APPENDIX K

Economic and Community Benefits Analysis

Trapper Solar Project Economic and Community Benefit Analysis, Routt County, Colorado

MAY 2024

PREPARED FOR

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TRAPPER SOLAR PROJECT
ECONOMIC AND COMMUNITY BENEFIT ANALYSIS, ROUTT COUNTY, COLORADO

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CONTENTS

Figures

Tables

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1 INTRODUCTION

RWE Solar Development, LLC (RWE), is proposing to develop the Trapper Solar Project (Project), which would consist of an up to 250-megawatt (MW) alternating current utility-scale solar energy system, an up to 125-MW (4-MW hour [MWh] storage energy capacity) battery energy storage system (BESS), and ancillary facilities. The Project would sit on approximately 3,030 acres of private and state-owned land in Routt County, Colorado, approximately 1.5 miles south of the town of Hayden (Project area). Project components would include solar panels mounted on trackers arranged in multiple arrays, transformers, direct current to alternating current inverters, a collection system that connects the arrays to a BESS, a substation, an operations and maintenance building, and a switchyard.

This economic and community benefit analysis estimates the local economic activity and other community impacts that would be generated by Project construction and operation. The study area for the assessment is Routt County, Colorado. That is, although the Project would include significant spending and economic impacts outside the county, this analysis focuses only on the spending and impacts occurring within Routt County.

2 EXISTING SOCIOECONOMIC CONDITIONS

Socioeconomic resources include the basic attributes and resources associated with the human environment. This section characterizes socioeconomic conditions in both Routt County and the State of Colorado. This information is intended to provide context for interpreting the economic impacts associated with the Project.

Unless otherwise noted, information was obtained from Headwaters Economics' (2024) Economic Profile System, which compiles statistics from federal data sources, including the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics.

2.1 Population, Employment, Income, and Poverty

Table 1 reports information on population, number of workers, and income levels in Routt County and Colorado.

The population growth in Routt County between 2010 and 2022 is less than is observed across the state at large. Per capita and median household incomes in the county are higher than statewide, and the proportion of persons living below the poverty threshold is lower than the state average.

Table 1. Population, Employment, Income and Poverty

Demographic Statistic	Routt County	Colorado
Population (2022)	24,944	5,770,790
Population (2010)	22,924	4,887,061
Percent change in population (2010 to 2022)	8.8%	18.1%
Population 16 to 64 years old (2022)	16,864	3,819,707
Workers 16 years old and over (2022)	13,686	3,006,848
Per capita income (2022)*	$58,304	$47,346
Median household income (2022)*	$95,144	$87,598

Demographic Statistic	Routt County	Colorado
Proportion of people below the poverty level	8.0%	9.6%

Source: Headwaters Economics (2024).
* Values are reported in 2022 dollars.

Table 2 reports the allocation of jobs across industries. Note that the proportion of individuals involved in construction in Routt County (13.3%) is approximately 66% higher than the statewide average of 8.0% (Headwaters Economics 2024). Thus, many of the skillsets associated with construction and operation of the Project may be found in the local workforce, and they may be able to fill a portion of the Project-related construction jobs.

Table 2. Work Force Allocation by Industry

Industry	Routt County	Colorado
Total number of jobs	*13,819*	*3,021,742*
Agriculture, forestry, fishing and hunting, mining	4.1%	2.0%
Construction	13.3%	8.0%
Manufacturing	3.7%	7.0%
Wholesale trade	1.5%	2.3%
Retail trade	11.0%	10.5%
Transport, warehousing, and utilities	4.0%	5.1%
Information	0.6%	2.7%
Finance and insurance and real estate	8.7%	7.2%
Professional, management, administration, and waste management	11.8%	14.9%
Education, health care, and social assistance	16.8%	21.5%
Arts, entertainment, recreation, accommodations, and food	16.7%	9.5%
Other services, except public administration	4.6%	4.8%
Public administration	3.3%	4.5%

Source: Headwaters Economics (2024).

2.2 Transportation

The major transportation route near the Project is U.S. Highway 40, which runs east-west through the Town of Hayden approximately 1.5 to 2.0 miles north of the Project area. Access to the Project area off U.S. Highway 40 would most likely be via County Road 53, which runs north-south through the Project area, and County Roads 59 and 61, which also run through different locations within the Project area.

2.3 Government Services and Infrastructure

The Project is located in the West Routt Fire Protection District (2024), with the nearest fire station approximately 1.5 miles from the Project area in Hayden. Police services in the area are the Routt County Sherriff's office and the nearby Hayden Police Department (CountyOffice.org 2024). The closest hospital is the Memorial Hospital in Craig followed by Yampa Valley Medical Center in Steamboat Springs (CountyOffice.org 2024).

There are 15 public schools with a total of 3,619 students and one private school with a total of 158 students in Routt County (National Center for Education Statistics 2023).

2.4 Government Revenues

Routt County's 2024 budget projects an estimated $101 million in total revenues (Routt County 2024). The largest contributions to revenue are property taxes ($28.8 million), federal transfers ($23.6 million), fees ($19.2 million), and sales tax ($13.3 million). The budget projects an estimated $112 million in total expenses (Routt County 2024).

2.5 Recreation and Tourism

The Yampa River State Park is located approximately 1 mile north of the Project area on the west end of the town of Hayden along the Yampa River. Within the town of Hayden are the Hayden Town Park and the Dry Creek Park. The county has numerous other tourism and recreation destinations with a significant tourism industry in the eastern portion of the county and in the town of Steamboat Springs in particular. Peak visitation seasons are between June and August during the summer and from December to March during the winter ski season.

3 IMPACT ANALYSIS

As the Project costs are not currently known by RWE, for this analysis, the estimated Project costs are based on the National Renewable Energy Laboratory (NREL) report *U.S. Solar Photovoltaic System and Energy Storage Cost Benchmarks, With Minimum Sustainable Price Analysis: Q1 2023* (Ramasamy et al. 2023). The report estimates the costs of installing, operating, and maintaining utility-scale solar photovoltaic (PV) plus battery storage systems per watt (W) and per kW/year, respectively. The report produces separate estimates for the minimum sustainable price (MSP) benchmark and modeled market price (MMP) benchmark. The MSP benchmark reveals potential future cost reduction areas and the MMP benchmark reflects the current market costs. This makes the different benchmarks a reasonable estimate range for future projects.

Reported benchmarks for installation cost are $1.64/W (MSP) and $2.13/W (MMP), which give an estimated cost range for the Project of between $410 million and $530 million. Additionally, the NREL reported an estimated 1.5 construction jobs per MW of installed solar PV in 2020 (Truitt et al. 2022). Further, they estimated that due to increased PV deployment and efficiency gains, the projected number of construction jobs per MW would decrease to 1.1 by 2025. Using this metric, the number of construction workers required for the Project would likely be approximately 275, including roles such as laborers, ironworkers, operators, electricians, carpenters, and millwrights. RWE expects that less than 10 full-time employees will be needed during the operation and maintenance phase of the Project, including positions like electricians and technicians. Additional support in legal, administration, management, and other labor-related services will also be necessary, with some roles being filled by contractors. RWE has provided Routt County with a worker housing plan for the Project under a separate cover.

Reported benchmarks for operations and maintenance cost are $50.73/kW/year (MSP) and $51.88/kW/year (MMP), which give an estimated range of $12.7 million to $13.0 million in average annual operating costs for the Project. This estimate includes the cost of significant battery refurbishment/replacement that would occur on longer timescales and would not be representative of typical annual spending. This cost would also mostly impact areas outside the county. The separate cost

of operating and maintaining the solar PV system would represent more localized impacts and is between $16.12/kW/year (MSP) and $16.58/kW/year or between $4 million and $4.1 million per year.

3.1 Economic and Fiscal Impact

Most of the estimated $410 to $530 million in Project spending would occur outside of Routt County because the required equipment and components are highly specialized, and these manufacturing industries do not exist in Routt County. Local economic benefits would be felt through the likely purchase of some raw materials such as stone, sand, and gravel, which would be used in the improvement of site roads and laydown areas or in concrete. The weight of these materials makes them expensive to haul, and therefore local supplies would be preferred when possible. Purchase of these materials would stimulate local mining and quarrying industries and workers.

RWE plans to hold a job fair to support hiring workers for the Project. While RWE hires locally when they can, many of the 275 construction jobs created by the Project would be given to specialized non-local workers that would temporarily stay in the county during construction. The local construction industry would likely provide some support to the Project, and certain construction operations such as grading or hauling would be skills that would likely be available locally. The county economy would be stimulated when local workers are hired for the Project and those workers spend their wages in the local community. Similarly, non-local workers would also stimulate the county economy when they spend their wages in the local community. The county economy would also be stimulated by non-local workers as they seek out temporary lodging, meals, and other goods or entertainment while they are staying in the area.

During operation of the Project, regular cleaning and maintenance would occur in the Project area. Regular inspections and routine maintenance of the components and equipment would occur. Local workers hired for these tasks would stimulate the local economy as they spend their wages locally.

3.2 Community Benefit

The addition of a utility-scale solar energy system and BESS would add stability and reliability to the local electric grid. A reliable electric grid is an attractive amenity to existing residents and potential new residents and businesses. The addition of renewable energy generation capacity coupled with storage enables a reduced reliance on fossil fuel generation, which may indirectly contribute to improved air quality in areas near retiring fossil fuel plants. RWE is committed to being an active member of the community during the development of the Project and will seek opportunities to support local causes.

3.3 Transportation and Mobility

The influx of traffic bringing workers, equipment, and materials to the Project area may cause congestion along haul routes (Figure 1). RWE will work with Routt County Road and Bridge Department to meet compliance with the Transportation and Mobility standard found in Section 3.1.D.28.(iii) of Routt County's Unified Development Code Resolution 2023-P-083 (Code) as well as Section 3.1.D.3 of the Code requiring a road engineering study to inform installation of any road improvements prior to commencement of any work to construct the facility. The Project's proposed haul route, potential public road radii improvements, and potential Project entrances (i.e., access points) are shown in Figure 1. Access points to the Project area are in a rural and relatively unpopulated area, which would minimize impacts from vehicles entering and leaving. RWE is seeking an alternative haul route, but it is currently unclear whether an alternative haul route will be feasible.

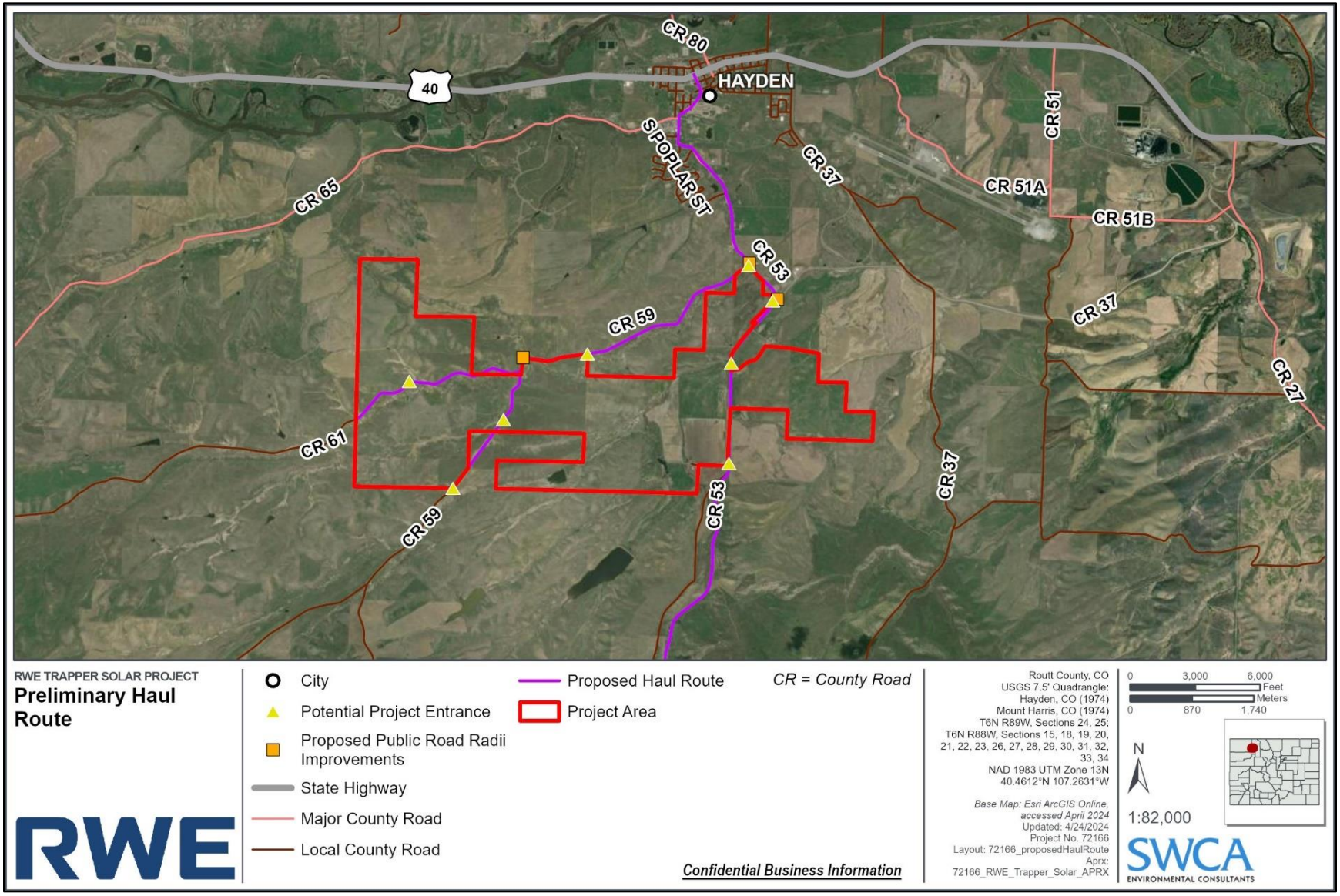

Figure 1. Project area, Project components, and haul route.

3.4 Government Services and Infrastructure

The additional personnel and equipment in the Project area could increase the potential for accidents or contribute to an increased need for emergency response. RWE has provided Routt County with an emergency response plan in compliance with the Code performance standard in Section 3.1.D.14 under a separate cover. RWE coordinated with local emergency response providers to develop the emergency response plan with emergency protocols and procedures and will train Project personnel on its contents. The Project is not expected to impact water or wastewater treatment. RWE has provided Routt County with a water supply plan for the Project under a separate cover.

The temporary nature of the Project would make it unlikely that workers would permanently move to the area or bring families with school-aged children. In the unlikely scenario that all 275 workers were non-local and brought an average of 0.5 children with them, there would be an increased demand of 138 school students, which would be a 3.6% increase in the number of school children in Routt County.

3.5 Government Revenues

The *2024 Renewable Template for Estimating Property Taxes for Qualified State Assessed Renewables* is provided by the Colorado Department of Local Affairs' (2024) Division of Property Taxation to estimate the taxes paid by renewable energy projects over their lifetime. The template assumes a 30-year project lifetime; however, RWE assumes a 35-year project lifetime, so an additional 5 years of depreciated cost basis, annual estimated property tax payments were added to the template calculations. Based on the Project's specific size (i.e., a 250-MW PV solar facility and a 125-MW BESS) and the 2023 mill rate for the Project area of $71.27, the Project would pay an annual levelized equivalent of $861,678 per year. The Project would be estimated to pay $30,158,730 in property taxes over its lifetime.

3.6 Recreation and Tourism

No known recreation or tourism would be impacted through construction activities at the Project area. During peak construction times when more than the average 275 workers may be required, workers may seek out hotels and motels in nearby Steamboat Springs, which could reduce the available rooms for visitors. While the hotels would remain occupied, construction workers may have reduced spending compared with tourists because they would be occupied during working hours while tourists would be seeking out other activities. If peak construction times overlap with peak tourism periods, there is a potential for a small reduction in economic activity due to the displaced tourists. However, on the whole, the presence of the additional construction workers during off-peak tourism times would help stimulate the local economy and would be an overall benefit.

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