



**ECONOMIC IMPACT ANALYSES OF
REP PROCESSING, LLC — GAS PLANT DEVELOPMENT
RIMROCK ENERGY PARTNERS
TOWN OF PIERCE AND WELD COUNTY, COLORADO
SEPTEMBER 27, 2018**

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Overview

Rimrock Energy Partners (“REP”) seeks to develop a natural gas processing plant located in both the Town of Pierce and in adjacent portions of Weld County. The more than \$211 million private capital investment in REP Plant and Pipeline will provide:

- significant processing capacity to regional natural gas producers;
- substantial new employment and business opportunities to the Pierce and adjacent regional economy; and
- foster significant economic diversification to the community.

The plant development will occur over approximately a year and serve as an important economic asset in the region for as much as fifty years.

The proposed plant serves a necessary function in regional oil and gas development, and, if not constructed at the Pierce location, will likely be developed elsewhere in the northern Weld County area. The long-term development of oil and gas resources will continue, and it is anticipated that the Town of Pierce and immediately adjacent areas of Weld County will participate for decades to come.

The Town of Pierce was established more than a century ago in conjunction with the extension of the Union Pacific Railroad to connect Cheyenne and Denver. Historically, the railroad has provided a link between the development of an agriculturally-based economy and the larger commercial markets and population centers in the West.

The front range communities that comprise Weld County, including the Town of Pierce, have observed a gradual expansion of the urban and commercial/industrial development for many decades (i.e., 1% to 2% annual growth). Much of the economic growth and demographic profile ties directly to the emergence of Denver as a major metropolitan area in the U.S., but the many assets of the region have also provided the foundation for recent rapid growth and diverse expansion of communities in the Front Range corridor. By example, the Weld County seat of Greeley’s population has more than doubled since 1970.¹

¹ City of Greeley, CO Population: 38,902 (1970);104,947 (2017). Source: State Demography Office, "Population Estimates - years (2010 to Current," Department of Local Affairs, State of Colorado [https://demography.dola.colorado.gov/population/population-totals-municipalities/#population-totals-for-colorado-municipalities (accessed 9/12/2018)] ("Population Estimates, State of Colorado").

The agricultural foundations remain, but the energy sector has become a significant enterprise in the expansion of the Weld County economy.²

The recent regional economic development in Weld County rural communities has been substantially driven by the development of the petroleum resources of the region. The County has seen dramatic expansion of residents — related, in part, to oil and natural gas development activities — with population increasing at an annual rate of 3.45% since 1990. The simple implication is that as mineral resource development expands, the infrastructure and commercial activities accompanying the oil and natural gas development follow.

Summary of Economic, Fiscal, and Employment Impacts

Economic and Fiscal Impacts of REP Gas Plant

The direct economic and fiscal impacts will occur in both the period the plant is being constructed, as well as during its continuing operation over (at least) a thirty-year expected life. The economic impacts include wages and salary employment, and direct construction and operational expenditures with third-party Colorado vendors. Fiscal impacts relate to taxes and fees paid to local, county and state governments during both the construction and operational phases of the project.

It must be noted that predicting many of the specific economic impacts to the Town of Pierce is not possible. There will likely be new residents and new commercial enterprises, but it can only be said that the Town of Pierce will have new economic opportunities that may locate within the incorporated town or otherwise develop in regional area proximate to the gas plant development.

Direct Economic Impacts

Construction expenditures are anticipated to occur in the first year as the plant is developed and commissioned. Although there will also be ongoing major maintenance expenses, under a (conservative) economic impact analysis assumption we have not attempted to estimate these additional expenditures.³

² As discussed more fully below, in the past three decades, oil and natural gas-related employment has grown from negligible levels to more than 9.3% of total Weld County employment today.

³ It is also likely that there will be capital plant additions, but these too are not included in this impact analysis.

Operational Impacts over the life of the plant will flow largely from operations and maintenance expenditures, including electricity costs for the operation of the plant. The methods used, and assumptions made in estimating these impacts are discussed in detail in the body of this report.

Table 1: Summary Direct Economic Impacts

REP Gas Plant/Pipeline Direct Economic Impacts — Construction and Operations			
	Total Expenditures	% Local Contractor Expenditures	Total Local Expenditures
Total Construction Expenditures	\$211,342,000	38%	\$80,309,960
Average Annual Operational Expenditures	\$15,500,000	81%	\$12,500,000

Additional Economic Impacts

Direct employment, construction expenditures, and infrastructure development are discrete economic activities tied to a project like the REP Gas Plant. New capital assets produce property tax revenues which flow to public services and schools. These injections into the Town’s and regional economy create additional economic impacts.

Table 2: Summary Direct, Indirect, and Induced Economic Impacts

REP Gas Plant Direct, Indirect, & Induced Impacts (\$millions)			
	Direct Impact	Direct & Indirect Impact	Direct, Indirect & Induced
Development Period Impacts			
Local Construction Contracts	\$80.3	\$84.5	\$101.8
Average Annual Operational Period Impacts	\$12.53	\$12.98	\$13.74

Tradespeople and plant employees buy food and gas, schools are expanded to serve permanent employees, and other government services are expanded. This “cycling” of new economic activities are additional *indirect* and *induced* economic impacts, which are properly included as additional economic impacts related to the *direct* impacts.⁴ These impacts are summarized in Table 2.

⁴ The economic analysis methods employed herein are common and utilized frequently with respect to energy resource development impact assessments. See, e.g., Leistritz, F.L., and Murdock, S.H.. Thu . "Socio-economic impact of resource development: methods for

Direct Fiscal Impacts

There will be taxes and fees generated by the development and operation of the REP Gas Processing plant. These taxes will flow to the Town of Pierce, Weld County and the state of Colorado. The most significant fiscal impact to the Town of Pierce will be property taxes, which are summarized in Table 3:

Table 3: Summary Direct Fiscal Impacts

REP Gas Plant Estimated 30 year Property Tax Impacts		
Taxing Authority	Mill Levy	Estimated Property Taxes
Aims Junior College	6.317	\$2,291,448
Nunn Fire	3.806	\$1,380,600
High Plains Library	3.256	\$1,181,091
Northern Colorado Water	1	\$362,743
Pierce Town	10.481	\$3,801,910
School Dist RE9-Ault	27.213	\$9,871,327
Weld County	15.8	\$5,731,340
Total	67.873	\$24,620,459

Other fiscal impacts in the form of sales and use tax revenues will accrue to the Town of Pierce, but they are more difficult to estimate (as discussed further below).

Direct Employment Impacts

During the ten-month construction period employed personnel in the development and commissioning of the gas plant will be dynamic, with employment peaking at more than 100 trades and labor personnel.⁵

During the thirty to fifty-year lifespan of the plant, it is estimated that thirteen (13) permanent full time equivalent jobs in operations and maintenance will be created. Construction and operating period employment can be summarized as follows:

assessment". United States. Department of Interior (1981); and Y. Chan, Location Theory and Decision Analysis, 2nd ed., DOI 10.1007/978-3-642-15663-2_2, Springer-Verlag Berlin Heidelberg 2011 (Chapter 2).

⁵ The employment data presented and analyzed herein are normalized to annual full time equivalent jobs (e.g., mechanical fabrication crew of approximately 100 tradespeople, employed for 4 to 5 months are reflected as 37.5 FTEs (annual)). Estimated development and operational data provided by Rimrock Energy Partners.

Table 4: Direct Employment Impacts

REP Gas Plant Direct Employment Impacts — Construction and Operations					
	Median Annual Wages*	Total FTEs (annual)	Total Wages	Local FTEs Employed	Total Local Wages & Benefits*
Total Construction Employment	\$40,511	61.2	\$2,479,286	16.8	\$686,930
Total Annual Permanent Employment	\$133,173	13	\$1,731,250	13	\$1,731,250

*Benefits are estimated as 25% of wages for permanent operations phase employees.

Study Area Economic and Demographic Profile

Setting the context of the economic development impact of the REP Gas Plant within a community and regional profile is important. As a first point of reference, Figure 1 reflects historic population data available for both the Town of Pierce and Weld County.⁶

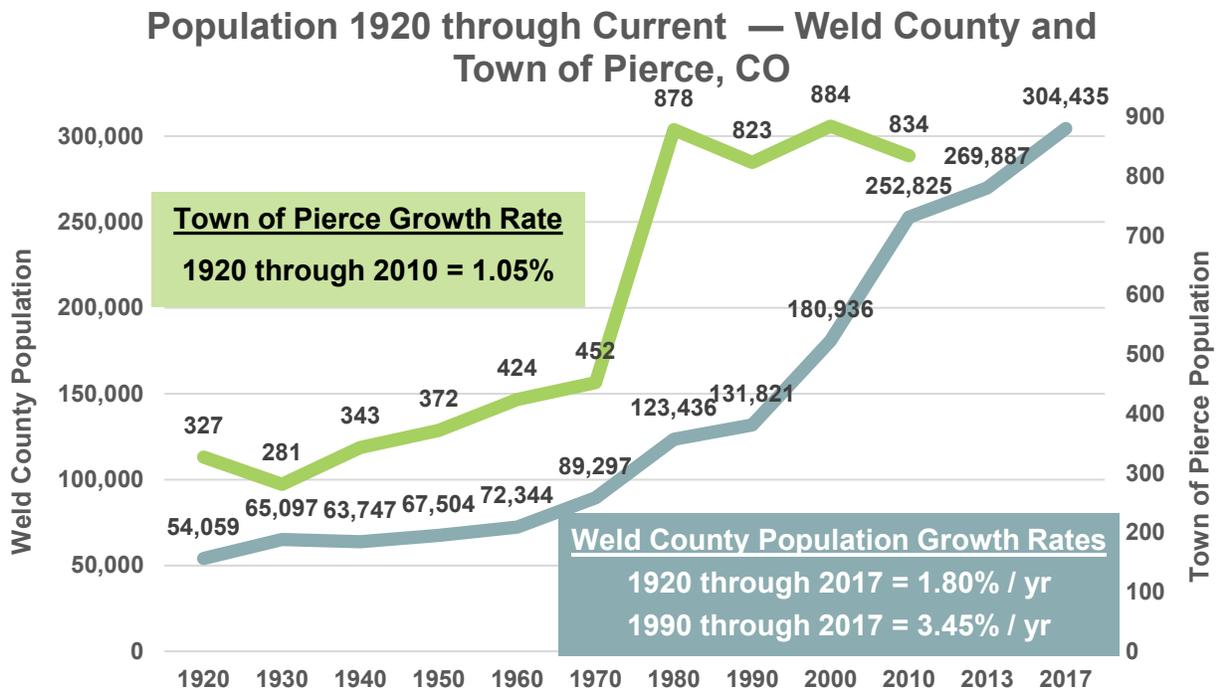


Figure 1: Weld County and Town of Pierce Population Changes

⁶ Population Estimates, State of Colorado.

Aside from the near doubling of the Town of Pierce’s population between 1970 and 1980, limited growth in the community has resulted in relative population stability for the past three decades. That is contrasted with the relatively steady and increasing rate of population growth in Weld County, particularly since about 1960.

Figure 2 provides some insights as to the population age cohorts that comprise the state of Colorado, and differences in age distributions when compared to Weld County and the Town of Pierce. The most striking of these observations is that the percentage of the Town of Pierce in the 65 & older age group is significantly greater (12.7%) than that of the state of Colorado as a whole (10.93%) or Weld County (9.58%). In contrast, the population of the less than 20 years old age group is higher in both Weld County (31.35%) and the Town of Pierce (29.14%) than that of Colorado as a whole (27.14%). The most interesting of the age cohort statistics is that the Town of Pierce has a primary working age population (20 through 49 years old) that accounts for only 26.4% of its population, while Weld County has 41.8% of its population and Colorado has 42.7% of its population in those primary working age cohorts.⁷

Percentage of Population by Age Town of Pierce, Weld County, Colorado

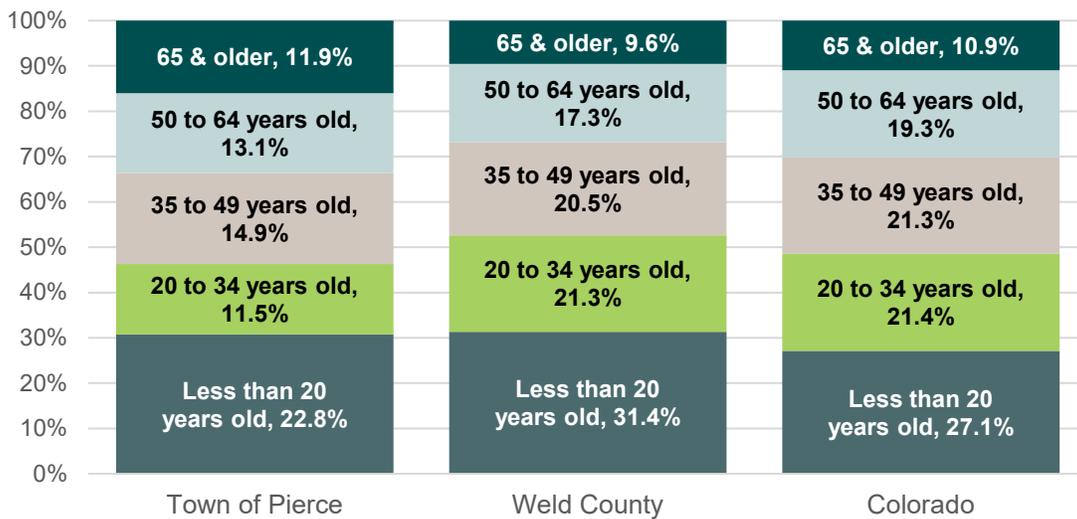


Figure 2: Percent Population by Age: Town, County, State

⁷ U.S. Census Bureau, 2010 Census of Population, U.S. Department of Commerce [https://www.census.gov/programs-surveys/decennial-census/decade.2010.html (accessed 9/15/2018)].

Data is not available to allow a detailed understanding of the employment and labor force in the Town of Pierce, but the comparison of Weld County to the state as a whole reflects a substantial similarity in the labor force participation rates. (See Table 5.)

Table 5: Study Area Labor Force and Employment, 2017

2017 Labor Force and Employment Data ⁸					
Weld County			State Total		
Labor Force	Employment	Unemployment Rate	Labor Force	Employment	Unemployment Rate
157,286	153,092	2.7%	2,992,307	2,907,468	2.8%

Turning to a profile of the regional economy, we first start with a discussion of the economic role played by the agricultural sector. As is seen in Table 6, there has been a consolidation in the number of farms identified in the Census of Agriculture between 2007 and 2012 in Weld County. Total reported agricultural acreage has declined from 2,089,893 in 2007 to 1,956,375 acres in 2012 (a 6.4% decrease), while there has been a 10.1% decline in the number of farms in Weld County.

Table 6: Study Area Farm demographics

2012 and 2007 Weld County Study Area Farm Demographics ⁹					
2012 and 2007 Farm Demographics					
Number of Farms	2012	2007	Average Farm Size (acres) ¹⁰	2012	2007
		3,525		3,921	
2012 Market Value of Agricultural Products Sold (\$ millions)					
Crops	Livestock and Poultry		Total		
\$374	\$1,486		\$ 1,860		
20.1%	79.9%				
2012 Value of Sales by Commodity Group (\$ millions)					
Grains, Dry Beans and Peas	Milk from Cows	Other Crops	Cattle and Calves	Other Livestock and Poultry	
\$174.7	\$312.9	\$54.6	\$1,042	\$ 5.5	

⁸ United States Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics [https://www.bls.gov/lau/#cntyaa] (accessed 9/16/2018).

⁹ National Agricultural Statistics Service, "2012 Census of Agriculture," U.S. Department of Agriculture [www.agcensus.usda.gov (accessed 9/16/2018)].

¹⁰ Weighted average of farm size by number of farms.

Weld County agricultural production is dominated by livestock and poultry production, with nearly 80% of the total reported products sold in 2012 related to those activities. Cropping appears to be dominated by grains and beans, and the county’s total agricultural output was nearly \$1.9 billion in 2012.

The two graphs in Figure 3 reflects a relatively balanced economy in Weld County, with approximately 43% of employment in wholesale & retail trade, manufacturing and construction.¹¹

2017 Weld County Business Establishments and Employment by Major Sector

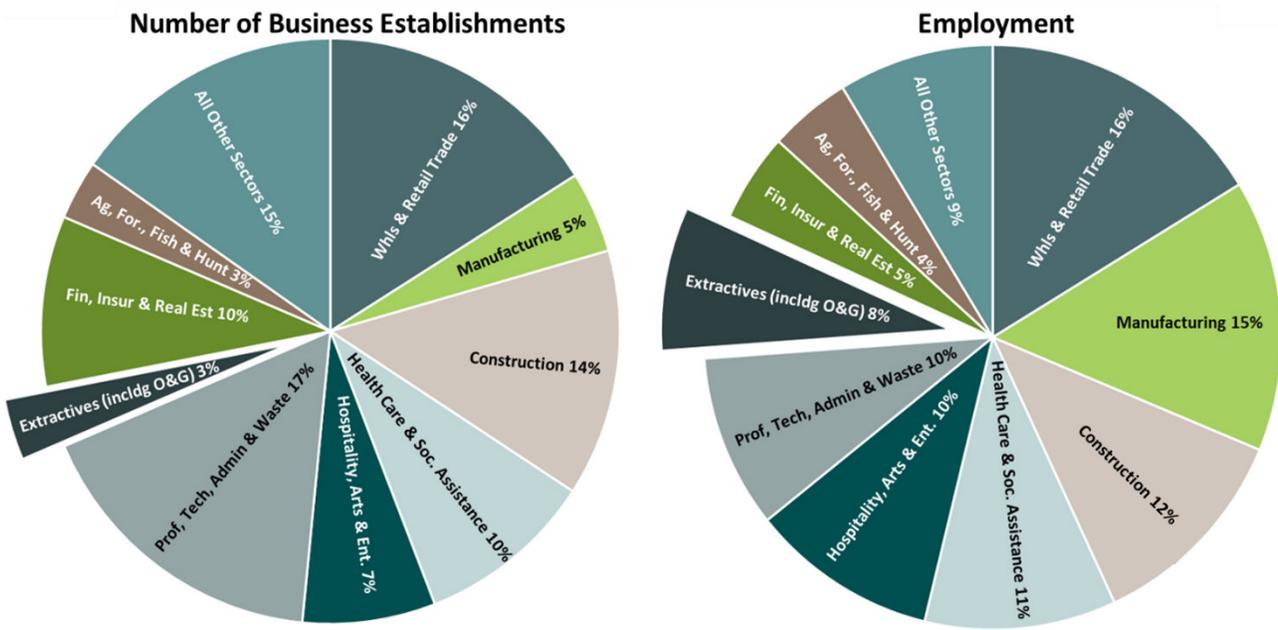


Figure 3: Weld County Business Establishments and Employment by Major Sector

Similarly, the number of reported business establishments reflects a balanced economy in Weld County. Notable in Figure 3 is an apparent concentration of large manufacturing facilities in the County, reflected by 5% of business establishments providing for 15% of the employment identified in the manufacturing sector.

¹¹ Bureau of Labor Statistics, “Quarterly Census of Employment and Wages,” U.S. Department of Labor [https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables (accessed 9/9/2018)] (“QCEW”).

Covered wage and salary employment¹² provided nearly \$4.3 billion in income from employment in Weld County in 2017. The Weld County employment and salary data are shown in Table 7, and includes information as to average annual wages paid in 2017 by each of the summary economic sectors.

Table 7: Weld County Employment and Wages, 2017

2017 Weld County Employment, Wage & Salary Data			
Industry Sector	Annual Establishments	Annual Average Employment	Annual Wages per Employee
Ag, Forestry, Fishing & Hunting	233	4,060	\$41,155
Extractive Industry (incl. O&G)	240	7,031	\$86,345
Utilities	27	366	\$94,929
Construction	968	10,424	\$59,066
Manufacturing	319	13,298	\$51,332
Wholesale & Retail Trade	1139	14,358	\$42,095
Transportation & Warehousing	377	3,479	\$59,195
Information	92	723	\$61,355
Finance, Insur & Real Estate	669	4,339	\$58,399
Prof, Tech, Admin & Waste Services	1,207	8,484	\$44,639
Educational services	77	590	\$27,201
Health Care & Social Assistance	703	9,462	\$46,528
Hospitality, Arts & Ent. Services	527	9,239	\$17,114
Other Services & Unclass, excpt. Public Admin	514	2,528	\$34,848
TOTALS	7,092	88,381	\$48,614

Specifically focusing on the development of the REP Gas Processing Plant in Pierce and Weld County, it is appropriate to take a deeper dive into the role of the oil and gas industry in the County in order to understand the economic implications of the specific development activities.

¹² Covered wage and salary employment refers to employment captures approximately 95% of U.S. jobs, but excludes self-employed agricultural workers. (QCEW).

Table 8 provides significant detail as to the specific oil and natural gas related operations in Weld County during 2017. This data looks more specifically at the sector’s activities, incorporating the primary oil and gas extraction sector (NAICS 21 —Mining, quarrying, and oil and gas extraction) with oil and gas related construction (NAICS 23712 — Oil and Gas Pipeline and Related Structures Construction), pipeline transportation (NAICS 486) and other related sectors. Thus, there are some additional activities reflected in the data presented in Table 8 which differ from data presented earlier.

Table 8: Weld County Oil and Gas Employment and Wages, 2017

2017 Oil and Gas Employment and Wages — Weld County, CO13					
Oil & Gas Related Business Establishments			Employment and Wages		
NAICS Sector Code	Description	Avg. # of Establishments	Avg. # of Employees	Total Annual Wages Paid	Avg. Annual Income per Job
2111	Oil and Gas Extraction	21	1,218	\$174,549,591	\$143,328
21311	Support Activities for Mining (O&G)	208	5,603	\$420,858,672	\$75,114
213111	Drilling Oil and Gas Wells	12*	w/hld	w/hld	w/hld
23712	Oil and Gas Pipeline and Related Structures Construction	19	1,274	\$89,706,933	70,437
32411	Petroleum Refineries	1	w/hld	w/hld	w/hld
333132	Oil and Gas Field Machinery and Equipment Manufacturing	2	w/hld	w/hld	w/hld
486	Pipeline Transportation	10	128	\$12,926,884	\$101,123
TOTAL O&G RELATED ACTIVITIES		261	8,223*	\$698,042,080	\$84,889

* Data related to Number of Establishments included to reflect activities in “Drilling for O&G Wells” sub-sector (2213111) of “Support Activities for O&G” (21311) even though employment and payroll data withheld for confidentiality reasons. Similarly, “Number of Establishments” reported for “Petroleum Refineries” (32411) and “Oil and Gas Field Mach. & Equip. Mfg.” (333132), but employment and payroll information withheld for confidentiality reasons.

Importantly, aside from providing more robust depiction of the oil and natural gas related activities, the sector can be seen in potentially its most important economic aspect in Table 9. In short, the oil and natural gas business activities provide wage rates that are

¹³ QCEW, (accessed September 13, 2018).

nearly 70% higher than average Weld County wages. This is an important economic consideration in the decisions related to annexation of the REP Gas Processing facility by the Town of Pierce.

Table 9: Weld County Oil and Gas Employment and Wages as a Percent of Total

2017 Oil and Gas Employment and Wages — Weld County, CO				
	Annual Establishments	Annual Average Employment	Total Annual Wages	Annual Wages per Employee
Total, All Industries	7,153	89,974	\$4,501,648,777	\$50,033
TOTAL O&G Related Activities	261	8,223	\$698,042,080	\$84,889
O&G as % of Weld County Total	3.6%	9.1%	15.5%	169.7%

Development of the REP Gas Processing Plant

The Wattenberg Field¹⁴ is a petroleum producing province located north of Denver, and encompasses a large portion of Weld County. Principally developed in the last three decades, there are now approximately 25,000 wells located in the area.¹⁵ As shown in Figure 4 below, the REP Gas Plant at Pierce would provide facilities in the Wattenberg Field where a gap currently exists in gas processing facilities serving the northern portion of the Weld County gas production field. The gas plant would serve an under-served market for processing and natural gas liquids extraction. Rimrock is proposing a plant location that will enhance economic capabilities of the area.

The economic activities in Pierce, as well as the interests of regional mineral rights owners, will benefit from this midstream development activity. Conversely, failure to plan for and engage private investment, which enhances the area’s mineral development

¹⁴ The Wattenberg Field as a portion of the Denver-Julesburg Basin — a 70,000 square mile hydrocarbon-rich area extending over northeast Colorado into southeast Wyoming and southwest Nebraska — in which more than 52,000 wells have been developed.

¹⁵ Colorado Oil and Gas Conservation Commission, <http://cogcc.state.co.us/#!/home> [accessed 9/15/2018].

would result in lost economic opportunities for the residents of the Town of Pierce and surrounding areas. Moreover, the development of a gas processing plant is largely consistent with the rapid development and expansion of the oil and natural gas industry in Weld County.

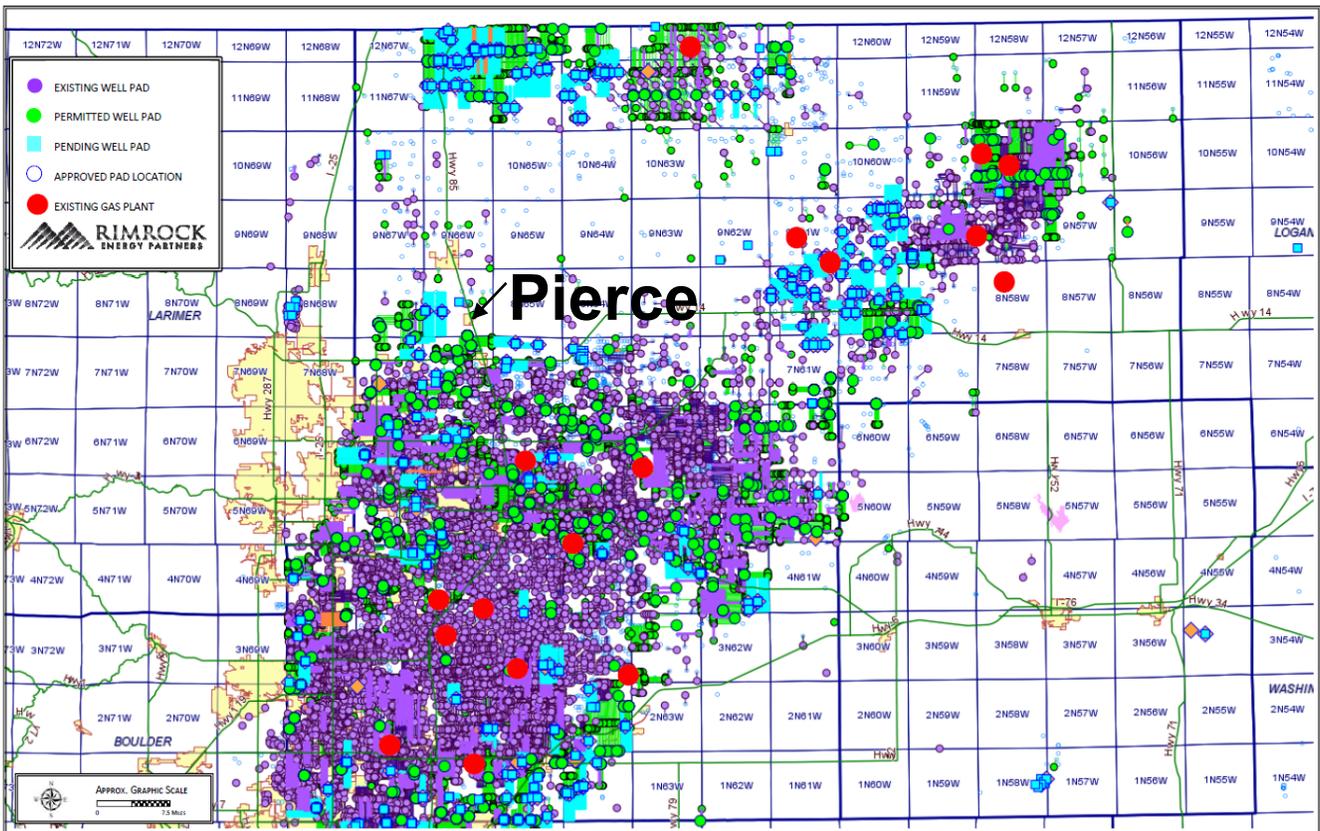


Figure 4: Wattenberg Field Map

Figure 5 illustrates the rapid development of oil and natural gas business activities in Weld County during the past two decades.¹⁶ This production development has significant impacts within the regional economy.

As with any new development, there will be direct and indirect impacts. In this report we focus on the specific economic impacts, acknowledging the *other social impacts* that will occur (e.g., increase traffic, additional costs for social services, visual impacts, etc.). Not

¹⁶ Data from Colorado Oil and Gas Conservation Commission, Colorado Department of Natural Resources, <https://cogcc.state.co.us/data.html#/?cogjis> [accessed 9/16/2018].

to be disregarded as “irrelevant,” these impacts must be evaluated external to the economic implications.¹⁷

Weld County, CO Oil and Natural Gas Sales -- 1998 through 2017

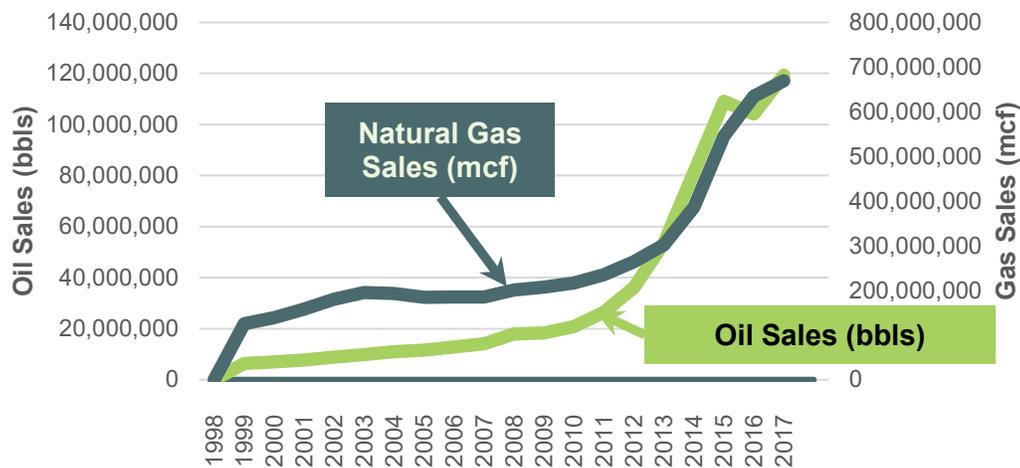


Figure 5: Weld County Oil and Natural Gas Sales

Similarly, some economic impacts may be notable, but are not properly included in an economic development assessment. By example, it is reported, in overview, that 8.9 billion cubic feet (“Bcf”) of gas was flared in Weld County in 2017, representing \$54 million in lost value and “waste” of enough gas to heat 45,000 homes annually.¹⁸ The REP Gas Plant will certainly contribute to a reduction in flaring, and this should be understood as an unquantified positive externality obtained from further development of the area’s resource production.

Description of the Facilities¹⁹

Weld County is a very active petroleum resource development area, and producers are applying latest drilling technologies to consistently improve well productivities. This

¹⁷ By example, a new hospital is a social “good” for the community, but may not be viewed as such if you live across the street from the facility.

¹⁸ Anne Best Johnson, “Tetra Tech Presentation to Town of Pierce, Board of Trustees,” August 27, 2018 (citing Colorado Oil and Gas Conservation Commission website).

¹⁹ Primary source for the following descriptions is provided by the briefings and presentation materials produced by Rimrock Energy Partners. Data and information has not been otherwise verified.

continuing development requires new pipelines and production infrastructure for further development of the resources. Importantly, total production is outpacing gas processing capacity, and the new capacity is necessary to effectively handle increased production volumes both today and in the future.

The REP Gas Plant²⁰ will employ a cryogenic processing technology with a 200 million cubic foot per day capacity. The plant process the raw gas into three products: residue gas, natural gas liquids and condensate oil.²¹ The plant will initially be connected to 36 miles of gas gathering pipeline from customers wells, residue gas will be transported one mile from the plant to the Colorado Interstate Gas pipeline facility for market distribution, and 21 miles of NGL pipeline will take the liquid products to Overland Pass Pipeline (for deliveries to Conway, KS). Expected in-service date is May 2019. The Gas Plant Project customers are anchored by Great Western Oil and Gas Company's production, and discussions are being held and finalized with as many as seven additional producers.

Additionally, the REP plant site will include related equipment and structures, metering equipment for the custody transfer of gas, natural gas liquids and condensate. These facilities will provide for transloading equipment and materials, a control room and shop, a construction lay-down yard, a northern Colorado regional office, and associated parking.

Tri-State Generation & Transmission is the wholesale provider of electric energy to Poudre Valley Rural Electric Association (PVREA), and will serve the REP Gas Processing Plant with the development of an electrical switch station on an approximately 5 acre parcel associated with the gas plant location.²² REP will provide the electrical substation for the gas plant facilities that will be connected to the Tri-State switch. The approximately 1.5 mile high-voltage transmission lines (i.e., two 115 kV

²⁰ The REP property proposed for annexation (by the Town of Pierce) consists of one parcel totaling approximately 638.6 acres.

²¹ Residue is the processed methane gas delivered to pipelines for residential and commercial service, natural gas liquids are heavier molecules such as propane and butane, and condensate is a natural gasoline liquid recovered and typically treated as oil. Recoveries for NGLs that the customer will own at various percentages

²² The proposed facilities are located east of and adjacent to Weld County Road 29 and north of Weld County Road 90 by approximately ½ mile in the northwest quarter of Section 21 of Township 8N Range 66W.

lines)²³ will be interconnected with the existing Western Area Power Administration's (WAPA) Archer - Ault 115kV line.

Gas Plant Facilities' Construction

Construction of the REP Gas Plant is anticipated to occur in ten-month window (currently scheduled for October 2018 to July 2019), with peak construction activities during a two-month period is (April – May 2019).²⁴ The majority of the construction will be provided by specialized contractors (many from firms that focus on gas plant facilities development), with more than one-fourth of the construction expenditures specifically directed to in-state firms (as is discussed in further detail below).

Beyond improvements to the roadways adjacent to the gas plant facilities, no additional infrastructure is required or proposed to provide municipal services within the area proposed to be included within the Town's boundaries as part of this annexation. To the extent any additional service provision occurs, such service can be accommodated within the Town's current or anticipated future budget. To summarize the proposed gas plant's impacts on public services:

- Water: North Weld County Water District will provide water service.
- Sanitary Sewer: Onsite (plant) septic system as sanitary sewer.
- Fire: The site is currently served by Nunn Fire Protection District.
- Police: Ault Police Department under contract with the Town of Pierce.
- Street Maintenance²⁵: Town of Pierce (WCR 90) and Weld County (WCR 29) (after construction by Plant to Town specifications and acceptance by the Board of Trustees).

Economic and Fiscal Impacts of REP Gas Plant

The direct economic and fiscal impacts will occur in both the period the plant is being constructed, and as a result of its continuing operation over (at least) a thirty-year expected life. The economic impacts include wages and salary employment (including benefits), and direct construction and operational expenditures with third-party Colorado vendors. Fiscal impacts relate to taxes and fees paid to local, county and state

²³ Side-by-side transmission lines located in a 200-foot right-of-way. The switch station will be monitored remotely during operation and would be visited one to three times per month for inspections, and as-needed for maintenance and repairs.

²⁴ Delay in the Town of Pierce's approval of the annexation application may shift this timeline, but will not materially impact the economic impacts analyses.

²⁵ On-site roads will be privately maintained.

governments during both the construction and operational phases of the project. We present these thirty-year impacts in terms of both nominal dollars, and as a discounted present value of those total expenditures and revenues.²⁶

Direct Employment Impacts

During the ten-month construction period there will be a ramp-up and ramp-down of personnel employed in the construction and commissioning of the gas plant. The employment data presented in below is normalized to annual full time equivalent jobs (e.g., mechanical fabrication crew of approximately 100 tradesmen, employed for 4 to 5 months are reflected as 37.5 FTEs (annual)). Construction period employment can be summarized as follows:

Table 10: Construction Phase Employment and Wages

Construction Phase Employment and Wages					
Function	Median Annual Wages*	Total FTEs (annual)	Total Wages	Local FTEs Employed	Total Local Wages
Site grading crew (earth work)	\$36,190	2.7	\$97,713	2.0	\$72,380
Civil and foundation crew	\$41,170	5.2	\$214,084	2.2	\$90,574
Mechanical fabrication crew	\$29,730	37.5	\$1,114,875	7.5	\$222,975
Construction management	\$91,460	8.3	\$759,118	2.0	\$182,920
Building crews	\$35,360	2.9	\$102,544	0.6	\$21,216
Paint crews	\$36,590	2.5	\$91,475	2.0	\$73,180
Installation crews	\$47,370	2.1	\$99,477	0.5	\$23,685
Total		61.2	\$2,479,286	16.8	\$686,930

Once the plant becomes operational it is anticipated that the activities will be continuous year-round with very stable employment requirements. The wages and salaries commanded by the plant personnel are substantially greater than average wage levels for residents of Pierce/Weld County and the non-energy related employment opportunities in Weld County. Although it is difficult to predict whether these employees will reside in Pierce, it is highly likely they will be permanent residents of Weld County

²⁶ The calculations are performed in 2018 nominal dollars, with no consideration of inflation over the thirty-years period of analysis. The use of 2018 price levels (i.e., nominal dollar assumption) eliminates speculation as to specific inflation, and impacts the (inflation-free) discount rate chosen for the present value analyses. For public entities (e.g., government) a discount rate of 5% per annum is commonly adopted in analyses of public benefits and costs.

and are treated in this analysis as all local FTE's. The following tables summarizes the anticipated employment associated with the operation of the REP Gas Plant.

Table 11: Operations Phase Annual Employment and Wages

Operations Phase Annual Employment and Wages			
	Estimated Annual Wage*	FTE's	Total W&S (including Benefits)
Pipeline Operators	\$86,000	2	\$215,000
Plant Operators	\$86,000	7	\$752,500
Plant Manager	\$150,000	1	\$187,500
I&E Tech	\$90,000	1	\$112,500
Mechanic	\$86,000	1	\$107,500
Safety Manager	\$120,000	1	\$150,000
Facility Engineer	\$120,000	1	\$150,000
Admin	\$45,000	1	\$56,250
Total		13	\$1,731,250

Direct Construction Expenditure Impacts

Construction expenditures are anticipated to occur in the first year as the plant is developed and commissioned. Although there will also be ongoing major maintenance expenses, under a conservative impacts analysis assumptions we have not attempted to estimate these additional expenditures.²⁷ The gas plant and pipeline construction expenditures are summarized in Table 12:

Table 12: Plant Construction Expenditures

	Total Expense	% Local Contractor Expense	Local Expenditures
Land	\$1,100,000	100%	\$1,100,000
Plant	\$100,138,000	40%	\$40,055,200
Pipeline	\$83,600,000	30%	\$25,080,000
Pipeline Interconnects	\$6,450,000	0%	\$0
Compression Facility	\$20,054,000	0%	\$0
TOTAL	\$211,342,000	38%	\$80,309,960

²⁷ It is also likely that there will be capital plant additions, but these too are not included in this impact analysis.

Direct Fiscal Impacts

There will be taxes and fees generated by the development and operation of the REP Gas Processing plant which will flow to the Town of Pierce, Weld County and the state of Colorado. In the following we will focus on the property tax implications of the development, and touch on other areas where government jurisdictions will receive fiscal benefits from the development of the gas plant.

The area to be annexed is included within the following special property tax districts:

- AIMS Junior College District
- High Plains Library District
- North Weld County Water District
- Northern Colorado Water District
- Nunn Fire Protection District
- Weld RE9 School District
- West Greeley Soil Conservation District

School District Impact: It is anticipated that the annexation will bring a benefit to the Weld RE9 School District due to the increase in valuation and change of zone from agricultural. As no residential development is planned or anticipated, the annexation will not contribute any students to the school system.

The Town's property tax base will substantially increase with REP's investment. The increased tax base will not only result in a windfall of property tax revenues for these districts, but may also lessen the future property tax burden on the other property owners within the Town of Pierce. The construction of the Plant has this potential to exert downward pressure on property tax burdens because it will increase the taxable value in the County, Town, school districts and special districts, which could lead to reduced mill rates for other property owners when those taxing authorities meet to set mill rates based on budgetary needs.

As summarized in Table 13, a thirty-year analysis of estimated property taxes collected is presented in the form of two scenarios: one in which the area encompassing the plant is annexed by the Town of Pierce, and the second in which the plant is built in the unincorporated area of the county. This analysis indicates that annexation of the project area will result in approximately \$3.65 million in additional property tax revenues.

Table 13: 30-Year Property Tax Analysis

Property Tax Impacts With Annexation		
Tax Authorities	Mill Levy	Tax \$
Aims Junior College	6.317	\$2,291,448
High Plains Library	3.256	\$1,181,091
Northern Colorado Water	1	\$362,743
Nunn Fire	3.806	\$1,380,600
Pierce Town	10.481	\$3,801,910
School Disat RE9-Ault	27.213	\$9,871,327
Weld County	15.8	\$5,731,340
Total	67.873	\$24,620,459

Property Tax Impacts Without Annexation		
Tax Authorities	Mill Levy	Tax \$
Aims Junior College	6.317	\$2,291,448
High plains Library	3.256	\$1,181,091
Northern Colorado Water	1	\$362,743
Nunn Fire	3.806	\$1,380,600
School Dist RE-9 Ault	27.213	\$9,871,327
Weld County	15.8	\$5,731,340
West Greeley Conservation	0.414	\$150,176
Total	57.806	\$20,968,725

Added property tax revenue due to annexation **\$3,651,734**

Additional direct fiscal impacts will be generated in the form of sales and use taxes on some components of the project. Other portions of the project will fall under exemptions from sales and use tax. For example, the State of Colorado exempts industrial utility usage²⁸ and machinery and machine tools used in manufacturing²⁹ from sales and use tax.

Sales and use tax impacts for the construction phase of the project are based on estimated costs associated with buildings, and a small percentage of costs estimated for

²⁸ Regulation 39-26-102.21, Code of Colorado Regulations

²⁹ Regulation 39-26-102.20, Code of Colorado Regulations

plant equipment and machinery³⁰. Of the \$100 million estimated cost of the plant, 10 percent is assumed to be taxable as construction materials, for a total of \$10 million in taxable expenditures and \$200 thousand in local sales and use taxes.

There will also be direct sales and use tax impacts generated throughout the operational life of the plant. Sales and use tax will apply to tangible personal property that is sold to a manufacturer for use as an aid in manufacturing, but is not physically incorporated into the manufactured product.

Table 14 summarizes the impacts of local sales and use tax for the construction and operations phases of the plant.

Table 14: Sales and Use Tax Impacts

Estimated Sales and Use Tax Impacts		
	Estimated Taxable Expenditures	Estimated Local Sales & Use Tax @ 2%
Construction Phase Totals	\$10,013,800	\$200,276
Operations Phase Annual Average	\$1,020,000	\$20,400

Indirect and Induced Economic Impacts

When economists discuss the benefits of the expansion of an economic activity, they also recognize that direct economic benefits create an indirect benefit associated with the additional economic activity from industries buying from other local business sectors. For example, the direct construction activities associated with the Projects will result in additional lodging and hospitality revenues for the local businesses hosting the out-of-area workers, and other indirect retail trade purchases as a result of increased disposable income in the economy. These are referred to as indirect impacts, or Type I economic multipliers. A further extension of the economic multiplier analysis takes into account the increased economic activities on the social “institutions” (i.e., households; state and local government; Federal government; and capital) that first obtain direct and indirect benefits, and then recognize that every dollar collected locally by that institution will be re-spent for that local institution’s operations. Including the induced effects in the economic multiplier analysis provides a “Type SAM” (Social Account Matrix) multiplier.

³⁰ While manufacturing machinery and tools are exempt from sales and use tax, as stated previously, it is expected that local taxing authorities will consider some of the property classified in this report as “Plant Equipment” to be a component of buildings, and not directly manufacturing related equipment. For this purpose, we are assuming 5% of “Plant Equipment” will be subject to sales and use tax.

Regional economic impact analyses have for decades relied on input-output summaries of economic activities, with most of these modeling efforts providing adaptations of national business sector outputs and inter-sector transactions to characterize the interaction of economic agents. The national models are then regionalized based on a variety of analytical methods. Both the US Department of Commerce³¹ and private firms provide information as to the economic multipliers for specific states or local regions.

For the purposes of this analysis there is reliance on IMPLAN Group model,³² a commonly utilized model, and on economic multipliers from a 2016 version of this model for Weld County, Colorado. Specific multipliers used depend on the character of the activity being performed. During the Development Period, it is appropriate to utilize a set of multipliers for the sector defined as “Construction of new manufacturing structures”, which provides a Type I (indirect) multiplier of 1.052585, and a Type SAM (indirect & induced) multiplier of 1.268111. During the operational life of the plant, a multiplier for the sector “Petroleum Refineries” is utilized, which provides a Type I (indirect) multiplier of 1.036412, and a Type SAM (indirect & induced) multiplier of 1.096890.

A summary of the total impacts, including indirect and induced impacts, during the development and Operational Phases are included in Table 14. These impacts are also presented in terms of Discounted Present Value (“DPV”) in order to reflect the time value of money. Operational period impacts are discounted at a rate of 5% per year.

Table 15: Summary Economic Impacts

Summary Direct, Indirect, & Induced Impacts									
	Local Construction Expenditures (\$millions)	Local Employment (Jobs)	Local W&S Expense (\$millions)	Land Purchases (\$millions)	Average Other Operating Costs (\$millions)	Fiscal Impacts (\$Millions)	Direct Economic Impacts (\$millions)	Direct & Indirect Economic Impacts (\$millions)	Direct, Indirect & Induced Economic Impacts (\$millions)
TOTAL ECONOMIC IMPACT	\$80.3	13	\$56.6	\$1.1	\$375.8	\$3.9	\$457.2	\$478.2	\$518.3
DPV OF IMPACTS (@ 5%)	\$80.3	n/a	\$30.9	\$1.1	\$189.7	\$2.3	\$271.1	\$284.0	\$312.7

³¹ US Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II) [see <https://www.bea.gov/regional/rims/index.cfm>].

³² Formerly MIG, Inc., since 2013 doing business as IMPLAN Group LLC [<http://www.implan.com/>].

Summary and Conclusions

The Town of Pierce must evaluate the annexation of the property upon which the REP Gas Processing Plant would be built and operated. The Town will certainly experience growth and expansion of economic activities related to the operation of the gas plant over the thirty- to fifty-year life of the plant, with those economic activities both directly tied to the plant activities, as well as indirect and induced economic activities that are fostered by the plant's operations.

We estimate these impacts as both economic impacts and fiscal impacts. Over the thirty-year life of the plant the regional economic impacts are anticipated to exceed \$518 million (nominally), and discounted to a present value impact are estimated to be more than \$312 million. Fiscal impacts are related to taxes, and if the REP Gas Plant is annexed into the Town of Pierce the increased property values are assessed to produce (nominally) an additional \$26.2 million in property tax receipts over the next thirty-years. Additional sales and use taxes are estimated to be about \$800 thousand, but this is somewhat speculative depending whether these activities occur within the incorporated area of Pierce or in the adjacent Weld County.

The economic and fiscal impacts estimated here are based on standard methods and techniques. There are additional impacts (e.g., congestion, environmental, social, etc.) that we do not quantify. These are generally described as both positive and negative externalities, but cannot be assessed in the economic analysis frameworks employed herein.