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Socioeconomic Impacts on San Bernardino County of the Proposed Soda Mountain Solar Project

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Final Report July 18, 2024

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1. EXECUTIVE SUMMARY

1.1 Summary of Findings

Soda Mountain Solar LLC is submitting an application to construct and operate a 440-megawatt direct current photovoltaic solar energy facility in the Mojave Desert area of San Bernardino County along Interstate 15. Soda Mountain Solar LLC provided a high-level construction cost estimate for the project summarized in **Table E.1**.

TABLE E. 1: CONSTRUCTION COST ESTIMATE

Construction Phase Direct Purchases	
PV Modules & Inverters	[redacted]
Mountings (Pile & Trackers)	[redacted]
Electrical (GSU, Gen tie, BESS & BOS)	[redacted]
Subtotal 1 – Purchases	[redacted]
State and Local Taxes @ 7.75% (development phase only)	[redacted]
Subtotal 2 – Construction Phase – Direct Equipment Purchases (including taxes)	[redacted]
Predevelopment (Project Permitting, Planning and Engineering Services, etc.)	[redacted]
Construction Direct Labor*	[redacted]
Total Project Capital Cost	[redacted]

*Project labor cost over the construction period.
GSU: Generator Step-up Transformer; BESS: Battery Energy Storage System; BOS: Balance of Systems.

Soda Mountain Solar Investment in California

Total investment in the state during construction is estimated at over [redacted]. This is a very conservative estimate since it does not include the purchase price of photovoltaic modules, inverters, step-up transformers, battery energy storage systems, etc. all of which may or may not be sourced within the state. The state, regional, and local expenditures for the project's construction are summarized in **Table E.2.**

TABLE E. 2: PROJECT INVESTMENT IN CALIFORNIA

Construction Phase State and Local Purchases	
Mountings (Pile & Trackers)	[redacted]
State and Local Sales Taxes (development phase only)	[redacted]
Subtotal Construction Phase – Direct Equipment Purchases (including taxes)	[redacted]
Predevelopment (Project Permitting, Planning and Engineering Services, etc.)	[redacted]
Construction Direct Labor*	[redacted]
Total Project Capital Investment in State	[redacted]

Direct and Indirect Economic Impacts

During the construction period, and operations over the planned 30-year life of the facility, it is estimated, through economic modeling, that 2,094 full-time jobs would be created. This number includes 200 workers employed directly by contractors or by Soda Mountain Solar LLC itself during construction of the project and 960 directly employed during operations. Indirect and induced economic activity generated by the project will add another 420 and 514 workers to the local economy during the construction period and during operations, respectively. Direct

economic output, which is the sum of labor cost, contractor's profit and overhead, and management income is [redacted] during construction and operations, respectively. Indirect and induced output adds another [redacted], during construction and operations, respectively. These values, reported in **Table E.3,** were derived from San Bernardino County economic data, and therefore pertain specifically to the regional economy. See section 3 Economic Impact Analysis for a further discussion of the economic modeling of the Soda Mountain Solar project.

TABLE E. 3: PROJECT ECONOMIC IMPACTS[1]

Project Phase		Jobs	Labor Cost	Output*
Construction	Direct Impact	200	[redacted]	[redacted]
	Indirect Impact	157	[redacted]	[redacted]
	Induced Impact	263	[redacted]	[redacted]
	Total	**620**	[redacted]	[redacted]
Operations**	Direct Impact	960	[redacted]	[redacted]
	Indirect Impact	314	[redacted]	[redacted]
	Induced Impact	200	[redacted]	[redacted]
	Total	**1,474**	[redacted]	[redacted]

*Output includes contractor profit and overhead and does not include state or local taxes paid by the Project.
**Project operations are expected to employ 25-40 personnel for maintenance, inspection, and regular servicing. For the purposes of this model, the number of personnel needed for operations are assumed to be 32 FTEs for the full estimated 30-year operations cycle, or 960 FTE-years.

1.2 Introduction

Soda Mountain Solar, LLC (Developer), a California Limited Liability Company, plans to construct and operate a 440 megawatt (MW) direct current photovoltaic (PV) solar energy generating facility and battery energy storage system (BESS) (Project) to serve a portion of the electrical load requirements of California. The Project will be developed in San Bernardino County along the Interstate 15 (I-15) corridor, about 8 miles southwest of Baker, California. The Project is designed to have a useful life of up to 30 years, although the life span may be extended by upgrades and refurbishments.

The Project will advance the state energy policy and specifically Senate Bill (SB) 100,[2] which established a landmark policy requiring renewable energy and zero-carbon resources to supply 100 percent of electric retail sales to end-use customers by 2045. This report also provides the California Energy Commission (CEC) with the information needed to evaluate the Project in accordance with Sec. 25545 of the Public Resources Code.[3] This report summarizes the economic impacts on San Bernardino County in terms of the value that the Project's labor inputs and locally sourced materials/equipment would provide to the local San Bernardino County economy. This report also estimates the likely fiscal impacts the Project would have on local governments and other providers of public services, such as public safety and schools. This report

[1] IMPLAN, 2023
[2] The 100 Percent Clean Energy Act of 2018 (De Leon).
[3] Certification of Non-fossil-Fueled Powerplants, Energy Storage Facilities, and Related Facilities.

does not include a benefit/cost analysis of the deployment of renewable energy and associated reductions in energy cost and emissions to California consumers.

The Developer has retained Michael Baker International to estimate the potential economic impacts of the Soda Mountain Solar Project to San Bernardino County. Michael Baker used two different models to estimate the economic impacts: the Jobs and Economic Development Impact (JEDI) Model sponsored by the National Renewable Energy Laboratory, and the Impact Analysis for Planning (IMPLAN) Model. Both models are input/output-based econometric models. IMPLAN was used to calculate the Project's economic impacts, while the JEDI model was used in estimating sales tax revenues.

1.3 Project Site Description

The Project will be constructed on approximately 2,670 acres of land administered by the US]Department of Interior, Bureau of Land Management (BLM), California Desert District, within the jurisdiction of the Barstow Field Office in San Bernardino County. The BLM performed a separate review of the Project under the National Environmental Policy Act.

1.4 Community Setting

The unincorporated community of Baker (a US Census Designated Place, or CDP) is the nearest community of any size to the Project. Baker has general retail services, limited housing, and perhaps a limited source of workers for the Project. Baker's population was estimated to be 553 in 2022.[4] In that year, Baker had an estimated 167 total housing units, of which 125 were occupied units. Although projected to grow to about 800 people by 2040,[5] that population does not appear to be attainable—at least within the next 15 years, given that the 2010 Census had the population at 735. The substantial population loss since the 2010 Census has been attributed to the closure of the Baker Community Correctional Facility in 2009 and its aftereffects on the local economy.

Baker is known as the "Gateway to Death Valley," "Entrance to the Mojave National Preserve," and "Home of the World's Tallest Thermometer" (not currently operational), which stands at 134 feet to commemorate a record high temperature of 134 degrees recorded in Death Valley. Baker's elevation is approximately 930 feet above sea level, which is lower than either the Cities of Barstow or Las Vegas, due to Baker's location at the southern end of the Death Valley geological depression. The economy is based primarily on tourism. Baker is a popular rest stop for motorists on the I-15 to and from Las Vegas. It is also the last service opportunity available for those traveling on State Route 127 north to Death Valley National Park or south into the Mojave National Preserve. The area is rural desert with mainly mobile-style housing and unpaved roads with upgraded facilities for travelers. Baker is also the start of the annual Baker to Vegas Challenge Cup Relay race.

Zzyzx, another unincorporated community, formerly "Camp Soda" and "Soda Springs," is located

[4] American Community Survey, US Census Bureau for Baker Census Designated Place.
[5] Baker Service Review San Bernardino County LAFCO, July 2013.

about 7.5 miles from the Project. It is the former site of the Zzyzx Mineral Springs and Health Spa and now the site of the Desert Studies Center operated by California State University, San Bernardino. The site is also the location of Lake Tuendae, originally part of the spa, and now a refuge habitat of the endangered Mohave tui chub.

The Baker community is served by multiple public agencies and regional service providers, including:

- County Service Area 70, a multifunction district, serving the countywide unincorporated area; it is organized into various zones for localized service
- Mojave Desert Resource Conservation District
- San Bernardino County Fire Protection District
- San Bernardino County Flood Control District
- Baker Valley Unified School District, which overlays the entirety of the Baker community as well as other areas surrounding the community

Baker is served locally by the Baker Community Services District (CSD), which provides water, sewer, trash, fire protection, park and recreation, and streetlighting services to the community.

Generally, the entire community of Baker is considered a disadvantaged unincorporated community, as defined by California Government Code Section 56033.5, which are those communities that have an annual median household income that is less than 80 percent of the statewide annual median household income. The community of Baker is composed of sparse residential development with large lots primarily designated Single Residential (14,000-square-foot lots) and Rural Living (2.5-acre lots). The areas not classified as a disadvantaged unincorporated community are vacant and/or are public lands managed by the BLM.

1.5 Regional Demographic Composition

Due to Baker's small size and population base, it is not expected that the Project will be able to recruit more than a handful of workers from within the community. Therefore, a somewhat wider region is evaluated as a possible labor source.

Beyond the Baker CDP, the US Census Bureau has divided San Bernardino County into County Census Divisions (CCD). The three CCDs seen to be most relevant to the Project in terms of labor and other services are:

- Newberry Springs-Baker
- Barstow
- Victorville-Hesperia

The locations of these CCDs are shown on **Figure 1**.

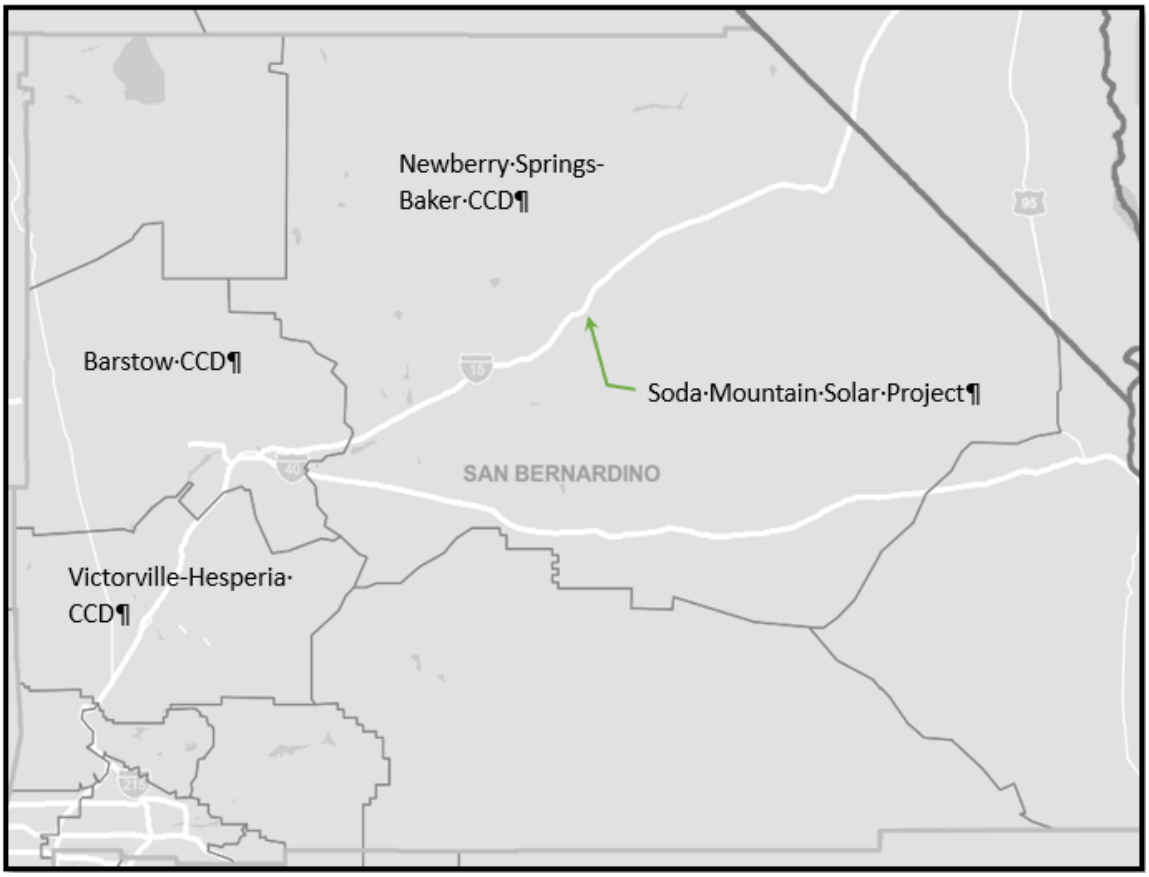

FIGURE 1: PROJECT SITE AND SAN BERNARDINO COUNTY CCDS

1.6 County Census Division Profiles

The US Census American Community Survey (ACS) provides population, housing, and employment profile data for the CCDs, as summarized in **Table 1**.

The profiles indicate that there is strong likelihood that the Project could meet its labor needs by drawing from the Barstow and/or Victorville-Hesperia CCDs. This area has over 15,600 workers in the construction industry and has a rate of workforce unemployment that is higher than the State of California. These two regions also have nearly 10,000 vacant housing units, with a vacancy rate of 6.7 percent. Assuming a starting route in the City of Victorville, the commute distance to the Project Site is about 82 miles, a not-unusual distance for construction workers in Southern California.

More detailed data on population, housing, and employment in Baker, Barstow, the communities within the Victorville-Hesperia CCD, and San Bernardino County are shown in Appendix A, Tables A-1 through A-4. In addition to the Cities of Victorville and Hesperia, the Victorville-Hesperia CCD includes the City of Adelanto, the Town of Apple Valley, and the unincorporated communities of Lake Arrowhead, Mountain View Acres, Oak Hills, Phelan, Pinon Hills, Spring Valley Lake, and Wrightwood. The three CCDs are all within the San Bernardino County region known as the North Desert District.

TABLE 1: COUNTY CENSUS DIVISION PROFILES—POPULATION, HOUSING, AND EMPLOYMENT

	Newberry Springs-Baker	Barstow	Victorville-Hesperia
POPULATION			
Total population	11,084	43,451	412,533
Population 16 and over	9,214	31,837	306,465
HOUSING			
Housing units	4,058	1,7013	131,197
Total households	3,468	15,368	122,932
Vacant units	590	1,645	8,265
Vacancy rate	0.15	0.10	0.06
EMPLOYMENT			
Civilian labor force	3,088	17,460	169,661
Civilian employed population 16 years and over	2,524	15,828	152,637
Civilian unemployment rate	0.18	0.09	0.10
Industry of Employment			
Agriculture, forestry, fishing and hunting, and mining	24	245	1,302
Construction	143	871	14,734
Manufacturing	147	773	10,992
Wholesale trade	5	211	4,535
Retail trade	339	2,067	20,383
Transportation and warehousing, and utilities	186	1,771	19,745
Information	6	115	1,903
Finance and insurance, and real estate and rental and leasing	34	247	4,900
Professional, scientific, and management, and administrative and waste management services	242	1,550	12,439
Educational services, and health care and social assistance	456	2,864	31,345
Arts, entertainment, and recreation, and accommodation and food services	438	1,808	12,917
Other services, except public administration	160	1,263	8,680
Public administration	344	2,043	8,762

Source: American Community Survey 2022 5-year Estimates, Table DP03: Selected Economic Characteristics.

2. SOCIOECONOMIC IMPACTS OF THE PROJECT

2.1 Local and Regional Demographic Data

Demographic data for the region was obtained from the US Census Bureau ACS program. Population and housing data for San Bernardino County and the North Desert District's cities are provided in **Table 2.** More detailed housing data on the cities and unincorporated communities of the region are in Appendix A, Table A-3.

TABLE 2: POPULATION AND HOUSING DATA

City	San Bernardino County	Barstow	Victorville	Adelanto	Apple Valley	Hesperia
Population	2,180,563	25,235	134,417	37,960	75,603	99,878
Housing Units	731,899	9,620	38,928	9,601	27,181	30,344
Occupied Units	667,836	8,790	37,024	9,185	25,928	29,144
Vacant Units	64,063	830	1,904	416	1,253	1,200
Vacancy Rate	8.75%	8.63%	4.89%	4.33%	4.61%	3.95%

Source: US Census American Community Survey 2022 5-year Estimates, Table DP05: Demographic and Housing Estimates.

2.2 Labor Supply

The US Census, also through the ACS, provides estimates of labor force composition employment and unemployment; this is summarized for the county and the region's cities in **Table 3**. Detailed unemployment rates for these cities and communities, including rates by ethnicity, are presented in Appendix A, Table A-4.

TABLE 3: LABOR DATA AND UNEMPLOYMENT RATES

City	San Bernardino County	Barstow	Victorville	Adelanto	Apple Valley	Hesperia
Civilian Labor Force	1,054,590	9,889	54,398	14,491	32,058	43,055
Employed	988,653	8,985	48,460	12,839	29,999	39,468
Labor Force Unemployed	65,937	904	5,938	1,652	2,059	3,587
Unemployment Rate	6.3%	9.1%	10.9%	11.4%	6.4%	8.3%

Source: US Census American Community Survey 2022 5-year Estimates, Table DP03: Selected Economic Characteristics.

2.3 Public Services for the Project

2.3.1 Water Supply

Water for construction and operations will be obtained from a private well in Newberry Springs about 50 miles from the Project. It is estimated that 17 water transport truck trips per day would be required during the construction phase to deliver water to aboveground water tanks. Five temporary water tanks of 100,000 gallons each would be brought on-site to store water used for dust control, soil compaction, on-site concrete production, fire suppression, and sanitary needs.

2.3.2 Law Enforcement

The Baker CSD plays a supporting role in the provision of law enforcement in the area. The San Bernardino County Sheriff operates out of the Baker substation, which is a satellite substation to the Barstow Station, located approximately 57 miles south of the Project Site on I-15. Assignment to the Baker substation is what is known as a "resident post." Deputies assigned to Baker live there in county housing and not only provide law enforcement services, but are involved members of the community upon which the citizens rely. Deputies assigned to the Baker substation would be the first responders to the Project Site, with an estimated 15-minute response time.

2.3.3 Fire and Emergency Services

The San Bernardino County Fire Protection District (SBCFPD) operates Station 53 in the Baker CSD and the North County fire protection service zone. Station 53 is approximately 9 miles from the Project Site with a 10- to 15-minute response time. SBCFPD Station 46 in Harvard and the Newberry Springs Volunteer Fire Department both have 30- to 35-minute response times. They are approximately 30 and 33 miles from the Project Site, respectively. The BLM also has a variety of fire resources and apparatus that can respond to emerging incidents; the closest station is approximately 50 miles from the Project Site in Barstow, California.[6]

The primary function of Station 53 is to provide service along the I-15 transportation corridor. Construction of the current station was funded by the County General Fund for $3.2 million in 2006 (opened in 2008). Since 2008, the SBCFPD and the County General Fund have provided funding for the station.

Although the SBCFPD areas do not coincide, Station 53 is within the boundaries of the Baker CSD, and the SBCFPD and CSD have an agreement whereby the SBCFPD responds to all calls within the CSD. Daily staffing at Station 53 consists of two personnel: a full-time captain and one limited term firefighter. Firefighting equipment at Station 53 includes one ICS Type 1 structure engine (E53), one ICS Type 4 Brush Patrol unit with 4-wheel drive (BP53), and one 4-wheel drive utility vehicle (UT53). Station 53 is a key fire protection and EMS asset supporting the I-15 corridor between Afton Canyon Road (about 17 miles southwest of the Project Site) and the Nevada state line (about 58 miles to the northeast). Station 53 crews also respond to a large portion of the Mojave Desert National Preserve south of Baker.[7]

[6]Soda Mountain Solar Environmental Impact Report, Section 3.20 Wildfire.

[7] Baker CSD Service Review San Bernardino Local Agency Formation Commission, July 2013

Incident statistics show emergency medical calls represent 68% of total incidents within the CSD's boundaries. It may be expected that the Project would generate a higher percentage of EMS calls (relative to total incidents) due to workplace hazards.

2.3.4 Wildfire Response

After calls for emergency medical service, the risk of wildfire might pose the next level of call volume, although the Project is not in a California Public Utility Commission-designated High Fire Threat District or in an area designated as having elevated or extreme fire threat from utility-associated fires. In addition, fuel types in the Project site and vicinity generally support low to moderate fire behavior, and fuels are discontinuous due to roads and other non-burnable substrates. Additionally, recent fire history (1984–2022) in a 10-mile radius from the Project Site reveals zero fires. Thus, the Project would not result in a cumulatively significant impact to wildfire risks.[8]

2.3.5 Emergency Medical Services

Although authorized to provide ambulance service, the Baker CSD does not actively provide this service at this time. Medical response and ambulance services in the community are provided by Baker Emergency Medical Services, Inc. (EMS). Baker EMS is a private company operating out of Baker that provides service within the Exclusive Operating Area #23, which encompasses the Project. The area is assigned by the Inland Counties Emergency Management Agency (ICEMA).[9] The time of response to the Project Site is estimated at 10 minutes.

2.3.6 Waste Management

The Project will generate solid waste during its construction phase. All waste generated during construction would be stored in wind-proof and wildlife-proof containers that periodically would be transported to an off-site disposal facility authorized to accept the waste.

During operation and maintenance, some PV panels would require replacement due to breakage or other damage or to take advantage of new technologies. Removed PV panels would be recycled or disposed of in accordance with applicable local, state, and federal standards and regulations. The San Bernardino County Department of Public Works operates the Baker Transfer Station, located 3 miles south of Baker at 72799 Sodabaker Road on Kelbaker Road south of I-15. An option for the Project is to contract with the county to transfer and temporarily store the waste materials at the station.

The Baker CSD provides residential trash pickup and commercial dumpster service within the CSD service area only and would not serve the Project. Waste collection, transport, and disposal services for the general Newberry Springs-Baker CCD are provided by private waste management services that would be contracted to haul waste to the Baker Transfer Station or to authorized recycling or disposal locations elsewhere in the county.

[8] Soda Mountain Solar Environmental Impact Report, Section 3.20 Wildfire.
[9] ICEMA is a joint powers authority composed of the Counties of San Bernardino, Mono, and Inyo with the San Bernardino County Board of Supervisors as the ex officio ICEMA Board of Directors.

2.3.7 Public Schools

The Project is located within the Baker Valley Unified School District (BVUSD). The BVUSD provides public preschool through high school and adult education to residents within its boundaries. While it is not expected that workers, or their families, would relocate to Baker in any significant numbers, the BVUSD would nevertheless collect school impact fees on the permanent enclosed floor area of the Project. This fee-chargeable area is described in the EIR Project Description as operations, maintenance building, and a warehouse, totaling 13,400 square feet. **Table 4** shows the calculation of the BVUSD school impact fee based on this floor area.

TABLE 4: SCHOOL IMPACT FEE

Chargeable Floor Area (square feet)	Fee Rate	Total School Impact Fee
13,400	$0.85	$11,390

Source: California State Allocation Board, January 24, 2024.

The enrollment data for all districts in the region are presented in Appendix A, Table A-5.

2.4 Population and Housing Impacts of the Project

The Project would be considered to have a significant effect on population and housing if the effects exceed the significance criteria described below:

a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

While construction of the project would create an average 200 temporary construction-related jobs at any one time, the work requirements of most construction projects are highly specialized such that construction workers remain at a job site only for the time during which their specific skills are needed to complete a particular phase of the construction process. The Project would draw from the existing regional pool of construction workers who typically move from project to project as work is available.

2.4.1 Worker Relocation

Project-related construction workers would not be expected to relocate their household's permanent place of residence because of their work on the Project. Therefore, zero percentage of non-local worker would relocate to the Project area.

2.4.2 Housing Impact

At 8.8 percent and 9.8 percent, the housing vacancy rates for San Bernardino County and the North Desert Region, respectively, are above the statewide average of 7.4 percent[10]. According

[10] US Census Bureau ACS 2022

to this data, there are sufficient vacant housing units within the local communities to support the number of construction, operation, and maintenance workers to the extent that the Project's workforce would not be considered a substantial unplanned population growth that poses a burden on surrounding communities. The Project would not cause a shortage in available housing for existing residents of San Bernardino County, and would not trigger the need for new housing, and would not induce a substantial permanent growth to the regional population levels.[11]. The CalEnviroScreen tool indicates a 39 percent housing burden in Project's census tract (see Section 2.5), which means the Project's census tract is lower than 61 percent of all census tracts in the state in terms of its population impacted by lack of housing and housing affordability.

The Project would be constructed on undeveloped land administered by the U.S. Department of Interior, Bureau of Land Management (BLM). The site does not contain any residential structures and no people live on the site under existing conditions. Construction, operation, and maintenance, and decommissioning of the solar facilities would occur within the Project site boundaries and would not result in the displacement of any existing housing or people. and would not necessitate the construction of replacement housing elsewhere.

2.5 Impacts to Environmental Justice Populations

Title 20 of the California Code of Regulations requires that an application for certification shall provide the following [12]:

- A discussion of the potential for disproportionate impacts from the Project on minority or low-income people; such discussion shall include, but not be limited to, the following:
- Demographic information by census tract, based on the most recent census data available, showing the number and percentage of minority populations and people living below the poverty level within six miles of the proposed site.

This section will discuss environmental justice populations to determine whether disproportionately high and adverse human health or environmental effects of the Project are likely to fall on minority and/or low-income populations.

The Project area is located within US Census Tract 6071010300 (Tract) (see Figure 2). The CalEnviroScreen tool gives 3,547 as the Tract's population. The CalEnviroScreen 4.0 composite percentile for the Tract is 75; the Tract is in the top 25 percent of disadvantaged communities in the state.[13] The Tract's median income is 76.5 percent of the Riverside-San Bernardino-Ontario Metropolitan Statistical Area's (MSA) median family income. 20.4 percent of the Tract's households are below the federal poverty line. The Tract's minority population is 46 percent of

[11] The United States Department of Housing and Urban Development considers a vacancy rate below 5 percent as a factor that limits housing choice and the ability of households to find suitable housing.

[12] Title 20 Division 2 Article 7 Additional Provisions for Considering Expedited Applications Under Public Resources Code Section 25550, §2022 Information Requirements. (b)(2)(I)(4)(A)

[13] CalEnviroScreen Data Dashboard

the total population.[14] Only a small portion of the community of Baker is within the Project's 6-mile buffer. Baker's population is 48 percent minority; the number and percentage of minority population within the 6-mile buffer is unknown. Approximately 31 percent (171 individuals) of the Baker population is below the federal poverty level.[15]

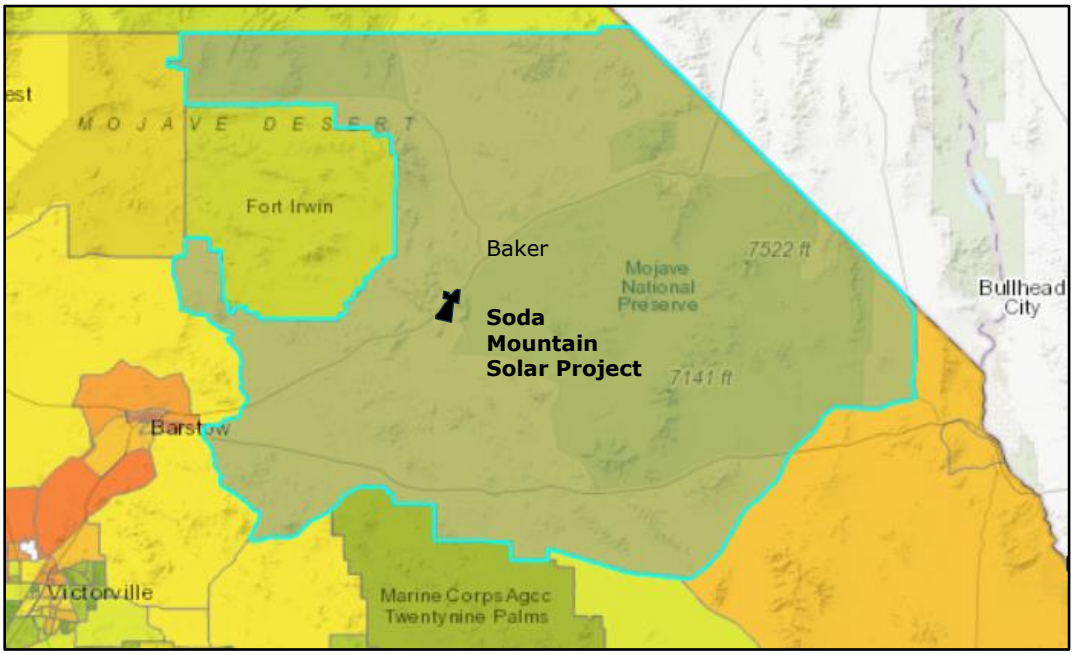

FIGURE 2: CENSUS TRACT 6071010300

The following indicator categories and components percentages for the Tract were collected from the CalEnviroScreen tool.[16] The percentages are shown for the component where the Tract is in the upper 50 percentile of all census tracts in California:

- Overall Percentiles
  - CalEnviroScreen Composite: 75
  - Pollution Burden: 62
  - Population Characteristics: 77
- Pollution Exposures
  - Ozone: 77
  - Drinking Water: 87

[14] Federal Financial Institutions Examination Council, 2023 FRB Census Geocoder (ffiec.gov). Note, the federal poverty line for a 4-person household is about 30 percent of the Riverside-San Bernardino-Ontario MSA's median income ($94,500), whereas low-income is a household at 50 percent or below the median, according to the FFIEC criteria.

[15] ACS 2022 Table B17025 Poverty Status in the Past 12 Months by Nativity, Baker CA CDP

[16] CalEnvironScreen 4.0 environment hazard exposure tool

- Environmental Effects
    - Cleanup Sites: 94
    - Groundwater Threats: 93
    - Hazardous Waste: 79
    - Solid Waste: 100
- Sensitive Populations
    - Asthma: 55
    - Low Birth Weight: 99
    - Cardiovascular Disease: 74
- Socioeconomic Factors
    - Education: 54
    - Poverty: 76
    - Unemployment: 95
    - Housing Burden: 39 (shown for comparison in reference to Section 2.4 of this report)

A complete listing of all component percentages for each indicator is in Appendix **Table A-6**

2.5.1 Significance of Indicators

The following is a brief explanation of the above indicators:

- Overall percentiles: The average percentages of the components in the four indicator categories are combined to calculate the Tract's score, which is then sorted among all tract scores in the state to find the Tract's percentile. Similarly, the Pollution Burden and Population Characteristics represent an average of the components within those categories relative to all census tracts in the state.
- Ozone: The Tract has a summed concentration of 0.058 parts per million (ppm), which is the mean of summer months (May through October) of the daily maximum 8-hour ozone concentration (ppm). This measurement is used to represent short-term ozone health impacts. The ozone percentile for this concentration is higher than 77 percent of the census tracts in California. Ozone concentrations in California range between 0.03 - 0.07 ppm.
- Drinking Water: The Tract drinking water contaminant score is 770, which is the sum of the contaminant and violation percentiles. The drinking water contaminant percentile for the Tract is 87, meaning it is higher than 87 percent of the census tracts in California.
- Cleanup Sites: This indicator is calculated by considering the number of cleanup sites, including Superfund sites, on the National Priorities List (NPL), the weight of each site, and the distance to the Tract. The Tract's cleanup site indicator is higher than 94 percent of the census tracts in California.

- Groundwater Threats: This indicator is calculated by considering the number of groundwater cleanup sites, the weight of each site, and the distance to the Tract. The number and type of groundwater threats is higher than 93 percent of the census tracts in California.
- Hazardous Waste: This indicator is calculated by considering the number of permitted Treatment, Storage and Disposal Facilities, and generators of hazardous waste or chrome plating facilities, the weight of each generator or site, and the distance to the Tract. The number and type of hazardous waste generators and sites is higher than 79 percent of the census tracts in California.
- Solid Waste: This indicator is calculated by considering the number of solid waste facilities including illegal sites, the weight of each, and the distance to the Tract. The number and type of solid waste facilities is higher than 100 percent of the census tracts in California.
- Asthma: This indicator is an estimate of the number of emergency department visits for asthma per 10,000 people over the years 2015 to 2017. An estimated 49 people per 10,000 people in the Tract visited the emergency department for asthma. The asthma rate is higher than 55 percent of the census tracts in California.
- Low Birth Weight: This indicator measures the percentage of babies born weighing less than 2,500 grams (about 5.5 pounds) out of the total number of live births in the Tract over the years 2009 to 2015. 9.43 percent of births in the Tract were low birth weight. The percent low birth weight percentage is higher than 99 percent of the census tracts in California.
- Cardiovascular Disease: This indicator is an estimate of the number of emergency department visits for acute myocardial infarction (or heart attack) per 10,000 people over the years 2015 to 2017. An estimated 16.50 people per 10,000 in the Tract visited the emergency department for a heart attack. The Cardiovascular Disease rate for the Tract is higher than 74 percent of the census tracts in California.
- Education: The low education indicator measures the percentage of adults over 25 in the Tract with less than a high school education. The data is from 2015 to 2019. 14 percent of adults in the Tract have less than a high school education. This percentage of adults without a high school education is higher than 54 percent of the census tracts in California.
- Poverty: The poverty indicator measures the percentage of people in the Tract living in households below twice the federal poverty level. Twice the poverty level (about $62,000 for a family of 4) is used due to the high cost of living in California. 45 percent of people in the Tract live in household with incomes below twice the federal poverty level. This percentage living below twice the poverty level is higher than 76 percent of the census tracts in California. The data is from 2015 to 2019.
- Unemployment: The unemployment indicator measures the percentage of people over 16 in the Tract who are unemployed and eligible for the workforce. The indicator excludes retirees, students, homemakers, institutionalized persons except prisoners, those not

looking for work, and military personnel on active duty. 14 percent of adults in the census tract are unemployed. The percentage of unemployed people is higher than 95 percent of the census tracts in California.

- Housing Burden: This indicator measures the percent of households in a census tract that are both low income (making less than 80% of the county median family income) and severely burdened by housing costs (paying greater than 50% of their income to housing costs). 14 percent of people in the Tract are housing burdened low-income households. The housing burden percentile for this tract is 39 percent, meaning the percent of those households that housing burdened is higher than 39 percent of the rest of the state. There are about 1305 housing units in the Tract. About 575 of them are considered low income. Of these low-income households, about 185 are considered housing burdened.

The Project would not cause the percentiles of any of these components to increase to any significant degree. There may be some insignificant increase in the unemployment component if the Project seeks to hire locally.

2.6 Project Labor Agreement

The Project's owner has entered into a Project Labor Agreement(s) (PLA) with various unions including: The International Brotherhood of Electrical Workers Local 477; Laborers Union Local 783; International Union of Operating Engineers Local No. 12; and Southwest Regional Council of Carpenters; Ironworkers Local 433.

3. ECONOMIC IMPACT ANALYSIS

3.1 Economic Impacts of the Project

3.1.1 Summary of Findings

The following section presents a summary of the estimated economic impacts of the Project, both during the period of construction and during operations over an estimated 30-year life of the Project. All dollar amounts are in constant 2024 dollars.

3.1.2 Direct Project Costs

Table 5 shows the Project's direct development costs estimated at [redacted] (including tax).

TABLE 5: CONSTRUCTION PHASE DIRECT PURCHASES AND LABOR COSTS

Construction Phase Direct Purchases	
PV Modules & Inverters	[redacted]
Mountings (Pile & Trackers)	[redacted]
Electrical (GSU, Gen tie, BESS & BOS)	[redacted]
Subtotal 1 – Purchases	[redacted]
State and Local Taxes @ 7.75% (development phase only)	[redacted]
Subtotal 2 – Construction Phase – Direct Equipment Purchases (including taxes)	[redacted]
Predevelopment (Project Permitting, Planning and Engineering Services, etc.)	[redacted]
Construction Direct Labor*	[redacted]
Total Project Capital Cost	[redacted]

*Project labor cost over the construction period.
GSU: Generator Step-up Transformer; BESS: Battery Energy Storage System; BOS: Balance of Systems.

Over its construction and operation periods, the Project is expected to generate significant economic impacts in the State of California and San Bernardino County as summarized in **Table 6**. These economic impacts reflect the direct, indirect, and induced economic impacts that will result from Project-related construction and operations spending. The construction impact is limited to the period of construction, which is estimated to be 18 months. Operations are assumed to be conducted over a 30-year period.

TABLE 6: SUMMARY OF ECONOMIC IMPACTS

Project Phase		Jobs	Labor Cost	Output*
Construction	Direct Impact	200	[redacted]	[redacted]
	Indirect Impact	157	[redacted]	[redacted]
	Induced Impact	263	[redacted]	[redacted]
	Total	**620**	[redacted]	[redacted]
Operations**	Direct Impact	960	[redacted]	[redacted]
	Indirect Impact	314	[redacted]	[redacted]
	Induced Impact	200	[redacted]	[redacted]
	Total	**1,474**	[redacted]	[redacted]

*Output includes contractor profit and overhead and does not include state or local taxes paid by the Project.
**Project operations are expected to employ 25-40 personnel for maintenance, inspection, and regular servicing. For the purposes of this model, the number of personnel needed for operations are assumed to be 32 FTEs for the full estimated 30-year operations cycle, or 960 FTE-years.

3.1.3 Direct Economic Impacts

The direct economic impacts were calculated using the IMPLAN model. IMPLAN is an industry standard used nationwide to estimate economic impacts of new investment and to forecast the effect of changes in state and local economic conditions. For this analysis, specific data for the State of California and San Bernardino County was inputted into the model to customize the results.

- During the construction period, the Project is anticipated to spend approximately over [redacted] in direct construction, installation cost, labor, and related services, and generate indirect and induced economic activity. The Project is projected to directly employ an average of 200 full-time equivalent (FTE) jobs on site during the Project's 18-month construction period.
- On-site construction jobs will include electricians, ironworkers, laborers, etc., as well as Project management staff. This analysis estimates that the total cost of these workers in earned income, benefits, insurance and other employment costs will approximate [redacted] over the construction period.

3.1.4 Direct Sales Tax Revenue

The Project will pay state and county sales taxes of a combined 7.75 percent for all equipment purchases during the construction phase. The Project will directly purchase equipment and services subject to state and county sales taxes estimated at [redacted], resulting in approximately [redacted] in sales tax revenues to the state and the county, based on 7.75 percent

of taxable sales.

3.1.5 Indirect and Induced Sales Tax Revenue

Indirect taxable sales are estimated to total approximately [redacted] during the construction period. This results in another [redacted] in sales tax revenues to the state and the county.

Induced taxable annual sales is [redacted] during the construction phase. This translates to [redacted] in sale tax revenues to the state and the county, in addition to the direct and indirect sales tax revenues.

In summary, the direct, indirect, and induced state and county sale taxes during construction will generate approximately [redacted].

The indirect and induced state and county sales taxes during the 30-year operating period will generate [redacted]. The Project will not generate direct sales tax during operations.

3.2 Economic Impact Modeling Methodology

Regional economic impact analysis and input-output (I/O) models in particular provide a means to estimate the total effects stemming from a particular industry or activity, and yield estimates of the number and types of jobs created, the amount of wage income associated with those jobs, and the total economic output or final sales and the value of services and products generated within the region by the various industries involved with the original activity. I/O models rely on economic "multipliers" that mathematically represent the relationship between the initial change in one sector of the economy and the expected effect of that change on other interdependent industry sectors, corresponding changes in demand for inputs to *those* sectors, and so on. These effects are commonly described as "direct," "indirect," or "induced" and are generally defined as follows:

- The "direct" effect is the initial change in economic activity in a specific industry or sector. For example, economic activities (notably employee earnings) at the Project would represent the direct impact on the San Bernardino County economy.
- The "indirect" effect results from industry-to-industry transactions required to support the direct activity. This effect is a measure of the change in the output of suppliers linked to the industry that is being evaluated. For example, Project construction will cause an increase in sales of construction materials, engineering services, and other goods from "business-to-business" suppliers in San Bernardino County and elsewhere. For this analysis, only indirect effects within San Bernardino County are estimated.
- The "induced" effect consists of impacts from employee spending in the regional economy. Specifically, the employees of the Project's construction contractors and indirectly affected supplier businesses generate this effect by purchasing goods and services in the regional economy (e.g., food, clothing, automobiles, health care). For this analysis, only induced effects within San Bernardino County are estimated. However, there would likely be additional induced effects in the other counties of Southern California as well.

The total economic impact is the sum of the direct, indirect, and induced effects, and measures the impact of an activity as the direct investment in the activity spent locally "ripples" through the economy.

3.3 JEDI Modeling

In addition to IMPLAN, this economic impact analysis uses the US Department of Energy's JEDI I/O model to calculate the local and state sales taxes expected to be derived from the Project. First developed by the US Department of Energy, National Renewable Energy Laboratory's "Wind Powering America" program to model wind energy jobs and impacts, the JEDI model has been expanded to biofuels, coal, natural gas, and solar power plants. JEDI model defaults are based on interviews with industry experts and project developers. Economic multipliers contained within the model are derived from IMPLAN software and state data files. Using model defaults, results are reported on a statewide scale for California. The JEDI model was used to estimate the Project's operational impacts. Based on the model's default and Project-specific inputs, the JEDI model estimates the number of jobs and economic impacts to a local area that could reasonably be supported by the operation of a solar energy generation project.

3.4 Caveats to Input-Output Modeling

The I/O methodology assumes that demand for goods and services by industries or households increases in direct relation to the increase in income, and that an increase in demand results in a proportional increase in local supply and employment. This implies fixed linear relationships between the input (resource) use and the output and between income and consumption.

However, these relationships tend to vary with the income level, and responses to final demand changes are not always likely to occur in directly linear proportions.

Second, I/O models assume that local suppliers have sufficient capacity to respond to changes in final demand by increasing their output and hiring additional workers without shifting any production resources (inputs) from other competing needs. This assumption may not hold in areas with tight labor or capital markets since suppliers may find it difficult to obtain these labor or material inputs or other resources necessary to expand production. However, with an unemployment rate of approximately 6.3 percent countywide and between 6.4 percent and 11.4 percent in the regions cities, and a relatively large geographic area,[17] San Bernardino County is not constrained by a tight labor market; and, as such, the model's assumption is not expected to affect the accuracy of the results to a significant degree.

4. ANALYSIS AND RESULTS

4.1 Direct Economic Impacts

Since a significant portion of Project spending during construction would be on solar panels and related equipment expected to be imported from outside the county, expenditures on labor

[17] See Table 3.

represent the single largest Project expenditure within the local economy. As such, the IMPLAN model estimates direct impacts in the local economy during construction based on Project expenditures on contracted labor and contractor profits and overhead paid by the Project. During operations, direct impacts have been estimated based on continuing labor over a 30-year period. **Table 7** shows the Project's estimated direct impacts on employment, employee compensation, and economic output in the county during the construction period and over 30 years of operation.

TABLE 7: DIRECT ECONOMIC IMPACTS OF THE PROJECT

Project Phase		Labor Cost	Output
Construction	**Direct**	[redacted]	[redacted]
Operations	**Direct**	[redacted]	[redacted]
	Total Impacts	[redacted]	[redacted]

[1] Full-time equivalents. Direct employment also includes contracted workers during construction.
[2] Wage rates for construction and operations workers based on JEDI-estimated wages derived from the most recent available data from Bureau of Labor Statistics. Wage rates include benefits of approximately 45.6 percent of total wage.
Sources: JEDI PV Model; IMPLAN 2023; Soda Mountain Solar, LLC; and Michael Baker International.

4.1.1 Direct Economic Impacts during the Construction Period

On-site construction activities at the Project will support employment for a total of approximately 200 FTEs over the 18-month construction period. These jobs will include electricians, metal workers, and other skilled labor in addition to general laborers. The difference between "Labor Income" and "Output" is attributable to overhead and profit for the contractors providing the construction labor.

4.1.2 Direct Economic Impacts during the Operating Period

Project operations will involve the monitoring of systems' status, performance, diagnostics, and planning, as well as preventive maintenance activities, and periodic corrective maintenance activities and replacement of components.

Based on the Project description and operations plan, the Project is assumed to be unmanned during normal operations, with a team of 25 to 45 conducting regular maintenance, inspection, and updates throughout a projected 30-year operating period. For the purposes of this modeling, the number of maintenance and inspection employees are assumed to average to 32. This results in a total of 960 FTE-years over the 30-year operations period to manage the Project's ongoing activities. These jobs result in estimated annual earnings of approximately $[redacted], based on the JEDI model.

4.2 Economic Impacts from Multiplier Effects

In addition to the Project's direct employment and related spending, the Project will purchase materials and equipment for installation, which in turn stimulates economic development and creates jobs in the sectors of the local economy that supplies these goods and services to the Project, both during development and operations. These additional impacts are the multiplier effects discussed above. Multiplier effects include both indirect and induced impacts to the economy. Indirect impacts result from additional rounds of spending by businesses in the Project's supply chain. Induced impacts result from household spending by new Project-related

employees. For example, employees at the Project and at related businesses affected by the Project will need housing, transportation, medical services, food, clothing and other goods and services in the county.

Based on the Project's direct spending on labor as well as required materials and services, additional rounds of spending will occur in the county. Businesses in the supply chain (providing materials, equipment, and services) will respond to meet the Project's demand. The spending and employment this generates constitutes the Project's "indirect" effects.

During the operations period, estimated local spending is based on cost estimates for goods and services that are anticipated to be sourced from vendors in the county. Examples of these purchases would include industrial supplies, business and professional services, labor, and materials for periodic improvements (e.g., access road maintenance and weed abatement), and similar costs of doing business. Providers of these goods and services are expected to be available in the county where they are most convenient and cost-effective to serve the Project.

4.2.1 Induced Economic Impact

Additional induced impacts are estimated from spending of direct and indirect employees. Employees of the Project and employees at local businesses indirectly affected by the Project will spend their wages on a variety of goods and services. For example, if an employee at the Project spends their wages on food for their family, part of that spending goes to the retail worker who sells the food, part goes to the trucker who delivers the food, part goes to the farmer who grows the food, and smaller parts go to various intermediaries such as processors and wholesalers.

Thus, in aggregate, the spending associated with direct and indirect employees' purchases creates demand for other businesses and helps to support other jobs in the county's economy.

Induced impacts are based on estimated direct employee compensation during construction and operations. **Table 8** summarizes the indirect and induced impacts on employment, employee compensation, and economic output generated due to the Project's spending at local businesses during construction and operations from the IMPLAN and JEDI models, respectively.

TABLE 8: INDIRECT AND INDUCED ECONOMIC IMPACTS

Construction	Jobs	Labor Cost	Output
Indirect	157	[redacted]	[redacted]
Induced	263	[redacted]	[redacted]
Operations			
Indirect	314	[redacted]	[redacted]
Induced	200	[redacted]	[redacted]
Total	**934**	[redacted]	[redacted]

4.2.2 State and Local Government Revenues

In addition to the broader economic impacts described in the preceding sections, the Project will benefit the state and county through increased tax revenues. The main type of state and local government discretionary revenue that would accrue to the state and county are sales and use taxes.[18]

Tax revenues are presented in two ways: 1) the one-time revenues derived from taxable sales during construction, and 2) the ongoing operations over a 30-year period with taxable sales of services, material, and replacement equipment used at the facility. The one-time construction period tax revenues are estimated at either [redacted] (the "low" scenario) or approximately [redacted] (the "high" scenario), and that, over 30 years of operations, the Project will generate [redacted] in sales tax for San Bernardino County General Fund, as shown in **Table 9.**

TABLE 9: SUMMARY OF LOCAL SALES TAX REVENUES TO SAN BERNARDINO COUNTY

			Low Scenario[1]			High Scenario		
Local Sales Tax	**Tax Rate**	**Local Share**	**One Time[2]**	**Annual[3]**	**Total (one-time plus 30 yrs. annual)**	**One Time[2]**	**Annual**	**Total (30 yrs.)**
County General Fund	1.25%	100%	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
County Transportation Authority Tax	0.50%	100%	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total County Sales Tax Revenue[2]			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Sources: JEDI PV Model; IMPLAN 2023; Soda Mountain Solar, LLC.

[1]The low scenario assumes only products purchased from establishments within the county generate sales taxes to the county. The high scenario assumes local sales tax capture on PV panels and inverters if Project establishes a point-of-sale address for collecting sales tax on PV panels and inverters.

[2]One-time sales tax revenues are generated prior to and during the construction period.

[3] Annual sales tax revenues derive from taxable purchases used in operating the Project and taxable household purchases by the operating personnel.

The sales tax revenues derive from approximately [redacted] and [redacted] in taxable sales in the "low" end and "high" end, respectively, during both the construction and for 30-years of operations. The wide range reflects whether the Project establishes a "point-of-sale" address for all materials and equipment purchases during the construction phase. The low scenario assumes no such address is established, so sales and use taxes are collected at the location of the vendor of such goods (likely to be outside the county), in which case San Bernardino County as an entity would not receive taxes on the bulk of the construction materials (PV panels and inverters). For the high scenario, it is assumed that the Project vendors and contractors would establish a point-of-sale address at the jobsite, and thus the county would receive sales and use taxes on all eligible purchases.

Similarly, the county's cities would share in a portion of the sales tax revenue depending on the

[18] Soda Mountain LLC indicated that the Project is exempt from property tax (including improvements) since the land is leased from the Bureau of Land Management.

low or high scenario of either [redacted] or [redacted], respectively (the high scenario results in San Bernardino County receiving a little more of sales tax revenue). **Table 10** summarizes the tax revenues accruing to the cities of San Bernardino County.

TABLE 10: SUMMARY OF SALES TAX REVENUES TO OTHER JURISDICTIONS IN THE COUNTY

			Low Scenario			High Scenario		
Local Sales Tax	**Tax Rate**	**Local Share**	**One Time**	**Annual[3]**	**Total (one-time plus 30 yrs. annual)**	**One Time**	**Annual**	**Total (30 yrs.)**
Other Jurisdictions	1.25%	100%	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
County Transportation Authority Tax	0.50%	100%	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Local Sales Tax Revenue			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Total estimated taxable sales generated in the development of the Project and its operation is summarized in Appendix B, Table B-1. Direct taxable sales are based on the Project's projected taxable purchases. The developer may ask Project suppliers and contractors to establish a billing and delivery address at the jobsite in unincorporated San Bernardino County for sales tax payment on all purchases of equipment and materials for the Project's construction. Without such a "point of sale" address for the jobsite, only those purchases made at locations in unincorporated San Bernardino County would generate sales and use taxes for the county. For comparison, both low and high results are shown to reflect the economic impacts of both scenarios, which yield substantial differences.

Because the major cost for the Project will be PV panels and inverters that are expected to be purchased from out-of-county suppliers, establishing the point of sale address for these purchases greatly increases sales taxes for the county in the high scenario, since none of these purchases would generate county taxes in the low scenario. While required mountings and electrical equipment and materials are likely to be available from suppliers within the county, only about 20 percent of total taxable sales in the entire San Bernardino County (including incorporated areas) are made in the unincorporated areas. Thus, it is assumed that 20 percent of in-county taxable sales would be made at locations in the unincorporated area in the low scenario and the remaining 80 percent of taxable purchases made in the county's cities. The sales and sales tax share of the remaining jurisdictions of San Bernardino County are also estimated.

Indirect taxable sales during the construction phase are based on sales of construction supplies and materials by "business-to-business" vendors (e.g., wholesalers to retailers). The JEDI model estimates that indirect taxable sales will total [redacted] during the construction period. These purchases would likely not be subject to the point of sale address since they are assumed to be locally based, and thus are the same in both the low and high scenarios. Induced annual sales are estimated to be [redacted] during the construction phase, and likewise would not change between the two scenarios.

During operations, the JEDI model estimates annual output (i.e., non labor expenses) to be approximately [redacted]. This amount is assumed to be taxable sales of goods and services and shared by the jurisdictions in the county for an annual sales tax revenue of [redacted], or approximately [redacted] over 30 years.

The detailed calculations of the state and local sales tax revenues generated by Project are shown in Appendix B, Table B-3.

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APPENDIX A: SOCIOECONOMIC DATA

Table A-1: Regional Population Data

Town/City/CDP	San Bernardino County	Baker	Barstow	Victorville	Adelanto	Apple Valley	Hesperia
Population	2,180,563	553	25,235	134,417	37,960	75,603	99,878
Race Demographics							
White	975,461	290	10,222	56,549	13,125	46,528	61,355
Black/African American	171,762	0	3,870	23,080	5,800	6,091	3,943
American Indian/Alaskan Native	25,467	32	592	2,124	408	623	1,026
Asian	169,063	12	405	6,014	868	2,426	1,992
Native Hawaiian/Other Pacific Islander	7,333	14	134	381	223	110	191
Some other race	484,024	88	4,024	20,866	6,905	7,199	15,315
Two or more races	347,453	117	5,988	25,403	10,631	12,626	16,056

Town/City/CDP	Lake Arrowhead	Mountain View Acres	Oak Hills	Phelan	Piñon Hills	Spring Valley Lake	Wrightwood
Population	10,189	3,457	7,838	18,272	7,157	8,764	4,461
Race Demographics							
White	7,609	1,690	5,024	12,806	4,906	6,913	3,778
Black/African American	232	320	12	142	26	234	0
American Indian/Alaskan Native	47	120	42	294	0	150	0
Asian	255	260	167	403	503	251	201
Native Hawaiian/Other Pacific Islander	90	0	68	52	116	0	63
Some other race	535	435	1,025	956	534	532	87
Two or more races	1,421	632	1,500	3,619	1,072	684	332

Table A-2: Regional Population Data—Age Distribution

Town/City/CDP	San Bernardino County	Baker	Barstow	Victorville	Adelanto	Apple Valley	Hesperia
Under 18	564,737	159	7,815	40,650	12,601	21,862	29,288
18-24	227,084	82	2,289	14,017	4,210	6,178	10,862
25-44	621,371	155	7,157	38,418	11,313	17,616	27,585
45-64	507,444	129	5,035	27,662	7,132	17,508	22,244
65 or older	259,927	28	2,939	13,670	2,704	12,439	9,899

Town/City/CDP	Lake Arrowhead	Mountain View Acres	Oak Hills	Phelan	Piñon Hills	Spring Valley Lake	Wrightwood
Under 18	1,945	991	1,496	5,532	1,887	2,160	881
18-24	688	226	660	1,638	325	1,074	97
25-44	2,192	946	2,434	4,939	1,922	1,822	1,105
45-64	3,046	778	1,861	4,534	1,780	2,032	1,068
65 or older	2,318	516	1,387	1,629	1,243	1,676	1,310

DP05: American Community Survey Demographic and Housing Estimate

Table A-3: Regional Housing Data

	San Bernardino County	Barstow	Baker	Victorville	Adelanto	Apple Valley	Hesperia
Total units	**731,899**	**9,620**	**167**	**38,928**	**9,601**	**27,181**	**30,344**
Occupied	667,836	8,790	125	37,024	9,185	25,928	29,144
Owner-occupied	406,247	3,851	35	21,280	5,364	18,075	19,066
Renter-occupied	261,589	4,939	90	15,744	3,821	7,853	10,078
Vacant	64,063	830	42	1,904	416	1,253	1,200
For Rent	13,786	421	7	834	185	361	484
Rented, not occupied	1,446	22	0	84	26	39	48
For sale only	5,580	83	2	433	68	346	222
Sold, not occupied	1,941	27	0	93	19	89	70
For seasonal, recreational, or occasional use	31,585	44	9	69	14	159	116
All other vacant units	9,725	233	24	391	104	259	260
	Lake Arrowhead	**Mountain View Acres**	**Oak Hills**	**Phelan**	**Piñon Hills**	**Spring Valley Lake**	**Wrightwood**
Total units	**11,737**	**995**	**3,166**	**5,033**	**2,912**	**4,130**	**953**
Occupied	5,113	954	2,941	4,500	2,624	3,511	722
Owner-occupied	3,950	694	2,605	3,521	2,055	2,762	485
Renter-occupied	1,163	260	336	979	569	749	237
Vacant	6,624	41	225	533	288	619	231
For Rent	272	8	42	50	30	117	22
Rented, not occupied	27	5	3	8	8	10	4
For sale only	160	5	46	144	43	186	20
Sold, not occupied	42	3	23	27	19	17	17
For seasonal, recreational, or occasional use	5,895	3	36	121	89	143	98
All other vacant units	228	17	75	183	99	146	70

Source: DP05: American Community Survey Demographic and Housing Estimate

Table A-4: Regional Unemployment Data (2022 Rates)

	San Bernardino County	Barstow	Baker	Victorville	Adelanto	Apple Valley	Hesperia
White	7%	7.90%	3.70%	9.60%	11.10%	8.30%	9.10%
Black or African American	11.30%	15.80%	-	17.40%	13.80%	15.20%	10.60%
American Indian or Alaska Native	8.20%	28.10%	0%	19.70%	10.60%	12.40%	8.30%
Asian	5%	0.0%	0%	10.10%	0%	6.40%	0%
Native Hawaiian or Other Pacific Islander	8.70%	0%	0%	0%	100%	43.90%	0%
Some other race	6.30%	4.70%	13.70%	7.60%	10.40%	4.70%	9.40%
2 or more races	8.20%	9.60%	0%	8.40%	11.60%	14%	14%
Hispanic or Latino origin (of any race)	7%	7.70%	2.30%	8.30%	10.70%	9.90%	10.50%

	Lake Arrowhead	Mountain View Acres	Oak Hills	Phelan	Piñon Hills	Spring Valley Lake	Wrightwood
White	5.50%	6.0%	5.50%	14.20%	13.70%	5.6%%	1.90%
Black or African American	13.80%	0%	-	100%	-	0%	-
American Indian or Alaska Native	0%	19.60%	0%	0%	-	0%	-
Asian	1.40%	0%	0%	0%	27%	0%	2%
Native Hawaiian or Other Pacific Islander	-	-	0%	0%	0%	-	0%
Some other race	0%	15.50%	1.30%	8.50%	0%	18.5%%	22.50%
2 or more races	9.30%	0%	1.50%	4.80%	18.10%	14.1%%	0%
Hispanic or Latino origin (of any race)	8.20%	6.80%	2.90%	13.80%	19.80%	6.7%%	6.70%

Source: American Community Survey 2022

Table A-5: Public School District Enrollment

	San Bernadino County	Baker Valley Unified	Barstow Unified	Victor Elementary	Victor Valley Union High	Adelanto Elementary
Total Enrollment	396,860	129	6,318	12,402	12,345	8,348
Grade TK	9,128	3	158	558	0	217
Grade K	25,399	6	499	1,439	0	743
Grade 1	27,383	8	512	1,587	0	810
Grade 2	28,574	10	550	1,687	0	835
Grade 3	28,971	16	499	1,761	0	851
Grade 4	29,368	7	575	1,761	0	885
Grade 5	29,765	13	499	1,761	0	885
Grade 6	30,161	15	512	1,835	0	910
Grade 7	30,558	6	436	0	1,568	927
Grade 8	30,558	10	461	0	1,494	935
Grade 9	31,749	5	436	0	2,432	159
Grade 10	32,146	11	404	0	2,296	109
Grade 11	31,352	6	385	0	2,296	58
Grade 12	32,939	13	398	0	2,197	17

Source: California Department of Education

Table A-5: Public School District Enrollment (continued)

	Apple Valley Unified	Hesperia Unified	Rim of the World Unified	Mountain View Elementary	Snowline Joint Unified
Total Enrollment	15,252	25,356	2,853	3,156	7,967
Grade TK	366	609	68	174	183
Grade K	1,007	1,521	191	363	502
Grade 1	1,068	1,699	191	379	598
Grade 2	1,113	1,800	205	385	558
Grade 3	1,129	1,724	214	335	621
Grade 4	1,144	1,826	203	303	605
Grade 5	1,159	1,927	194	322	629
Grade 6	1,220	1,851	217	294	637
Grade 7	1,235	1,952	205	294	613
Grade 8	1,205	1,927	180	309	621
Grade 9	1,129	2,130	237	0	653
Grade 10	1,144	2,181	228	0	582
Grade 11	1,159	2,054	274	0	598
Grade 12	1,190	2,181	245	0	566

Source: California Department of Education

Table A-6: CalEnviroScreen 4.0 Indicator Indices

Indicator	Index	Average Component Score
Pollution Exposure		34%
Ozone	77%	
PM2.5	7%	
Diesel PM	4%	
Pesticides	39%	
Toxic Releases	3%	
Traffic	14%	
Drinking Water	87%	
Lead	39%	
Environmental Effects		73%
Cleanup Sites	94%	
Groundwater Threats	93%	
Hazardous Waste	79%	
Impaired Water Bodies	0%	
Solid Waste	100%	
Sensitive Populations		76%
Asthma	55%	
Low Birth Weight	99%	
Cardiovascular Disease	74%	
Socioeconomic Factors		59%
Education	54%	
Linguistic Isolation	38%	
Poverty	76%	
Unemployment	95%	
Housing Burden	34%	

Source: CalEnviroScreen 4.0
CalEnviroScreen 4.0 Results (arcgis.com)

APPENDIX B: ECONOMIC IMPACT DATA

Table B-1: Estimated Total Project Spending in San Bernardino County During Construction and Operations

	Estimated Spending	Local Capture	Estimated Local Receipts
Construction Phase[1]			
Project Development and Onsite Labor Impacts (over 18-month construction period)	[redacted]	[redacted]	[redacted]
Pre-Development			
Project Permitting, Planning Services, and Other Costs	[redacted]	[redacted]	[redacted]
Construction Materials			
Mounting (rails, clamps, fittings, etc.)	[redacted]	[redacted]	[redacted]
Electrical (BOS, BESS, etc.)[2]	[redacted]	[redacted]	[redacted]
Modules	[redacted]	[redacted]	[redacted]
Inverter	[redacted]	[redacted]	[redacted]
Subtotal	[redacted]		[redacted]
Sales Tax at 7.75%	[redacted]		
	[redacted]		
Subtotal Non-labor Construction Spending	[redacted]		[redacted]
Total Spending / Local Receipts During Construction (less Sales Tax)	[redacted]		[redacted]
Operations Phase			
PV System Annual Operating Maintenance Labor[3]	[redacted]	[redacted]	[redacted]
Annual indirect and induced output from operations, equivalent to taxable sales	[redacted]	[redacted]	[redacted]

[1] Construction and operations materials, services, and labor costs provided by Soda Mountain, LLC.

[2] Assumes modules and inverters will be purchased out of the County.

[3] Calculated by JEDI includes local revenue, supply chain and induced impacts

Sources: JEDI PV Model; IMPLAN 2023; Soda Mountain Solar, LLC; and Michael Baker International

Table B-1: Estimated Taxable Sales

Phase	Total Estimated Taxable Sales	%	Accrues only to Unincorporated San Bernardino County Low[1]	%	High[2]	%	Shared among Incorporated cities San Bernardino County Low[1]	%	High[2]
Construction Phase Direct Purchases									
PV Modules and Inverters[3]									
Mounting (rails, clamps, fittings, etc.)									
Electrical (BOS, BESS, etc.)									
Subtotal									
Indirect Sales (Purchases from Local Businesses)[4]									
Induced Construction-related Employee Sales									
Subtotal Construction-related Taxable Sales									
Operations Phase (Annual)									
Indirect Taxable Sales during Operations[5]									
Induced Operations-related Employee Sales									
Subtotal Operations-related Annual Taxable Sales									

[1] Low scenario assumes no local sales tax capture on PV modules and inverters bought from outside of County, and 20% of mounting and electrical equipment purchased In-County are in the unincorporated county capture, consistent with countywide taxable sales data from California Board of Equalization.

[2] High scenario assumes local sales tax capture on PV panels and inverters if project establishes a point-of-sale address for collecting sales tax on PV panels, inverters, mounting and electrical equipment. Low scenario assumes only products purchased from establishments within the County generate sales taxes to the County.

[3] Estimate of solar panels and inverters provided per VC Renewables

[4] Additional sales from subsequent rounds of re-spending in the Wholesale and Retail Trades, estimated using JEDI.

[5] Estimated using JEDI; reflects additional rounds of business-to-business spending on retail after initial project spending on O&M services.

Sources: JEDI PV Model; California Board of Equalization; VC Renewables

Table B-3: Estimated Shares of Tax Revenues by Jurisdiction

Taxable Sales Category	Tax Rate	County Share	Share in Unincorporated San Bernardino County Low[1] One Time	Low[1] Annual	Low[1] Total (30 yrs.)	High[1] One Time	High[1] Annual	High[1] Total (includes one-time plus 30 yrs. of annual)
Direct Taxable Sales								
Construction Materials & Supplies			[redacted]		[redacted]	[redacted]		[redacted]
Operations Materials & Supplies								[redacted]
Indirect Taxable Sales (Supply Chain Businesses)[2]								
Construction Materials & Supplies			[redacted]		[redacted]	[redacted]		[redacted]
Operations Materials & Supplies				[redacted]	[redacted]		[redacted]	[redacted]
Induced Taxable Sales (Employee Purchases)[2]								
Construction Materials & Supplies			[redacted]		[redacted]	[redacted]		[redacted]
Operations Materials & Supplies				[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Taxable Sales			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Local Sales Tax Revenue			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Local Sales Tax (General County Operations)	1.25%	100%	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
County Transportation Authority Tax	0.50%	100%	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Local Sales Tax Revenue			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
State Sales Tax		6%	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total State and Local		7.75%	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[1] High scenario assumes local sales tax capture on PV panels and inverters if project establishes a point-of-sale address for collecting sales tax on PV panels and inverters. Low scenario assumes only products that are actually purchased from establishments within the County generate sales taxes to the County.

[2] Indirect and induced taxable spending estimated using JEDI model.

Sources: California Board of Equalization; JEDI PV Model; IMPLAN 2024; Soda Mountain Solar, LLC; and Michael Baker International

Table B-3: Estimated Shares of Tax Revenues by Jurisdiction (continued)

Taxable Sales Category	Tax Rate	County Share	Share in Remaining Jurisdictions of San Bernardino County: Low[1] One Time	Low[1] Annual	Low[1] Total (30 yrs.)	High[1] One Time	High[1] Annual	Total (includes one-time plus 30 yrs. of annual)
Direct Taxable Sales								
Construction Materials & Supplies								
Operations Materials & Supplies								
Indirect Taxable Sales (Supply Chain Businesses)[2]								
Construction Materials & Supplies								
Operations Materials & Supplies								
Induced Taxable Sales (Employee Purchases)[2]								
Construction Materials & Supplies								
Operations Materials & Supplies								
Total Taxable Sales								
Local Sales Tax Revenue								
Local Sales Tax (General County Operations)	1.25%	100%						
County Transportation Authority Tax	0.50%	100%						
Total Local Sales Tax Revenue								
State Sales Tax Revenue	6%							
Total State and Local Tax Revenue								

[1] High scenario assumes local sales tax capture on PV panels and inverters if project establishes a point-of-sale address for collecting sales tax on PV panels and inverters. Low scenario assumes only products actually purchased from establishments within the County generate sales taxes to the County.

[2] Indirect and induced taxable spending estimated using JEDI model.

Sources: California Board of Equalization; JEDI PV Model; IMPLAN 2023; Soda Mountain Solar, LLC; and Michael Baker International

APPENDIX C: FISCAL DATA

Table C-1: San Bernardino County Fire Protection District FY 21-22 Budget

Budget Category	Financing Sources	Percentage	Budget Category	Expenditures	Percentage
County General Fund Support	$23,702,898	7.3%	*Salaries & Benefits*	$192,193,803	59.1%
Taxes & Special Assessments	$152,079,063	46.8%	*Operations*	$78,264,770	24.1%
Other Governmental & Grants	$5,685,255	1.7%	*Fixed Assets*	$10,725,990	3.3%
Fees & Service Charges	$64,555,712	19.9%	*Other Requirements*	$43,901,553	13.5%
Other Revenue	$9,125,301	2.8%			
Fund Balance	$21,866,030	6.7%			
Reserve Transfers In	$48,071,857	14.8%			
Total	**$325,086,116**		*Total*	**$325,086,116**	

Table C-2: San Bernardino County Fire Statistics FY 2022-23

Budget Total	$367.7M
County Fire Personnel	1,166
Fire Suppression Personnel	712
Investigations	519
Pounds Hazardous Waste Managed	3,380,579

Hazardous Materials Division

Residents Served	64,301
Businesses Served	274
Hazardous Materials Regulation, Response, Request for Information, CUPA	
Regulated Facilities	7,654
Facility Inspections	5,783
Non-Emergency Calls	213
Haz-Mat Team Responses	158
Underground Storage Tank Facilities	820
Underground Storage Tank Systems	2,331
Requests for Records & Certified Records Research	775

Service Calls Between July 1, 2023 – April 30, 2024

Type of Call	Countywide	Division 5 (North Desert)
Structure Fire	1,158	243
Vegetation Fire	198	64
Vehicle Fire	1,192	428
Other Fire	4,858	997
Investigation/Alarm	4,777	1,049
Hazardous Materials	1,501	388
Medical Aid	86,342	18,953
Public Service	1,132	318
Rescue	199	29
Traffic Collisions	7,901	2,037
Traffic Collisions + Extrication	290	83
Miscellaneous	2,403	632
Total Calls for Service	**111,951**	**25,221**

Table C-3: San Bernardino County General Fund Budget

	Fiscal Year 2024-2025		Fiscal Year 2023-2024	
	Recommended	**Percent change from prior year**	**Adopted Budget**	**Percent change from prior year**
Requirements				
Staffing Expenses	3,156,016,898	2.34%	3,034,388,500	5.37%
Operating Expenses	5,010,900,782	3.29%	4,710,135,931	6.57%
Capital Expenditures	1,303,210,895	-9.38%	1,322,502,871	0.59%
Reimbursements	660010250	7.53%	591,664,522	1.98%
Contingencies	269,081,244	5.07%	417,763,610	20.80%
Subtotal Appropriation	**9,070,199,569**	**0.62%**	**8,893,126,390**	**6.12%**
Operating Transfers Out General Fund	563,646,790	-21.33%	587,334,402	-16.52%
Contributions to Reserves	173,548,205	-53.82%	243,285,292	5.76%
Non-General Fund Contr. To Reserves/Net Position	14,373,215	-50.05%	29,174,269	52.02%
Total Requirements	**9,821,767,779**	**-3.09%**	**9,752,920,353**	**4.50%**

Source: San Bernardino County Finance and Administration Budget
https://main.sbcounty.gov/about-cao/finance-budget/