The Benefits of the Renewable Energy Industry in Eastern Colorado

Prepared for:

PROVIDING A VOICE FOR NORTHEAST COLORADO

PRO 15

ADAMS, ARAPAHOE, CHEYENNE, DOUGLAS, ELBERT, KIT CARSON, LARIMER, LINCOLN, LOGAN, MORGAN, PHILLIPS, SEDGWICK, WASHINGTON, WELD, YUMA

Prepared By:

Development Research Partners

Development Research Partners specializes in economic research and analysis for local and state government and private sector businesses. Founded in 1994, Development Research Partners combines extensive experience in real estate economics and economic development to provide clients with reliable consulting services in four areas of expertise:

- **Economic and Demographic Research**

  Research in support of business and community activities, ranging from community profiles to evaluating and forecasting economic and market conditions.

- **Industry Studies**

  Specialized research projects including industry cluster research, industry trends analysis, and strategic competitive analysis.

- **Fiscal and Economic Impact Analysis**

  Comprehensive analysis and analytical tools to evaluate and forecast site-specific activities and model public-private sector relationships.

- **Real Estate Economics**

  Preparation of strategic market data and analysis for prospective real estate development and public-private partnerships.

Development Research Partners

Patricia Silverstein, President & Chief Economist

David Hansen, Senior Economist

10184 West Belleview Avenue, Suite 100

Littleton, Colorado 80127

www.DevelopmentResearch.net

303.991.0070

PROVIDING A VOICE FOR NORTHEAST COLORADO

PRO 15

ADAMS ARAPAHOE CHEYENNE DOUGLAS ELBERT
KIT CARSON LARIMER LINCOLN LOGAN MORGAN
PHILLIPS SEDGWICK WASHINGTON WELD YUMA

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The renewable energy, or cleantech, industry has become an important part of the Colorado economy over the past 15 years. Colorado's eastern plains have significant resource potential, notably wind energy, and have attracted the vast majority of renewable energy investment activity in the state. As policymakers and energy companies have pursued renewable energy projects and clean technologies, the renewable energy industry has become increasingly important to the local economy in eastern Colorado. For this study, eastern Colorado consists of eastern Arapahoe County, and all of Bent, Elbert, El Paso, Kit Carson, Lincoln, Logan, Prowers, Pueblo, and Weld counties.

Cleantech includes companies developing and delivering products and technologies across solar, wind, biomass, and sustainable transportation sectors that improve operational performance, efficiency, or productivity, while reducing energy costs and energy consumption. As of 2015, Colorado's eastern plains were home to nearly 97 percent of the state's installed wind energy capacity, and the region has large wind turbine manufacturing facilities and many other industries dependent on the renewable energy industry. Cleantech employs 4,250 workers in eastern Colorado and brings millions of dollars in investment to the region. Wind farms provide a steady property tax base for local governments, schools, and tax districts in eastern Colorado that support public services for workers and residents.

Additionally, renewable energy has a significant economic impact in Colorado. The renewable energy industry supports a larger part of the state economy than just the initial dollars spent on investment and operations. Renewable energy facilities provide a primary source of employment for local workers. These workers support employment in others sectors of the community as they spend money on goods and services. Renewable energy facilities require a variety of support services from many local businesses that further bolsters the economic benefits. Therefore, multiplier analysis is used to trace the impacts on businesses, organizations, and individuals affected by construction activity and on-going business operations.

This study profiles the renewable energy industry in eastern Colorado, and measures the economic benefits the industry provides in terms of construction, investment, employment, business activity, and property tax revenue.

Cleantech Employment in Eastern Colorado

- Eastern Colorado counties had 4,250 workers in more than 220 cleantech business establishments in 2015.
- Wind energy equipment manufacturing represents nearly 70 percent of the renewable energy employment in eastern Colorado, with about 2,960 workers. Vestas is the major wind equipment manufacturing employer.
- There are about 680 professional and technical services jobs in the cleantech industry in eastern Colorado, including environmental and scientific consulting services and research and testing laboratories.
- Wind operations and maintenance requires an estimated 160 workers in eastern Colorado, creating a long-term, well-paid employment base.

Cleantech businesses employed 4,250 workers in eastern Colorado in 2015

Wind and Solar Energy Facilities in Eastern Colorado

- Eastern Colorado will have an estimated 3,062 megawatts (MW) of installed renewable energy capacity in 16 facilities by the end of 2016.
- Since 2007, installed wind capacity in Colorado has grown nearly two and one-half times from 1,067 MW to 2,593 MW in 2015. These projects brought hundreds of millions of dollars of investment to the state as well as employment, property tax, and support for local farms and landowners.
- The largest share of eastern Colorado's wind energy capacity, 31 percent, is located in Logan County. Lincoln County (26 percent), Weld County (21 percent), and Kit Carson County (8 percent) round out the top four locations.

16 renewable energy facilities in eastern Colorado provided about $7.2 million in property tax and $7.5 million in landowner lease payments

- In 2016, 156 MW of solar is expected to come online just south of Pueblo, representing the largest utility scale solar project in the state.
- Renewable energy facilities will contribute an estimated $7.2 million in property tax revenue to counties, school districts, and other special districts such as libraries, fire districts, and health districts throughout eastern Colorado for tax year 2016.
- Landowners in eastern Colorado benefited from an estimated $7.5 million in lease payments related to wind farms in 2014.

Economic Benefits of Constructing Renewable Energy Facilities in Eastern Colorado

An estimated $5.4 billion in construction and investment in renewable energy facilities has occurred in eastern Colorado from 2000 to 2016. Of this amount, an estimated $1.3 billion was spent in Colorado on wind and solar equipment, construction materials, soft costs, and compensation for local labor. This spending directly supported a total of 2,595 workers, consisting of 1,434 construction workers and 1,161 manufacturing jobs, representing an average of 153 workers per year over the 17-year period.

Total Economic Benefit of Eastern Colorado Renewable Energy Facility Investment in Colorado, 2000-2016

	Direct Impact	Multiplier	Indirect & Induced Impact	Total Impact
Construction Activity				
Value of Output ($M)	$934.5	2.1900	$1,112.1	$2,046.6
Earnings ($M)	$92.5	1.7093	$65.6	$158.1
Employment	1,434	1.9289	1,332	2,766
Manufacturing				
Value of Output ($M)	$329.4	1.8692	$286.3	$615.7
Earnings ($M)	$61.7	2.3420	$82.8	$144.5
Employment	1,161	2.7159	1,992	3,153
Total Economic Benefit				
Value of Output ($M)	$1,263.9		$1,398.4	$2,662.3
Earnings ($M)	$154.2		$148.4	$302.6
Employment	2,595		3,324	5,919

Source: Development Research Partners, based on multipliers for Colorado from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2007 U.S. Benchmark I-O Data and 2013 Regional Data.
Calculation Note: Direct x Multiplier = Total Impact
Total Impact - Direct Impact = Indirect & Induced Impact
Numbers may not add exactly due to rounding.

The total direct and indirect economic benefit of constructing renewable energy facilities in eastern Colorado from 2000 to 2016 was an estimated $2.7 billion in total output produced by 5,919 employees, or 348 workers per year.

- Based on the industry relationships revealed through the RIMS II multipliers from the U.S. Bureau of Economic Analysis for industries in Colorado that were impacted by the construction and investment activity, the $1.3 billion in direct construction and turbine manufacturing spending in the state likely supported $1.4 billion in additional output in all industries throughout the state. The production of this additional output required about 3,324 workers, referred to as the indirect workers, with estimated earnings of about $148.4 million.
- The total direct and indirect economic benefit of construction and investment activity in

renewable energy facilities in eastern Colorado from 2000 to 2016 was an estimated $2.7 billion in total output produced by 5,919 employees earning a total of about $302.6 million during the construction period. In other words, the construction of and investment in renewable energy facilities in eastern Colorado supported an average of 348 workers per year from 2000 to 2016 throughout the state.

- The construction benefits are temporary, occurring only during the construction period.

Economic Benefits of Operating Renewable Energy Facilities in Eastern Colorado

The economic benefits of the renewable energy operations are derived from sales of energy, which in turn funds business purchases such as equipment, parts, operational materials, leases, tax, and labor. Based on estimates from the National Renewable Energy Laboratory's Jobs and Economic Development Impact (JEDI) model, operating costs for the renewable energy facilities in eastern Colorado totaled about $76.3 million in 2016 and the facilities employed about 187 workers. Of this amount, an estimated $34.2 million will likely be spent within the state. It is primarily this direct spending in the state that creates the spin-off effects of the energy facilities.

The 2016 total direct and indirect economic benefit of operating eastern Colorado's renewable energy facilities is an estimated $138.7 million in total output produced by 960 employees earning a total of $27.1 million.

- Based on the industry relationships revealed through the RIMS II multipliers from the U.S. Bureau of Economic Analysis for the electric power generation, transmission, and distribution industry in Colorado, the direct economic benefit of eastern Colorado's renewable energy facility operations likely will support $62.4 million in additional output in all industries throughout the state in 2016, requiring an estimated 773 workers, referred to as the indirect workers.

- The total direct and indirect benefit of annual operations of eastern Colorado's renewable energy facilities is an estimated $138.7 million in total output produced by 960 employees earning a total of $27.1 million.

Total Economic Benefit of Annual Operations of Eastern Colorado Based Renewable Energy Facilities in Colorado, 2016

	Direct Impact	Multiplier	Indirect & Induced Impact	Total Impact
Operations and Maintenance				
Value of Output ($M)	$76.3	1.8174	$62.4	$138.7
Earnings ($M)	$10.6	2.5605	$16.5	$27.1
Employment	187	5.1336	773	960

INTRODUCTION

The renewable energy industry, also referred to as cleantech, is important to the economic base of Colorado's eastern plains communities. According to the industry definition commonly used by the economic development community in Colorado, cleantech includes companies developing and delivering products and technologies across solar, wind, biomass, and sustainable transportation sectors that improve operational performance, efficiency, or productivity, while reducing energy costs and energy consumption. As of 2015, Colorado's eastern plains were home to nearly 97 percent of the state's installed wind energy capacity, and the region has large wind turbine manufacturing facilities and many other industries dependent on the renewable energy industry. Cleantech employs several thousand workers in eastern Colorado and brings millions of dollars in investment to the region. Wind farms provide a steady property tax base for local governments, schools, and tax districts in eastern Colorado that support public services for workers and residents.

The intent of this study is to profile the renewable energy industry in eastern Colorado, and measure the economic benefits the industry provides in terms of construction, investment, employment, and business activity. Additionally, this study catalogues the benefit of the industry's property taxes to the region.

GEOGRAPHIC DEFINITION

This report summarizes the impact of the renewable energy assets and employment in eastern Colorado. For the purposes of the report, eastern Colorado is defined as those counties with utility scale renewable energy facilities. This consists of eastern Arapahoe County, and all of Bent, Elbert, El Paso, Kit Carson, Lincoln, Logan, Prowers, Pueblo, and Weld counties. These counties are not contiguous, but combined represent the vast majority of the eastern region's cleantech employment and renewable energy facilities.

METHODOLOGY

Employment Estimates

This report utilizes a variety of data sources and methods to estimate the benefits of renewable energy in eastern Colorado. Estimates of employment in eastern Colorado were developed using an industry cluster approach. Industry clusters are geographic concentrations of interconnected companies and institutions in a particular field. Industry clusters may consist of industries that share the same or similar workforce, factors of production, or infrastructure. Clusters may also be defined by the production of similar outputs, complementary outputs, or other interdependent relations. Ideally, clusters also include the institutions and professional organizations that provide research assistance and support to the industry cluster.

This study is based on the definition of the cleantech industry cluster developed for the Metro Denver Economic Development Corporation by Development Research Partners (DRP). It consists of 29, six-digit North American Industry Classification System (NAICS) codes. These codes are used in conjunction with Dun & Bradstreet's (D&B) Hoovers database and Market Analysis Profile to establish baseline employment by county. DRP uses this database along with Quarterly Census of Employment and Wages (QCEW) data from the U.S. Department of Labor, Bureau of Labor Statistics and primary data research to arrive at final employment estimates.

Economic Benefits

Economic impact analysis is the analytical approach used to assess the measurable direct and indirect benefits resulting from a project over a specific period. Only those benefits that can be measured or quantified are included. Intangible benefits, such as enhancement of community character or diversification of the job base, are not included. Further, economic impact analysis highlights that activity which occurs within a specified geographic area. This analysis estimates the benefits of eastern Colorado's renewable energy facilities to Colorado.

The spending patterns associated with investment and business operations have spin-off effects or multiplicative impacts in the state. Therefore, multiplier analysis is used to trace the impacts on businesses, organizations, and individuals affected by construction activity and on-going business operations.

The multiplicative impacts are discussed in terms of "indirect" and "induced" economic benefits (often collectively referred to as simply indirect benefits). For example, when a firm operating and maintaining a renewable energy facility purchases supplies from a local vendor, that local vendor provides payroll to its employees and makes purchases from other vendors. These other vendors in turn provide payroll to their employees and make purchases from other vendors and so on, providing the indirect benefit of the initial dollar spent. On a separate but similar spending track, when employees that operate and maintain a renewable energy facility spend their paychecks at local businesses, these local businesses provide payroll to their employees, make purchases from other vendors, and so on, creating the induced benefit.

As a result, the initial dollars spent for construction, capital investment, business purchases, and employee compensation will be circulated throughout the local economy a number of times. The number of times that the initial dollars are circulated throughout the local economy may be estimated using economic multipliers. An economic multiplier summarizes the total impact that can be expected within a specific geographic area due to a given industry's level of business activity. Generally, larger multipliers are associated with industries that (1) spend more dollars locally, (2) pay high salaries, and/or (3) sell their goods and services outside of the local area.

Direct economic benefits for the renewable energy facilities in eastern Colorado were derived from the Jobs and Economic Development Impact (JEDI) model for both construction and operations. JEDI was developed by the National Renewable Energy Laboratory (NREL). The indirect and induced jobs and income flows generated by the direct local spending patterns are estimated using the Regional Input-Output Modeling System II (RIMS II) multipliers developed by the Bureau of Economic Analysis of the U.S. Department of Commerce. The RIMS II multipliers are the most widely used and respected for economic impact analysis. These multipliers are geographic and industry specific, and are used to estimate the total benefits of a project.

Three types of economic benefits are derived from the RIMS II multipliers. First, the direct and indirect impact of the renewable energy facilities on the gross output of the region is estimated. This is the total value produced by local firms and residents resulting from the value of the output produced by an industry directly. Gross output consists of the value of both intermediate goods and final products, so this is a larger value than gross domestic product (GDP). Second, the total direct and indirect employment needed in the region to produce this level of output is determined. These employees may be full-time or part-time, local or non-local workers. Further, the indirect employment supported might represent fractions of jobs, added to reflect whole positions. Third, the analysis presents an estimate for the typical direct and indirect earnings associated with this level of production.

Project Parameters and Study Variables

Development Research Partners utilized several sources of data for this report including company announcements, Colorado Division of Property Taxation, Colorado Department of Labor and Employment, local assessor's offices, Dun & Bradstreet, the National Renewable Energy Laboratory, and the U.S. Bureau of Economic Analysis. Development Research Partners made every attempt to collect the necessary information and believe the information used in this report is from sources deemed reliable but is not guaranteed.

Some numbers in the study may not add exactly due to rounding. This analysis estimates the economic and fiscal benefits in nominal dollars.

REPORT ORGANIZATION

This study involves three tasks. The first task is to estimate cleantech employment and businesses in eastern Colorado. These companies include energy producers as well as manufacturers, research and consulting companies, and environmental and renewable energy regulatory agency employment. The second task is a description and catalogue of the wind and solar facilities producing renewable energy in eastern Colorado. Since

2000, Colorado's utilities have invested heavily in renewable sources of energy, notably wind. Since 2007, installed wind capacity has grown nearly two and one-half times from 1,067 megawatts (MW) to 2,593 MW in 2015. These projects brought hundreds of millions of dollars of investment to the state as well as employment, property tax, and support for local farms and landowners. The last task of the study is to estimate the economic benefits initial investment in renewable energy facilities brought to eastern Colorado, and to estimate the on-going annual benefits the facilities provide to the local economy. The study is followed by two appendices detailing the property tax revenue benefits of the renewable energy facilities to the individual taxing districts by county.

Eastern Colorado counties had 4,250 workers in more than 220 cleantech business establishments in 2015. Eastern Colorado is home to nearly all of the state's wind energy generation facilities and benefits from employment associated with wind farm operations and maintenance. Not surprisingly, wind jobs comprise the majority of the renewable and cleantech employment base in eastern Colorado's counties.

Wind energy equipment manufacturing represents nearly 70 percent of the renewable energy employment in eastern Colorado. Vestas Wind Systems is a major employer in both Weld and Pueblo counties. The second largest category of cleantech employment in eastern Colorado is professional and technical services, consisting of environmental and scientific consulting services and research and testing laboratories. El Paso, Weld, and Pueblo counties attract most of these jobs. Over 60 percent of the environmental and scientific consulting services jobs are located in El Paso County, while the rest are generally in Weld and Pueblo counties. Nearly 80 percent of the region's research and testing laboratories employment is also located in El Paso County.

As more solar facilities are built in the region, employment in solar industries will continue to grow in eastern Colorado. Solar jobs, ranging from installation and manufacturing to operations and equipment sales, comprise an estimated 2 percent of the cleantech employment base in eastern Colorado. Most of the region's solar facilities and solar maintenance jobs are located in Pueblo County. The San Luis Valley region of Colorado, located in the south central part of the state, is where most of the state's solar facilities are located. This region is not included in this study.

Weld County is home to an electric car manufacturer, which represents the region's green transportation employment base. Other jobs in eastern Colorado's cleantech industry include energy storage and measuring equipment manufacturing (about 2 percent) and other energy generation, distribution, and regulation systems employment (about 0.1 percent).

Table 1: Eastern Colorado
Cleantech Employment by Category, 2015

Industry Group	Establishments	Employment
Wind Manufacturing	5	2,958
Wind Operations & Maintenance*	10	158
Solar Installation	14	42
Solar Manufacturing	1	3
Solar Operations & Maintenance*	2	29
Solar Equipment Sales	5	16
Energy Storage & Measuring Equipment Mfg.	7	77
Green Transportation	2	58
Energy Generation, Distribution, & Regulation Systems	2	5
Research & Testing Laboratories	41	331
Environmental & Scientific Consulting Services	123	352
Regulation, Planning, & Conservation	12	223
Total	224	4,252

Sources: D&B Hoovers, Market Analysis Profile; Development Research Partners; NREL, JEDI Model.

**Wind and solar O&M include estimates for installed capacity as of 2016.*

Eastern Colorado Cleantech Employment by Category, 2015

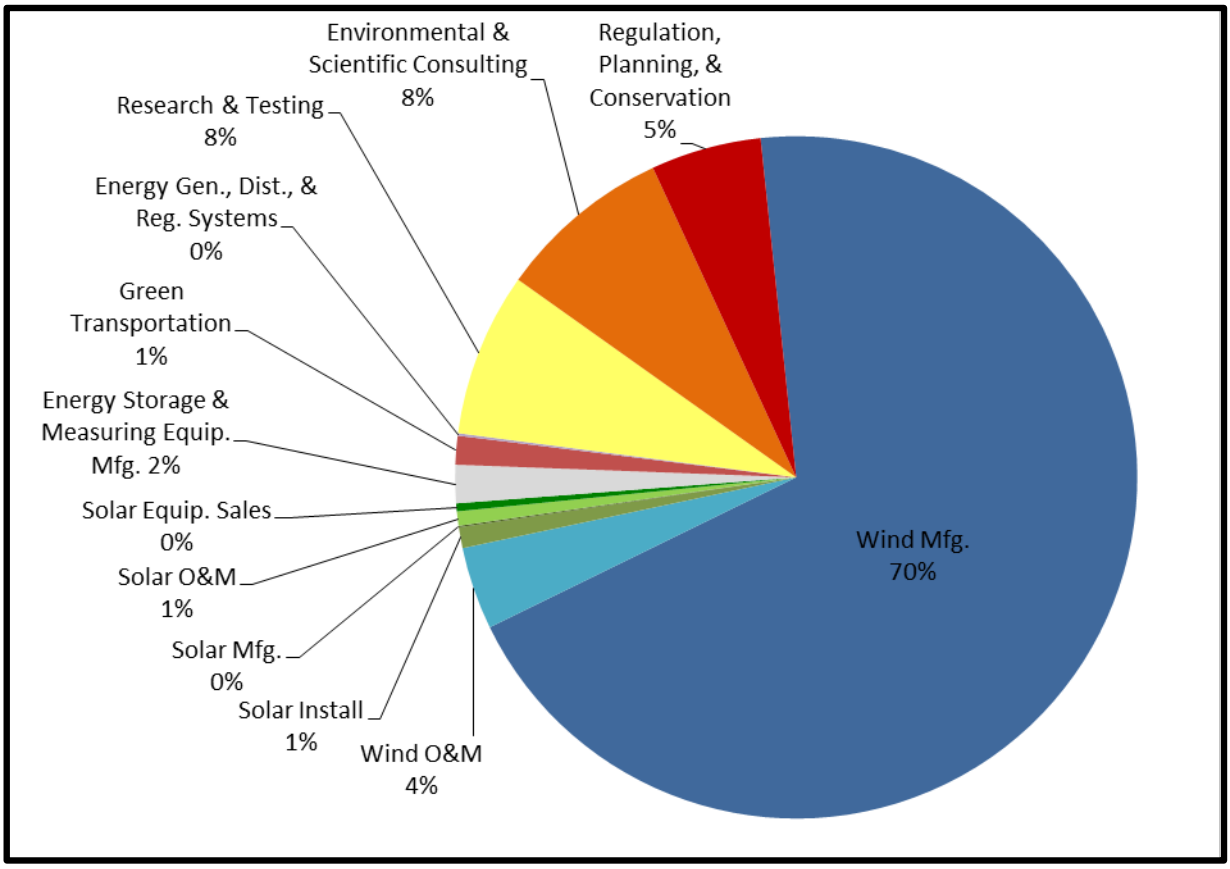


Table 2: Eastern Colorado Cleantech Employment by County, 2015

County	Establishments	Employment
Arapahoe	0	0
Bent	1	3
Elbert	1	1
El Paso	133	736
Kit Carson	3	13
Lincoln	2	40
Logan	8	55
Prowers	1	8
Pueblo	22	702
Weld	53	2,694
Total	224	4,252

Sources: D&B Hoovers, Market Analysis Profile; Development Research Partners; NREL, JEDI Model.

Note: includes wind and solar O&M establishment and employment estimates for installed capacity as of 2016.

WIND AND SOLAR PROJECTS

The first wind project to come online in eastern Colorado was the Ridge Crest wind farm in 2000, developed by Terra-Gen. Ridge Crest had a nameplate capacity of 30 MW and its power was purchased under a long-term agreement with Xcel Energy. As Colorado adopted a renewable energy portfolio standard and encouraged renewable development in the state with tax credits and incentives, wind and solar development quickly increased throughout the decade. Nearly 52 percent of the installed wind capacity in eastern Colorado came online from 2007 to 2011.

Solar development in Colorado has been located mostly in the San Luis Valley region of the state. However, in 2016, 156 MW of solar is expected to come online just south of Pueblo, representing the largest utility scale solar project in the state. The project, owned by SunEdison, will sell power to Xcel Energy. As of 2014, solar comprised only 1 percent of the installed electric capacity in Colorado. However, the share is expected to increase as transmission infrastructure is extended in the state and more projects come online.

The largest share of eastern Colorado's wind energy, 31 percent, is located in Logan County. Lincoln County (26 percent), Weld County (21 percent), and Kit Carson County (8 percent) round out the top four locations. Wind owners and developers often register the wind farms as limited-liability companies (LLC). Eastern Colorado's wind generating facilities are subsidiaries of companies that include Alliance Power, BP Energy, Duke Energy, GE Energy, Iberdrola, Invenergy, NextEra Energy, and Terra-Gen. Many of these companies own and operate the wind facilities. Some of them employ third-party companies to oversee operations and maintenance.

Table 3: Eastern Colorado Renewable Energy Generation Facilities, 2016

Project	Source	Owner	County	Nameplate Capacity	Est. Initial Investment ($M)	Date Online
Ridge Crest	Wind	Ridge Crest Wind Partners, LLC	Logan	30	$38.7	2000
Colorado Green Wind	Wind	Colorado Green Holdings, LLC	Prowers	162	$174.3	2004
Peetz Wind Farm	Wind	Peetz Table Wind Energy, LLC	Logan	200	$337.0	2007
Logan Wind Energy	Wind	Logan Wind Energy, LLC	Logan	201	$339.5	2007
Twin Buttes Wind	Wind	Twin Buttes Wind, LLC	Bent	75	$126.8	2007
Northern Colorado Wind Energy	Wind	Northern Colorado Wind Energy, LLC	Logan	174	$355.4	2009
CSU Pueblo Solar Farm	Solar	CSU	Pueblo	1	$7.1	2009
Kit Carson Wind	Wind	Kit Carson Wind Power, LLC	Kit Carson	51	$104.3	2010
Cedar Creek	Wind	CCWE Holdings, LLC / Cedar Creek II, LLC	Weld	551	$1,125.4	2007-2010
Cedar Point	Wind	Cedar Point Wind, LLC	Lincoln/Elbert/Arapahoe	250	$437.5	2011
Colorado Highlands Wind	Wind	Colorado Highlands Wind, LLC	Logan	91	$159.3	2012-2013
Spring Canyon Wind	Wind	Spring Canyon Energy / Spring Canyon Expansion, LLC	Logan	120	$206.6	2006-2014
Limon Wind I, II, & III	Wind	Limon Wind, LLC / Limon Wind II, LLC / Limon Wind III, LLC	Lincoln/Elbert/Arapahoe	601	$1,051.8	2012-2014
Golden West Wind	Wind	Golden West Power Partners, LLC	El Paso	249	$400.0	2015
Carousel Wind Power	Wind	Carousel Wind Farm, LLC	Kit Carson	150	$240.0	2016
Comanche Solar	Solar	SunEdison	Pueblo	156	$253.0	2016
Total				**3,062**	**$5,356.7**	

Sources: Colorado Division of Property Taxation; Development Research Partners; NREL, JEDI Model.

PROPERTY TAX

Renewable energy projects will contribute an estimated $7.2 million in property tax revenue to districts throughout eastern Colorado for tax year 2016. District benefits include $3.3 million for county governments, nearly $3.1 million for eastern Colorado school districts, and about $821,000 for other special districts such as county health districts, libraries, fire departments, and conservation districts. Detailed lists of taxing districts that receive property tax revenue from renewable energy facilities in eastern Colorado are in the appendices. Property tax revenue generated from renewable energy facilities supports public and governmental services for eastern Colorado residents and employees.

Table 4: Property Tax Revenue by County and District for Renewable Energy Facilities in Eastern Colorado, 2016

	County	County Health	School Districts	Library Districts	Other Special Districts	Total
Arapahoe	$8,700	NA	$20,300	$3,700	$8,200	$40,900
Bent	$143,300	NA	$117,900	NA	$21,400	$282,600
Elbert	$143,800	NA	$159,000	$12,900	$16,300	$332,000
El Paso	NA	NA	$202,300	$28,800	$45,300	$276,400
Kit Carson	$340,100	$26,900	$242,300	NA	$23,600	$632,900
Lincoln	$864,800	NA	$801,800	NA	$67,300	$1,733,900
Logan	$1,088,500	NA	$1,089,800	NA	$196,300	$2,374,600
Prowers	$216,000	$21,200	$155,800	NA	$200	$393,200
Pueblo	$55,800	NA	$64,100	$9,600	$51,300	$180,800
Weld	$403,800	NA	$223,000	$84,500	$203,400	$914,700
Total	$3,264,800	$48,100	$3,076,300	$139,500	$633,300	$7,162,000

Source: Colorado Division of Property Taxation; County assessor's offices. Projections for projects coming online in 2015 and 2016 estimated using Colorado's 2016 Renewable Energy Tax Factor Template and third-party sources for estimating capacity factors, escalation, and expected sales price of energy.

AVERAGE LEASE PAYMENTS

While the wind and solar equipment typically is owned by an energy company or an energy provider, the land upon which the facilities are located is often leased from a farm or ranch property owner. According to the latest data from the American Wind Energy Association (AWEA) for Colorado, estimated landowner payments for wind farms in the state totaled about $7.8 million in 2014. Based on the amount of installed capacity in Colorado in 2014, about 96 percent of the state's wind was in eastern Colorado. Assuming the location of the state's wind projects represented the distribution of landowner payments, landowners in eastern Colorado benefited from an estimated $7.5 million in lease payments in 2014.

Comparable information for solar facilities is not available.

In addition to the direct benefits of cleantech employment, property tax revenue, and landowner lease payments, the spending patterns associated with investment in and operation of renewable energy facilities have spin-off effects or multiplicative impacts in the state. Therefore, economic multiplier analysis is used to trace the impacts on businesses, organizations, and individuals affected by construction activity and on-going business operations.

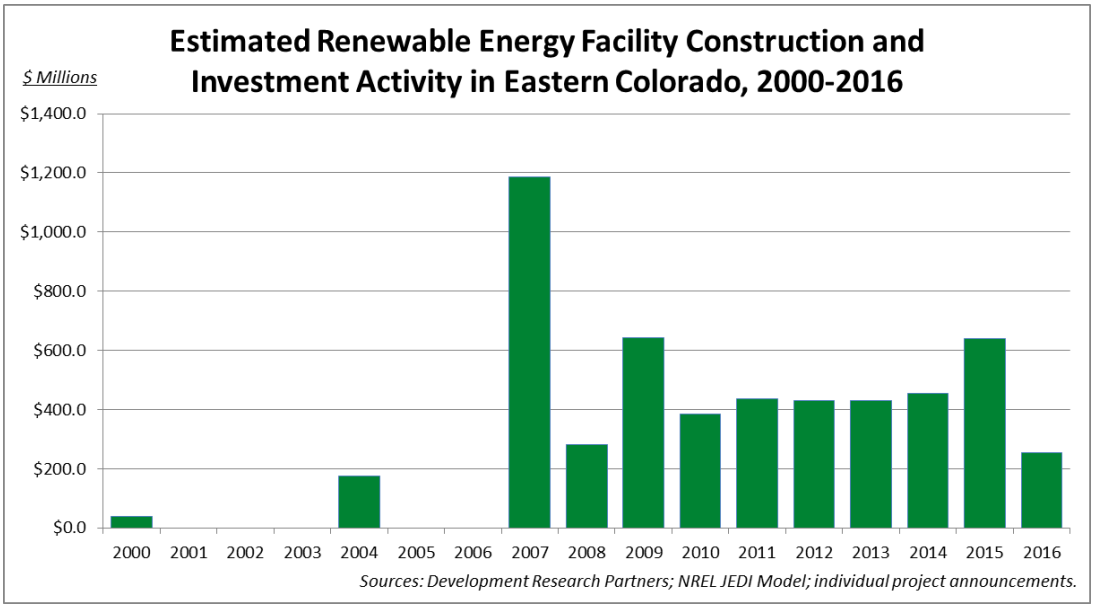
As described in the Introduction, the multiplier impacts are discussed in terms of "indirect" and "induced" impacts. When a renewable energy facility purchases supplies from a local vendor, that local vendor in turn provides payroll to its employees and makes purchases from other vendors. These other vendors in turn provide payroll to their employees, and so on, providing the indirect impact of the facility.

On a separate but similar spending track, when an employee associated with the facility spends their paycheck at local businesses, these local businesses provide payroll to their employees, make purchases from other vendors and so on, creating the induced impact of the energy facility. In this manner, the initial dollars spent by the energy facility on either purchases or payroll are circulated throughout the economy a number of times. The number of times that the initial dollar is circulated throughout the economy is estimated using economic multipliers. The RIMS II multipliers used in this analysis combine both the indirect and induced impacts; the two tracks of impacts are not separated.

ECONOMIC BENEFITS OF CONSTRUCTION AND INVESTMENT

Direct Economic Benefits

The first utility scale wind facility in eastern Colorado came online in 2000, the Ridge Crest wind farm in Logan County. Since then, there will be a projected $5.4 billion in construction and investment in renewable energy facilities in eastern Colorado through 2016. Wind facilities represent about 95 percent of the estimated investment, with 5 percent comprised of solar energy facilities. Construction and investment activities benefit the state of Colorado as developers and contractors hire labor, purchase construction materials and equipment, and invest in infrastructure. Construction benefits are temporary, occurring only during the construction period.



- The majority of the cost of renewable energy projects is for the energy generating equipment including panels, towers, turbines, and nacelles. About 73 percent, or $3.9 billion of the $5.4 billion in total investment activity from 2000 to 2016, was for purchases of generating equipment based on estimates derived from NREL's JEDI model for wind and solar projects. Most of the wind turbines and solar equipment installed in

eastern Colorado were manufactured by companies located outside of the state. These purchases do not represent a direct economic benefit to the state. However, the Cedar Point wind farm reportedly installed Vestas wind turbines manufactured in Colorado, boosting state and local employment. The estimated direct benefit to Colorado of wind turbine capital investment was an estimated $329.4 million.

- The majority of the local impact of renewable energy facility investments is for basic construction materials and labor for site preparation, concrete, roads, solar panel structures, and specialty contractors involved in electrical work and transmission lines. In addition, local companies involved in design, project management, planning, and other costs boost the direct economic benefit to Colorado. Based on local spending estimates from NREL's JEDI model, the direct economic benefit to Colorado from 2000 to 2016 for purchases of construction materials, design, engineering, and other soft costs was $842 million. The remaining $425.9 million of the nearly $1.3 billion spent on construction materials and soft costs was purchased out of state.
- An estimated 2,080 construction workers, measured in worker-years,[1] earning $163.4 million in wages and employee benefits were employed at renewable energy projects from 2000 to 2016, or an average of 122 construction workers per year. Of the construction labor, about 70 percent were estimated to be workers from Colorado. The remaining workers likely traveled to the state from locations outside of Colorado. Based on estimates of local labor from NREL's JEDI model, and the direct benefit of employee benefits in the state,[2] the direct economic benefit to Colorado from 2000 to 2016 of labor for renewable energy construction was an estimated $92.5 million for 1,434 construction worker-years.
- The total direct economic benefit of construction and investment in eastern Colorado renewable energy facilities in Colorado from 2000 to 2016 was an estimated $1.3 billion including wind and solar equipment, construction materials, soft costs, and compensation for local labor.

Table 5: Direct Economic Benefit of Eastern Colorado Renewable Energy Facility Investment in Colorado, 2000 to 2016

	Total	Estimated Colorado
Direct Economic Benefits ($ in millions)		
Construction Benefits		
Wind and Solar Major Equipment	$3,925.4	$329.4
Construction Materials	$836.5	$667.4
Design, Engineering, Planning, Other Costs	$431.4	$174.6
Wages and Salaries	$118.4	$81.6
Employee Benefits*	$45.0	$10.9
Total Construction Benefits	**$5,356.7**	**$1,263.9**
Construction Employees (Work-Years)	2,080	1,434

**Direct benefit estimated for Colorado includes adjustment for the percent of employee benefits likely spent locally.*

Direct, Indirect, and Induced Economic Benefits

- Based on the industry relationships revealed through the RIMS II multipliers for industries in Colorado that were impacted by the construction and investment activity, $1.3 billion in direct construction and turbine manufacturing spending in the state likely supported $1.4 billion in additional output in all industries

[1] A worker year is defined as one person working full time for one year.

[2] The direct economic benefit of wages and salaries and employee benefits is adjusted to estimate the direct economic benefit of earnings in the state. Earnings impacts are based on the portion of total compensation (including wages, salaries, and benefits) that is likely to be spent locally and includes wages and salaries, paid leave, and supplemental pay. Some insurance benefits are also included. Earnings were estimated based on data from the U.S. Bureau of Labor Statistics, National Compensation Survey.

throughout the state. This includes the value of the local spending by the construction workers and manufacturing employees (the induced impact) and of the local supplier companies and their employees (the indirect impact).

- The production of the $1.4 billion in additional output in all industries throughout the state likely required about 3,324 worker-years, referred to as the indirect workers. These workers had estimated earnings of about $148.4 million (the indirect earnings).
- Therefore, the total direct and indirect economic benefit of construction and investment activity in renewable energy facilities in eastern Colorado from 2000 to 2016 was an estimated $2.7 billion in total output ($1.3 billion direct output + $1.4 billion indirect and induced output) produced by 5,919 worker-years (2,595 direct employees + 3,324 indirect employees) earning a total of about $302.6 million ($154.2 million direct earnings + $148.4 indirect earnings) during the construction period. In other words, the construction of and investment in renewable energy facilities in eastern Colorado supported an average of 348 workers per year from 2000 to 2016 throughout the state.

Table 6: Total Economic Benefit of Eastern Colorado Renewable Energy Facility Investment in Colorado, 2000-2016

	Direct Impact	Multiplier	Indirect & Induced Impact	Total Impact
Construction Activity				
Value of Output ($M)	$934.5	2.1900	$1,112.1	$2,046.6
Earnings ($M)	$92.5	1.7093	$65.6	$158.1
Employment	1,434	1.9289	1,332	2,766
Manufacturing				
Value of Output ($M)	$329.4	1.8692	$286.3	$615.7
Earnings ($M)	$61.7	2.3420	$82.8	$144.5
Employment	1,161	2.7159	1,992	3,153
Total Economic Benefit				
Value of Output ($M)	$1,263.9		$1,398.4	$2,662.3
Earnings ($M)	$154.2		$148.4	$302.6
Employment	2,595		3,324	5,919

Source: Development Research Partners, based on multipliers for Colorado from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2007 U.S. Benchmark I-O Data and 2013 Regional Data.
Calculation Note: Direct x Multiplier = Total Impact
Total Impact - Direct Impact = Indirect & Induced Impact
Numbers may not add exactly due to rounding.

ECONOMIC BENEFITS OF OPERATIONS, 2016

Direct Economic Benefits

The economic benefits of the renewable energy operations are derived from sales of energy, which in turn funds business purchases such as equipment, parts, operational materials, leases, tax, and labor. The economic benefits in 2016 for eastern Colorado's renewable energy facilities operations are estimated as follows:

- Based on estimates from NREL's JEDI model, spending on materials and services to support eastern Colorado's renewable energy facilities will total a projected $48.6 million in 2016. Based on local spending estimates in the model, spending in Colorado will be a projected $8.9 million.

- Based on the most recent data and estimates for lease payments for eastern Colorado's renewable projects, the projected direct economic benefit in 2016 is $7.5 million.
- Based on property tax records, state assessments, and estimated taxes for facilities coming online in 2015 and 2016, the direct economic benefit of property tax in Colorado in 2016 is projected to be $7.2 million for all taxing entities.
- Based on estimates from NREL's JEDI model, eastern Colorado's renewable energy projects require about 187 employees to operate and maintain the facilities. All of the labor is expected to be local, with wages, salaries, and employee benefits totaling $13 million. Based on wages estimated through the JEDI model, and the portion of employee benefits likely to be spent locally, the direct economic benefit of employee earnings in Colorado in 2016 will be a projected $10.6 million.
- Combined, the direct economic benefit in 2016 of eastern Colorado's wind and solar facility operations is a projected $76.3 million including purchases of materials and services, landowner payments, property tax, and compensation for labor. Of this amount, an estimated $34.2 million will likely be spent within the state. It is primarily this direct spending in the state that creates the spin-off effects of the energy facilities.

Table 7: Direct Economic Benefit of Annual Operations of Eastern Colorado Renewable Energy Facilities in Colorado, 2016

	Total Operations	Estimated Colorado
Direct Economic Benefits		
Operations Benefits		
Materials and Services	$48.6	$8.9
Landowner Payments	$7.5	$7.5
Property Tax	$7.2	$7.2
Wages and Salaries	$9.4	$9.4
Employee Benefits*	$3.6	$1.2
Total Operations Benefits	**$76.3**	**$34.2**
Employees (FTE)	187	187

**Direct benefit estimated for Colorado includes adjustment for the percent of employee benefits likely spent locally.*

Direct, Indirect, and Induced Economic Benefits

- Based on the industry relationships revealed through the RIMS II multipliers for the electric power generation, transmission, and distribution industry in Colorado, the direct economic benefit of eastern Colorado's renewable energy facility operations likely will support $62.4 million in additional output in all industries throughout the state in 2016. This includes the value of the local spending by the employees (the induced impact) and of the local supplier companies and their employees (the indirect impact).
- The production of the $62.4 million in additional output in all industries throughout the state will require an estimated 773 workers, referred to as the indirect workers. These workers will have estimated earnings of $16.5 million (the indirect earnings).
- Therefore, the total direct and indirect economic benefit of operating eastern Colorado's renewable energy facilities is an estimated $138.7 million in total output ($76.3 million direct output + $62.4 million indirect and induced output) produced by 960 employees (187 direct employees + 773 indirect employees) earning a total of $27.1 million ($10.6 million direct earnings + $16.5 million indirect earnings).

Table 8: Total Economic Benefit of Annual Operations of Eastern Colorado Based Renewable Energy Facilities in Colorado, 2016

	Direct Impact	Multiplier	Indirect & Induced Impact	Total Impact
Operations and Maintenance				
Value of Output ($M)	$76.3	1.8174	$62.4	$138.7
Earnings ($M)	$10.6	2.5605	$16.5	$27.1
Employment	187	5.1336	773	960

Source: Development Research Partners, based on multipliers for Colorado from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2007 U.S. Benchmark I-O Data and 2013 Regional Data.
Calculation Note: Direct x Multiplier = Total Impact
Total Impact - Direct Impact = Indirect & Induced Impact
Numbers may not add exactly due to rounding.

APPENDIX A: PROPERTY TAX REVENUE BY PROJECT

Property Tax Revenue by Project, County, and Detailed District for Renewable Energy Facilities in Eastern Colorado, 2016

Project	County	District	2015 Mill Levy	Estimated Tax
Carousel Wind[1]	Kit Carson	Kit Carson	37.967	$217,600
Carousel Wind[1]	Kit Carson	Kit Carson County Health	3.000	$17,200
Carousel Wind[1]	Kit Carson	Burlington RE-6J	27.395	$157,000
Carousel Wind[1]	Kit Carson	Fairview Cemetary	0.570	$3,300
Carousel Wind[1]	Kit Carson	Burlington FPD	2.066	$11,800
Cedar Creek I	Weld	Weld	15.800	$259,300
Cedar Creek I	Weld	High Plains Library	3.308	$54,300
Cedar Creek I	Weld	Pawnee Fire District	1.500	$22,900
Cedar Creek I	Weld	Raymer-Stoneham Fire	2.588	$3,000
Cedar Creek I	Weld	West Greeley Conservation	0.426	$900
Cedar Creek I	Weld	Aims Junior College	6.325	$103,800
Cedar Creek I	Weld	RE12 School District	8.495	$136,400
Cedar Creek I	Weld	RE11J School District	5.846	$6,800
Cedar Creek II	Weld	Weld	15.800	$144,500
Cedar Creek II	Weld	High Plains Library	3.308	$30,300
Cedar Creek II	Weld	Pawnee Fire District	1.500	$12,800
Cedar Creek II	Weld	Raymer-Stoneham Fire	2.588	$1,700
Cedar Creek II	Weld	West Greeley Conservation	0.426	$500
Cedar Creek II	Weld	Aims Junior College	6.325	$57,800
Cedar Creek II	Weld	RE12 School District	8.495	$76,000
Cedar Creek II	Weld	RE11J School District	5.846	$3,800
Cedar Point	Arapahoe	Arapahoe	13.856	$6,200
Cedar Point	Arapahoe	Arapahoe County Library	5.916	$2,600
Cedar Point	Arapahoe	Developmentally Disabled	1.000	$400
Cedar Point	Arapahoe	Arapahoe County LEA	4.982	$2,200
Cedar Point	Arapahoe	Deer Trail FPD	7.032	$3,100
Cedar Point	Arapahoe	North Kiowa Bijou Water	0.027	$0
Cedar Point	Arapahoe	Bennett School District	32.387	$14,500
Cedar Point	Elbert	Elbert	28.056	$95,800
Cedar Point	Elbert	Elbert County Library	2.516	$8,600
Cedar Point	Elbert	Limon Area FPD	3.000	$10,200
Cedar Point	Elbert	Upper Big Sandy Water	0.532	$400
Cedar Point	Elbert	Limon RE4B School District	31.023	$105,900
Cedar Point	Lincoln	Lincoln	30.920	$306,000
Cedar Point	Lincoln	Limon FPD	3.000	$29,700
Cedar Point	Lincoln	Upper Big Sandy	0.532	$400
Cedar Point	Lincoln	Genoa Cemetary	0.168	$500
Cedar Point	Lincoln	Arikaree Water	0.184	$800
Cedar Point	Lincoln	Limon RE-4J	31.023	$307,000

APPENDIX A: PROPERTY TAX REVENUE BY PROJECT

Project	County	District	2015 Mill Levy	Estimated Tax
Colorado Highlands Wind	Logan	Logan	29.963	$147,400
Colorado Highlands Wind	Logan	Haxton Fire Protection District	3.404	$16,700
Colorado Highlands Wind	Logan	Haxton Soil Conservation	0.500	$2,500
Colorado Highlands Wind	Logan	Conservancy	0.886	$4,400
Colorado Highlands Wind	Logan	Frenchman RE-3 School District	31.518	$155,000
Colorado Green Wind	Prowers	Prowers	27.170	$216,000
Colorado Green Wind	Prowers	Prowers-Baca Hospital District	2.671	$21,200
Colorado Green Wind	Prowers	SE Colorado Water Conservancy	0.941	$0
Colorado Green Wind	Prowers	Lower Arkansas Valley Water	1.503	$200
Colorado Green Wind	Prowers	RE-2 LAM	19.598	$155,800
Comanche Solar[2]	Pueblo	Pueblo	30.710	$55,800
Comanche Solar[2]	Pueblo	School District 60 General and Bond	35.234	$64,100
Comanche Solar[2]	Pueblo	Regional Library	5.255	$9,600
Comanche Solar[2]	Pueblo	Pueblo Rural FPD	23.280	$42,300
Comanche Solar[2]	Pueblo	SE Colorado Water Conservancy	0.941	$1,700
Comanche Solar[2]	Pueblo	Lower Ark Valley Water Conservancy	1.503	$2,700
Comanche Solar[2]	Pueblo	Pueblo RF Station Bond	2.503	$4,600
Golden West Wind[1]	El Paso	RJ-1 Calhan	27.091	$202,300
Golden West Wind[1]	El Paso	Calhan	6.061	$45,300
Golden West Wind[1]	El Paso	Pikes Peak Library	3.857	$28,800
Kit Carson Wind	Kit Carson	Kit Carson	37.967	$122,400
Kit Carson Wind	Kit Carson	Kit Carson County Health	3.000	$9,700
Kit Carson Wind	Kit Carson	Burlington FPD	2.066	$6,700
Kit Carson Wind	Kit Carson	Fairview Cemetary	0.570	$1,800
Kit Carson Wind	Kit Carson	Bethune R-5 School	22.188	$13,200
Kit Carson Wind	Kit Carson	Burlington RE-6J	27.395	$72,100
Limon Wind I	Arapahoe	Arapahoe	13.856	$2,500
Limon Wind I	Arapahoe	Arapahoe County Library	5.916	$1,100
Limon Wind I	Arapahoe	Developmentally Disabled	1.000	$200
Limon Wind I	Arapahoe	Arapahoe County LEA	4.982	$900
Limon Wind I	Arapahoe	Deer Trail FPD	7.032	$1,300
Limon Wind I	Arapahoe	North Kiowa Bijou Water	0.027	$0
Limon Wind I	Arapahoe	Bennett School District	32.387	$5,800
Limon Wind I	Elbert	Elbert	28.056	$48,000
Limon Wind I	Elbert	Elbert County Library	2.516	$4,300
Limon Wind I	Elbert	Limon Area FPD	3.000	$5,100
Limon Wind I	Elbert	Upper Big Sandy Water	0.532	$500
Limon Wind I	Elbert	Limon RE4B School District	31.023	$53,100

APPENDIX A: PROPERTY TAX REVENUE BY PROJECT

Project	County	District	2015 Mill Levy	Estimated Tax
Limon Wind I	Lincoln	Lincoln	30.920	$219,600
Limon Wind I	Lincoln	Genoa Cemetary	0.168	$600
Limon Wind I	Lincoln	Limon FPD	3.000	$17,600
Limon Wind I	Lincoln	Arikaree Water	0.184	$1,300
Limon Wind I	Lincoln	G/H School	21.380	$26,300
Limon Wind I	Lincoln	Limon RE-4J	31.023	$182,200
Limon Wind II	Lincoln	Lincoln	30.920	$257,300
Limon Wind II	Lincoln	Genoa Cemetary	0.168	$900
Limon Wind II	Lincoln	Limon FPD	3.000	$13,200
Limon Wind II	Lincoln	Arikaree Water	0.184	$200
Limon Wind II	Lincoln	G/H School	21.380	$84,000
Limon Wind II	Lincoln	Limon RE-4J	31.023	$136,300
Limon Wind III	Lincoln	Lincoln	30.920	$82,000
Limon Wind III	Lincoln	Genoa Cemetary	0.168	$300
Limon Wind III	Lincoln	Arriba Cementary	0.323	$200
Limon Wind III	Lincoln	Northeast FPD	1.486	$1,000
Limon Wind III	Lincoln	Arikaree Water	0.184	$500
Limon Wind III	Lincoln	G/H School	21.380	$41,800
Limon Wind III	Lincoln	A/F School	34.864	$24,300
Logan Wind Energy	Logan	Logan	29.963	$270,500
Logan Wind Energy	Logan	Peetz Fire Protection District	3.488	$31,500
Logan Wind Energy	Logan	Conservancy	0.886	$8,000
Logan Wind Energy	Logan	Plateau RE-5 School District	26.295	$237,300
Northern Colorado Wind Energy	Logan	Logan	29.963	$234,500
Northern Colorado Wind Energy	Logan	Crook Fire Protection District	8.000	$62,600
Northern Colorado Wind Energy	Logan	Conservancy	0.886	$6,900
Northern Colorado Wind Energy	Logan	Frenchman RE-3 School District	40.212	$314,800
Peetz Wind Farm	Logan	Logan	29.963	$268,200
Peetz Wind Farm	Logan	Peetz Fire Protection District	3.488	$31,200
Peetz Wind Farm	Logan	Conservancy	0.886	$7,900
Peetz Wind Farm	Logan	Plateau RE-5 School District	26.295	$235,400
Ridge Crest	Logan	Logan	29.963	$42,800
Ridge Crest	Logan	Peetz Fire Protection District	3.488	$5,000
Ridge Crest	Logan	Conservancy	0.886	$1,300
Ridge Crest	Logan	Plateau RE-5 School District	26.295	$37,600
Spring Canyon Wind	Logan	Logan	29.963	$125,000
Spring Canyon Wind	Logan	Peetz Fire Protection District	3.488	$14,600
Spring Canyon Wind	Logan	Conservancy	0.886	$3,700
Spring Canyon Wind	Logan	Plateau RE-5 School District	26.295	$109,700

APPENDIX A: PROPERTY TAX REVENUE BY PROJECT

Project	County	District	2015 Mill Levy	Estimated Tax
Twin Buttes Wind	Bent	Bent	30.233	$143,300
Twin Buttes Wind	Bent	Bent County/Las Animas Cemetary	3.000	$14,200
Twin Buttes Wind	Bent	Lower Arkansas Valley Water Conservancy	1.503	$7,100
Twin Buttes Wind	Bent	RE-2 School District	24.868	$117,900
Total				$7,161,700

[1] Estimates for projects completed in late 2015 derived from Colorado's 2016 renewable template for estimating property taxes for qualified state assessed renewables and likely tax districts affected by location of the projects. Actual values and taxes will change based on final state assessment and county designations of tax districts.

[2] Project projected to be completed in 2016. Figures represent projections of tax based on assumption project is completed with 156 MW nameplate capacity. Projections developed using Colorado's renewable template for estimating property taxes for qualified state assessed renewables and likely tax districts affected by location of the projects. Actual values and taxes will change based on final state assessment and county designation of tax districts.

Sources: Local county assessor's offices; Colorado Division of Property Taxation.

APPENDIX B: PROPERTY TAX REVENUE BY COUNTY

Property Tax Revenue by County and Tax District
for Renewable Energy Facilities in Eastern Colorado, 2016

County	District	2015 Mill Levy	Estimated Tax
Arapahoe	Arapahoe County	13.856	$8,700
Arapahoe	Arapahoe County LEA	4.982	$3,100
Arapahoe	Arapahoe County Library	5.916	$3,700
Arapahoe	Bennett School District	32.387	$20,300
Arapahoe	Deer Trail FPD	7.032	$4,400
Arapahoe	Developmentally Disabled	1.000	$600
Bent	Bent County	30.233	$143,300
Bent	Bent County/Las Animas Cemetary	3.000	$14,200
Bent	Lower Arkansas Valley Water Conservancy	1.503	$7,100
Bent	RE-2 School District	24.868	$117,900
El Paso	Calhan FPD	6.061	$45,300
El Paso	Pikes Peak Library	3.857	$28,800
El Paso	RJ-1 Calhan	27.091	$202,300
Elbert	Elbert County	28.056	$143,800
Elbert	Elbert County Library	2.516	$12,900
Elbert	Limon Area FPD	3.000	$15,300
Elbert	Limon RE4B School District	31.023	$159,000
Elbert	Upper Big Sandy Water	0.532	$900
Kit Carson	Bethune R-5 School	22.188	$13,200
Kit Carson	Burlington FPD	2.066	$18,500
Kit Carson	Burlington RE-6J	27.395	$229,100
Kit Carson	Fairview Cemetary	0.570	$5,100
Kit Carson	Kit Carson County	37.967	$340,000
Kit Carson	Kit Carson County Health	3.000	$26,900
Lincoln	A/F School	34.864	$24,300
Lincoln	Arikaree Water	0.184	$2,800
Lincoln	Arriba Cementary	0.323	$200
Lincoln	G/H School	21.380	$152,100
Lincoln	Genoa Cemetary	0.168	$2,300
Lincoln	Limon FPD	3.000	$60,500
Lincoln	Limon RE-4J	31.023	$625,500
Lincoln	Lincoln County	30.920	$864,900
Lincoln	Northeast FPD	1.486	$1,000
Lincoln	Upper Big Sandy	0.532	$400

APPENDIX B: PROPERTY TAX REVENUE BY COUNTY

County	District	2015 Mill Levy	Estimated Tax
Logan	Conservancy	0.886	$32,200
Logan	Crook Fire Protection District	8.000	$62,600
Logan	Frenchman RE-3 School District	31.518	$469,800
Logan	Haxton Fire Protection District	3.404	$16,700
Logan	Haxton Soil Conservation	0.500	$2,500
Logan	Logan County	29.963	$1,088,400
Logan	Peetz Fire Protection District	3.488	$82,300
Logan	Plateau RE-5 School District	26.295	$620,000
Prowers	Lower Arkansas Valley Water	1.503	$200
Prowers	Prowers County	27.170	$216,000
Prowers	Prowers-Baca Hospital District	2.671	$21,200
Prowers	RE-2 LAM	19.598	$155,800
Pueblo	Lower Ark Valley Water Conservancy	1.503	$2,700
Pueblo	Pueblo County	30.710	$55,800
Pueblo	Pueblo RF Station Bond	2.503	$4,600
Pueblo	Pueblo Rural FPD	23.280	$42,300
Pueblo	Regional Library	5.255	$9,600
Pueblo	School District 60 General and Bond	35.234	$64,100
Pueblo	SE Colorado Water Conservancy	0.941	$1,700
Weld	Aims Junior College	6.325	$161,600
Weld	High Plains Library	3.308	$84,600
Weld	Pawnee Fire District	1.500	$35,700
Weld	Raymer-Stoneham Fire	2.588	$4,700
Weld	RE11J School District	5.846	$10,600
Weld	RE12 School District	8.495	$212,400
Weld	Weld County	15.800	$403,800
Weld	West Greeley Conservation	0.426	$1,400
Total			$7,161,700

Note: Estimates for projects completed in late 2015 and 2016 derived from Colorado's 2016 renewable template for estimating property taxes for qualified state assessed renewables and likely tax districts affected by location of the projects. Actual values and taxes will change based on final state assessment and county designations of tax districts.

Sources: Local county assessor's offices; Colorado Division of Property Taxation.

PROVIDING A VOICE FOR NORTHEAST COLORADO

PRO 15

ADAMS ARAPAHOE CHEYENNE DOUGLAS ELBERT
KIT CARSON LARIMER LINCOLN LOGAN MORGAN
PHILLIPS SEDGWICK WASHINGTON WELD YUMA

Progressive 15
629 Warner Street Fort Morgan, CO 80701 970-867-9167

Chairman, Barry Gore, Adams County ED, Adams County
Vice Chair, Tammy Berbee, Viaero Wireless, Morgan County
Secretary, Josh Liss, Intermountain REA, Douglas County
Treasurer, Nancy Berges, Highline Electric, Phillips County
Past Chair, David Foy, Washington County Commissioner
Gerry Horak, City Of Fort Collins, Larimer County
Randy Grauberger, PB, Weld County
Chuck Rech, C.W. Rech & Co, Arapahoe County
Trae Miller, Logan County ED Logan County
Mike Sullivan, Sedgwick County ED, Sedgwick County
Darlene Carpio, Yuma County ED, Yuma County
Paula Weeks, Kit Carson County Admin, Kit Carson County
Del Beattie, Town of Limon, Lincoln County
Cathy Shull, Executive Director, Ex-Offcio

Development Research Partners

10184 West Belleview Avenue
Suite 100
Littleton, Colorado 80127
www.DevelopmentResearch.net
303.991.0070