lincoln County, Colorado (FTE Jobs)**

Category	Lincoln County	State of Colorado
<b>Construction</b>		
Project Development and Employment Impacts (Direct)	36.1	194.2
Supply Chain Impacts (Indirect)	15.7	302.3
Household Spending Impacts (Induced)	2.4	175.2
<b>New Annual Local Employment during Construction</b>	<b>54.3</b>	<b>671.7</b>
<b>Operations (Annual, Ongoing)</b>		
Onsite Output Impacts (Direct)	5.0	5.0
Local Revenue and Supply Chain Impacts (Indirect)	0.5	6.6
Household Spending Impacts (Induced)	0.2	7.3
<b>New Local Long-Term Employment</b>	<b>5.6</b>	<b>18.9</b>

Note: Construction jobs are displayed on an FTE basis per year over the two-year two years.  
Source: NREL, IMPLAN, Inc., MPG Consulting, LLC.



The results from the JEDI model show significant employment impacts from the Ebba Solar Project. Employment impacts can be broken down into several different components. Direct jobs created during the one-year construction phase in Figure 10 are based on a full time equivalent (FTE). In other words, one job is one FTE is 2,080 hours worked in one year. A part time or temporary job would constitute only a fraction of a job according to the JEDI model. For example, the model results show 36.1 new direct local jobs per year during construction in Lincoln County, though the construction of the solar project could involve closer to 200 or 300 individuals from Lincoln County and beyond, working part-time for the 2-year-long construction period. Thus, due to the relatively temporary nature of construction projects, input-output based economic modeling often understates the actual number of people hired to work on the project. It is important to keep this fact in mind when examining or when reporting the model results.

As shown in Figure 10, new local jobs created or retained during construction total 54.3 per year. These jobs represent a portion of the direct construction workforce, as the company estimates 200-300 construction jobs in total over the construction period, some sourced from outside the local area or outside Colorado. Over the two-year construction period, the project will produce or support 671.7 total jobs per year for the State of Colorado, including indirect and induced impacts.

New local long-term FTE jobs created from Ebba Solar Project operations total 5.6 for Lincoln County and 18.9 for the state of Colorado.

Direct jobs created during the operational phase last the life of the solar PV project, typically 40 or more years. Both direct construction jobs and operations and maintenance jobs require highly skilled workers in the fields of construction, management, and engineering. These technical and highly paid jobs inject additional economic activity in communities through increased household spending.

Labor earnings is also an important figure in economic impact analysis because it indicates the amount of additional job income produced and re-spent in the economy. Figure 11 shows the earnings impacts from Ebba Solar Project, which are categorized by construction impacts and operations impacts.

**Figure 11.**  
**Labor Earnings Impacts, Ebba Solar Project, Lincoln County, Colorado (\$M)**

Category	Lincoln County	Total State of Colorado
<b>Construction</b>		
Project Development and Earnings Impacts (Direct)	\$3.40	\$37.44
Supply Chain Impacts (Indirect)	\$1.91	\$49.34
Household Spending Impacts (Induced)	\$0.21	\$24.56
<b><i>New Local Earnings during Construction</i></b>	<b>\$5.52</b>	<b>\$111.34</b>
<b>Operations (Annual, Ongoing)</b>		
Onsite Output Impacts (Direct)	\$0.63	\$0.63
Local Revenue and Supply Chain Impacts (Indirect)	\$0.05	\$0.58
Household Spending Impacts (Induced)	\$0.01	\$0.51
<b><i>New Local Long-Term Earnings</i></b>	<b>\$0.68</b>	<b>\$1.71</b>

Source: NREL, IMPLAN, Inc., MPG Consulting.

The new local earnings during construction totals over \$5.5 million for Lincoln County and \$111.3 million for the State of Colorado over the two-year construction period. The new local long-term earnings totals over \$680,000 per year for Lincoln County, and over \$1.7 million per year for the State of Colorado.

Output refers to economic activity or the value of production in the state or local economy. It is most akin to the gross domestic product, which measures output on a national basis. According to Figure 12, the new local output during construction totals \$13.6 million captured in Lincoln County and over \$283.6 million for the state of Colorado.

**Figure 12.**  
**Output Impacts, Ebba Solar Project, Lincoln County, Colorado (\$M)**

Category	Lincoln County	Total State of Colorado
<b>Construction</b>		
Project Development and Onsite Output Impacts (Direct)	\$8.43	\$66.09
Supply Chain Impacts (Indirect)	\$4.21	\$143.26
Household Spending Impacts (Induced)	\$0.97	\$74.31
<b><i>New Local Output during Construction</i></b>	<b>\$13.61</b>	<b>\$283.67</b>
<b>Operations (Annual, Ongoing)</b>		
Onsite Output Impacts (Direct)	\$0.63	\$0.63
Local Revenue and Supply Chain Impacts (Indirect)	\$0.23	\$1.66
Household Spending Impacts (Induced)	\$0.06	\$1.54
<b><i>New Local Long-Term Output</i></b>	<b>\$0.91</b>	<b>\$3.82</b>

Source: NREL, IMPLAN, Inc., MPG Consulting.

Statewide construction impacts are the result of capturing portions of site development, labor, professional services, and materials manufacturing impacts. The new local long-term output totals approximately \$914,000 for Lincoln County and over \$3.8 million for the state of Colorado.

## Local Government Tax Revenue

Utility-scale solar PV projects, like other utility-scale energy generating facilities in Colorado, are assessed property taxes by a state formula based on the production and value of the power produced. As a result, the county, school district, fire district, and other governmental authorities in which the projects are located will receive increased annual revenue. This would be an entirely new revenue source for education and for local government services.

Figure 13 details the local government property tax impacts of the Ebba Solar Project. The projections use the MW-based payment projections in the “Renewable Template for Estimating Property Taxes for Qualified State Assessed Renewables” developed by the Colorado Department of Local Affairs, Division of Property Taxation.<sup>7</sup> Property tax is estimated and projected for 30 years to allow solar developers to include the expense in their project financing plans. Our analysis extends to 40 years to match the expected lifespan of the operations period.

**Figure 13.**  
**Property Taxes, Ebba Solar Project, Lincoln County, Colorado**

Taxing District	Total (40-year)	Annual Average
Lincoln County	\$ 21.52	\$ 0.72
Limon School District	18.98	0.63
Limon Fire Protection District	1.82	0.06
<b>Total</b>	<b>\$ 42.32</b>	<b>\$ 1.41</b>

Source: Lincoln County Assessor; Colorado Department of Local Affairs, Division of Property Taxation; Balanced Rock Power; MPG Consulting.

The Limon School District RE-4J will generate an average of approximately \$630,000 annually, or \$19.0 million over 40 years. The project will generate substantial revenue for the school district while producing little to no impact on education demand. The district bonding capacity will also be expanded with the increase in the tax base, allowing the district to finance additional facilities and programs.

Lincoln County will generate \$21.5 million in additional property tax over 40 years and the Limon Fire Protection District will generate \$1.8 million over 40 years. The High Plains Soil District and the Limon Weed Control District, both currently overlay the project parcels but not levying ad valorem property tax, could also benefit from the project in the future.

Virtually all property tax revenue should be considered new because the parcels are currently subject to an agricultural exemption, which significantly discounts property tax. The Lincoln County Assessor’s Office estimates the current landowners will contribute a total of \$7,198 in 2023 property tax payable in 2024. This estimate indicates that the change in land use is expected to produce an additional \$1.4 million per year for Lincoln County taxing districts.

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<sup>7</sup> State renewable energy property taxation template: <https://dpt.colorado.gov/renewable-energy>.

Lincoln County will also collect additional permit fee/use tax revenue from Project construction. Lincoln County imposes a two percent (2%) permit fee/use tax on construction materials. Based on company estimations, we expect up to \$7.7 million in county permit fees/use tax during construction.<sup>8</sup>

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<sup>8</sup> This amount is based on preliminary estimates and is subject to further discussion between Lincoln County and Balanced Rock Power.

## Appendix – Detailed Figures

The following tables show detailed local spending capture, and detailed JEDI model outputs.

**Figure A-1.**  
**Construction Spending Local Detail**

Category	Direct Investment	Local Capture	State Capture
<b>Materials &amp; Equipment</b>			
Mounting (rails, clamps, etc.)	48,642,358	0%	0%
Modules & Batteries	205,446,131	0%	0%
Electrical (wire, breakers, etc.)	101,763,020	0%	30%
Inverters	18,829,944	0%	0%
<b>Subtotal</b>	<b>\$ 374,681,453</b>	<b>\$ -</b>	<b>\$ 30,528,906</b>
<b>Labor</b>			
Installation	28,389,270	5%	35%
<b>Subtotal</b>	<b>\$ 28,389,270</b>	<b>\$ 1,419,464</b>	<b>\$ 9,936,245</b>
<b>Other Costs</b>			
Permitting, Fees, and Taxes	12,682,718	61%	39%
Other Costs (Site Dev, Civil, other)	32,935,523	5%	100%
Business Overhead	71,441,212	0%	100%
<b>Subtotal</b>	<b>\$ 117,059,453</b>	<b>\$ 9,375,381</b>	<b>\$109,330,848</b>
<b>Total</b>	<b>\$ 520,130,176</b>	<b>\$ 10,794,844</b>	<b>\$ 149,795,999</b>

Note: Other costs include site development, civil work, and other general construction spending.  
Source: NREL, Balanced Rock Power, MPG Consulting.

**Figure A-2.**  
**Operational Spending Local Detail**

Category	Annual Budget	Local Capture	State Capture
Labor	625,000	100%	100%
Materials & Equipment	2,194,529	5%	80%
Services	6,057,870	5%	80%
<b>Total</b>	<b>8,877,399</b>	<b>1,037,620</b>	<b>7,226,919</b>

Source: NREL, Balanced Rock Power, MPG Consulting.

## Photovoltaic - Project Data Summary based on User modifications to default values

Project Location	Lincoln County
Year of Construction or Installation	2026
Average System Size - DC Nameplate Capacity (KW)	1000
Number of Systems Installed	300
Total Project Size - DC Nameplate Capacity (KW)	300000
System Application	Utility
Solar Cell/Module Material	Crystalline Silicon
System Tracking	Single Axis
Base Installed System Cost (\$/KWDC)	\$1,717
Annual Direct Operations and Maintenance Cost (\$/kW)	\$13.28
Money Value - Current or Constant (Dollar Year)	2024
Project Construction or Installation Cost	\$515,176,062
Local Spending	\$10,794,844
Total Annual Operational Expenses	\$63,745,443
Direct Operating and Maintenance Costs	\$3,985,020
Local Spending	\$782,940
Other Annual Costs	\$59,760,423
Local Spending	\$0
Debt Payments	\$0
Property Taxes	\$0

## Local Economic Impacts - Summary Results

	Jobs	Earnings \$000 (2024)	Output \$000 (2024)
<b>During construction and installation period</b>			
Project Development and Onsite Labor Impacts			
Construction and Installation Labor	16.3	\$1,419.6	
Construction and Installation Related Services	56.0	\$1,975.5	
Subtotal	72.3	\$3,395.0	\$8,426.4
Module and Supply Chain Impacts			
Manufacturing	0.0	\$0.0	\$0.0
Trade (Wholesale and Retail)	1.2	\$53.7	\$310.1
Finance, Insurance and Real Estate	0.0	\$0.0	\$0.0
Professional Services	7.8	\$340.4	\$1,393.9
Other Services	0.8	\$227.8	\$720.1
Other Sectors	21.7	\$1,287.4	\$1,789.3
Subtotal	31.5	\$1,909.4	\$4,213.4
Induced Impacts	4.8	\$212.1	\$974.4
<b>Total Impacts</b>	<b>108.5</b>	<b>\$5,516.5</b>	<b>\$13,614.2</b>
<b>During operating years</b>			
Onsite Labor Impacts			
PV Project Labor Only	5.0	\$625.0	\$625.0
Local Revenue and Supply Chain Impacts	0.5	\$45.1	\$227.6
Induced Impacts	0.2	\$13.2	\$61.4
<b>Total Impacts</b>	<b>5.6</b>	<b>\$683.3</b>	<b>\$913.9</b>

Notes: Earnings and Output values are thousands of dollars in year 2024 dollars. Construction and operating period jobs are full-time equivalent for one year (1 FTE = 2,080 hours). Economic impacts "During operating years" represent impacts that occur from system/plant operations/expenditures. Totals may not add up due to independent rounding.

## Photovoltaic - Project Data Summary based on User modifications to default values

Project Location	Colorado
Year of Construction or Installation	2026
Average System Size - DC Nameplate Capacity (KW)	1000
Number of Systems Installed	300
Total Project Size - DC Nameplate Capacity (KW)	300000
System Application	Utility
Solar Cell/Module Material	Crystalline Silicon
System Tracking	Single Axis
Base Installed System Cost (\$/KWDC)	\$1,708
Annual Direct Operations and Maintenance Cost (\$/kW)	\$13.28
Money Value - Current or Constant (Dollar Year)	2024
Project Construction or Installation Cost	\$512,401,571
Local Spending	\$149,795,968
Total Annual Operational Expenses	\$63,423,602
Direct Operating and Maintenance Costs	\$3,985,020
Local Spending	\$3,151,740
Other Annual Costs	\$59,438,582
Local Spending	\$0
Debt Payments	\$0
Property Taxes	\$0

## Local Economic Impacts - Summary Results

	Jobs	Earnings \$000 (2024)	Output \$000 (2024)
<b>During construction and installation period</b>			
Project Development and Onsite Labor Impacts			
Construction and Installation Labor	113.9	\$9,937.0	
Construction and Installation Related Services	274.4	\$27,507.2	
Subtotal	388.3	\$37,444.2	\$66,093.1
Module and Supply Chain Impacts			
Manufacturing	64.9	\$8,450.4	\$35,878.5
Trade (Wholesale and Retail)	75.6	\$7,379.8	\$22,944.7
Finance, Insurance and Real Estate	0.0	\$0.0	\$0.0
Professional Services	101.8	\$8,025.0	\$21,324.7
Other Services	179.4	\$23,291.8	\$55,632.9
Other Sectors	183.0	\$2,191.3	\$7,480.5
Subtotal	604.7	\$49,338.4	\$143,261.3
Induced Impacts	350.4	\$24,555.5	\$74,313.9
<b>Total Impacts</b>	<b>1,343.4</b>	<b>\$111,338.1</b>	<b>\$283,668.3</b>
	<b>Annual</b>	<b>Annual</b>	<b>Annual</b>
<b>During operating years</b>	<b>Jobs</b>	<b>Earnings</b>	<b>Output</b>
Onsite Labor Impacts			
PV Project Labor Only	5.0	\$625.0	\$625.0
Local Revenue and Supply Chain Impacts	6.6	\$575.3	\$1,657.8
Induced Impacts	7.3	\$509.1	\$1,541.1
<b>Total Impacts</b>	<b>18.9</b>	<b>\$1,709.4</b>	<b>\$3,823.9</b>

Notes: Earnings and Output values are thousands of dollars in year 2024 dollars. Construction and operating period jobs are full-time equivalent for one year (1 FTE = 2,080 hours). Economic impacts "During operating years" represent impacts that occur from system/plant operations/expenditures. Totals may not add up due to independent rounding.