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## INTRODUCTION & PROJECT OVERVIEW

#### Introduction

The development of wind generation facilities in Curry County was originally contemplated by several of the region's landowners more than a decade ago, and has gone through a series of scope and ownership changes prior to the initial development of the Broadview Projects' generation facilities by Pattern Renewables Development Company LLC ("Pattern Development") beginning in 2016.<sup>1</sup>

The landowners had recognized the untapped economic potential for wind development, and anticipated the benefits that it could bring to their communities. These grassroots efforts, in part, are an important foundation for the regional community that expresses broad support for these development activities. Our analyses attempt to summarize the actual economic benefits realized by these landowners and the regional communities.

Pattern Development initially retained Moss Adams LLP to provide an economic and fiscal impact report ("2015 Report") in support of the Application to the New Mexico Public Regulation Commission ("NMPRC") for the Grady Wind Energy Center LLC project, which is comprised of the individual project components. The submission of the 2015 Report's<sup>2</sup> findings were provided in support of the authorization for siting the project.<sup>3</sup>

Then previous and current analyses were performed using data provided by Pattern Development, and supplemented by publicly available data and information. The 2015 Report relied on the best available projections of project costs, employment levels, and other factors. We applied common economic techniques to estimate the impacts of the projects. The Report provided here builds on the previous investigation, but is now able to rely on actual data reflecting development cost, contracting, employment and other development activities. The findings contained herein — among other insights — provide a means to test the accuracy of the initial findings and opinions expressed in the 2015 Report.

<sup>&#</sup>x27;The Broadview Projects are comprised of the Broadview Energy JN project ("BEJN"), the Broadview Energy KW project ("BEKW"), and the Western Interconnect project ("WI") and have been developed jointly with the Western Interconnect transmission project ("WI") currently in operations, as well as the Grady Wind Energy Center ("Grady Wind") currently under construction. The Broadview Projects and Grady Wind have been developed by Pattern Development. The landowners organized and planned the development, going so far as to construct the first test turbines. The original development rights were initially sold to BayWa r.e. Wind, LLC (a German-owned business), and eventually to Pattern Development (in 2015).

<sup>&</sup>lt;sup>2</sup>John C. Tysseling, "Report on the Economic and Fiscal Impacts of the Broadview Projects, Curry County, New Mexico," Moss Adams LLP (Albuquerque), December 11, 2015. ("2015 Report")

<sup>&</sup>lt;sup>3</sup>The Grady Wind Energy Center component of the Broadview Wind Projects filed its Application in 2015 under Section 62-9-3 NMSA 1978 (Supp.2005), which provides the NMPRC jurisdiction with respect to siting of power plants (greater than 300 megawatts ("MW")) and transmission lines pursuant to NMPRC Rule 592 (17.9.592 NMAC). In NMPRC Case No. 15-00373-UT, Dr. Tysseling filed testimony in support of the Application based on the 2015 Report, and on April 13, 2016 the NMPRC issued its order approving the Grady Wind Center siting location. The original report satisfied the citing and approval requirements for the project, including the Western Interconnect transmission portion of the Broadview Projects.

### Current Project Status

The comprehensive project is now partially completed, with the remaining component, Grady Wind, still in the construction phases. Pattern Development has again contracted with Moss Adams LLP to take the additional step of performing a retrospective analysis of the economic and fiscal impacts (to date), and provide an update to those findings incorporating the remaining development activities. To that end, Pattern Development has provided actual construction phase expenditure data for the completed portions of the projects, as well as updated estimates for the remaining construction activity, and operations and maintenance costs. Pattern Development has also provided information regarding positive impacts to the local communities that we had not considered in our original report. These impacts are detailed in a later section.

In short, this Report will serve three main purposes:

- To test the veracity of the construction period impact estimates for the portions of the project already completed with actual expenditure data, where available:
- To ensure the operations period impact estimates remain consistent with updated ("best available") information; and
- 3. To confirm the (conservative) approach adopted in the 2015 Report's analyses, including the ability to provide reliable fiscal and economic impact forecasts with the best available information in the development stages of a project, when acompared with actual expenditures.

## **Broadview Projects**

The Broadview Projects' facilities straddle state lines with facilities in both Curry County, New Mexico and Deaf Smith County, Texas.

The existing Broadview Wind Projects — consisting of 105 Siemens turbines in New Mexico and 36 in in Texas with a generating capacity of 324 MW — are connected to the newly constructed 345 kV Western Interconnect transmission line (35 miles), which terminates with connection to PNM's Blackwater substation for interstate transmission. These facilities deliver renewable energy to California customers under long-term Power Purchase Agreements ("PPA"). The existing Western Interconnection facility reached commercial operations in March 2017.

Construction on the Grady Wind component began in the second quarter of 2018, and will add 221 MW to the Broadview Wind Projects' generation capacity when completed in the second half of 2019. The addition of 84 wind turbines will bring the total to 225 turbines in the combined project area (189 located in New Mexico). Total Broadview Projects capacity is nearly 550 MW, with transmission capacity rights to deliver this energy into the Western Grid and serve long-term PPA obligations.

### **Project Overview**

The Broadview Wind Projects<sup>4</sup> encompass four basic components: the Grady Wind project, the Broadview Energy JN project ("BEJN"); and the Broadview Energy KW project ("BEKW"), and the Western Interconnect transmission line ("WI") delivering renewable energy from these facilities at PNM's Blackwater substation. These facilities allow interstate transmission of the energy through the Four Corners trading hub to the California utilities that have executed PPAs for the Broadview Projects' production.

Because the Grady Wind portion of the project is currently under construction at the time of this

reporting, we will rely extensively on the portions of the project that are already in commercial operation: that is, BEJN, BEKW, and WI to validate our prior analyses and update anticipated economic and fiscal impacts for the comprehensive Broadview Projects.

The completed, operating facilities will be examined with respect to the measureable economic and fiscal impacts. Comparing the observed impacts with the estimates of the impacts assessed in the 2015 Report, this Report will update and confirm projections with respect to the entire project including forecasted operational impacts.



PATTERN ENERGY BECAME PART OF THE COMMUNITY BY BUILDING RELATIONSHIPS WITH CIVIC LEADERS AND PARTICIPATING IN COMMUNITY EVENTS."

- ERNIE KOS, CLOVIS CHAMBER OF COMMERCE EXECUTIVE DIRECTOR

## Comparison Summary

With the completion and commercial operation of the BEJN, BEKW, and WI components of the Broadview Projects, we have the opportunity to compare the impacts projected in the original 2015 economic and fiscal impact report to some of the actual impacts that have been realized in the development of the projects. We have used actual employment and expenditure numbers to update our models to revise our projections of impacts over the 30-year assumed life of the project.

The comparisons are described in detail later in this Report, but in general, the results support the notion that the projected [economic] impacts in the original report were conservative [since the actual impacts are trending higher.] As with all large-scale projects, some budget items came in above projections, and some came in below, but on the whole, and with few exceptions, our updated impact estimates are consistent with the original estimates. Deviations for our 2015 Report estimates are explained, and modifications in the aggregated data are understood. Table 1 contains a summary level comparison between the original estimates and the updated impacts. The comparisons will be discussed in depth throughout the report.

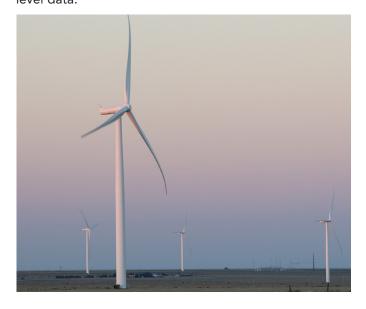
Summary Economic Impacts of Broadview Projects (30-Year Analysis) (\$millions)										
	Local Construction Expenditures	Local Employment (jobs)	Local O&M W&S Expenses	Landowner Payments	Other Operating Costs	PILOT Payments	Transmission Expense	Direct Economic Impacts	Direct & Indirect Economic Impacts	Direct, Indirect & Induced Economic Impacts
2015 Original Estimate	\$34.8	27	\$58.6	\$67.5	\$12.0	\$15.8	\$593.9	\$756.2	\$892.9	\$979.8
2019 Revised Estimate	\$36.5	27	\$58.6	\$85.5	\$58.8	\$18.9	\$949.0	\$1,177.8	\$1,457.3	\$1,589.6
Discounted Present	t Value									
2015 Original Estimate	\$34.8	n/a	\$35.2	\$35.3	\$6.1	\$8.5	\$301.6	\$402.5	\$463.7	\$524.9
2019 Revised Estimate	\$36.5	n/a	\$35.2	\$44.5	\$30.1	\$9.7	\$486.3	\$622.0	\$770.5	\$844.2

Table 1

The largest difference is in the Transmission Expense category. In the initial Report, we did not fully account for the transmission expenses for all of the components of the Broadview Projects. We have corrected that here.

We rely on a number of sources of information in making the comparisons in this report. Where actual expenditure amounts are available, we have relied on Pattern Development to provide them. We have compiled updated publically available data from sources like the Bureau of Labor Statistics, and the New Mexico Department of Workforce Solutions to help corroborate data provided by Pattern Development. We have also attempted to gather information from newspaper articles, and other sources, with the aim of understanding what else might have occurred in the same time frame to influence economic change to the Study Area. For example, Southwest Cheese

constructed a plant expansion in Curry County during the period that the Broadview Projects were being constructed. This additional construction activity at the same time is hard to distinguish in published countylevel data.



## ECONOMIC AND FISCAL IMPACTS

## Locally Sourced Construction Expenditures

As is to be expected in any development project of this magnitude, actual costs sometime differ from projections. Locally sourced construction expenditures provide some of the most direct and easily measurable economic impacts to the local community.<sup>5</sup> Table 2 lists

the originally estimated locally sourced construction expenditures along with updated actual amounts. Our initial estimate of \$28.8 million in local expenditures is conservative as compared to actual local expenditures of \$36.5 million.

Estimated Local Sourced Construction-Related Project Expenditures										
	Grady	Wind*	ВЕ	JN	BE	KW		Western Interconnect TOTAL COST		
	Local Costs (\$millions)	Local % of Total Cost	Total NM Local Costs (\$millions)	Component Total Cost (\$million)						
Civil Works	\$8.2	22%	\$4.1	24%	\$6.0	22%	\$0.6	34%	\$18.9	\$83.4
Electrical	\$2.5	7%	\$1.7	10%	\$1.6	7%	\$1.5	8%	\$7.3	\$94.3
Other	\$1.2	64%	\$0.6	93%	\$0.5	53%	\$0.3	3%	\$2.6	\$13.5
EPC Subtotal	\$11.9	16%	\$6.4	18%	\$8.1	17%	\$2.4	8%	\$28.8	\$191.2
Updated Actual Loc	cal Source	ed Constru	uction-Rel	ated Proj	ect Expen	ditures				
Civil Works	\$8.2	22%	\$4.0	27%	\$6.9	20%	\$1.0	18%	\$20.1	\$92.1
Electrical	\$2.5	7%	\$2.3	8%	\$1.1	7%	\$9.3	18%	\$15.2	\$131.5
Other	\$1.2	64%	\$0.0	0%	\$0.0	0%	\$0.0	0%	\$1.2	\$1.9
EPC Subtotal	\$11.9	16%	\$6.3	14%	\$8.0	16%	\$10.3	18%	\$36.5	\$225.5
Difference	\$0.0		(\$0.1)		(\$0.1)		\$7.9		\$7.7	\$34.3

<sup>\*</sup>Grady Wind is currently in the construction phase. Original estimates are unchanged.

Table 2

Most individual categories of expenditures varied up or down by a small margin, both in the total cost and in the local percentage of total cost. Notable differences from the projected cost are found in the "Electrical" component of the Western Interconnect portion of the project. Not only was the total cost more than double the

projected total, but the local percentage was more than double the projection as well. Pattern Development notes that capital expenditures were higher than expected, and also that the initial estimates exclude PNM's requirements for reimbursement of network upgrade costs at the commercial operations date ("COD").

## Project Costs and Gross Receipts Tax Impacts

As was the case with locally sourced construction expenditures just discussed, most project cost expenditure categories remained relatively similar to initially projected amounts. Total project costs, which includes Grady Wind estimates, amounted to \$732.1

million as opposed to \$673.8 million as originally estimated. Gross Receipts Tax liability, on the other hand, is projected to be down slightly, to \$7.1 million, from an original estimate of \$8.5 million. (See Table 3)

Estimated Local Sourced	Construction-	Related Proje	ect Expendit	ures	
	Grady Wind*	BEKW	BEJN-NM	Western Interconnect	NM Total
Turbines Costs	\$212.4	\$137.3	\$94.9	n/a	\$444.6
Estimated GRT on Turbines	\$1.8	\$1.1	\$0.8	n/a	\$3.7
EPC Costs	\$76.7	\$50.4	\$35.7	\$10.5	\$173.3
Estimated GRT on Contracted EPC	\$2.1	\$1.4	\$0.8	\$0.3	\$4.6
Non-Contracted EPC	\$4.8	\$2.7	\$1.8	\$29.0	\$38.3
Estimated GRT on Non-Contracted EPC	\$0.1	\$0.0	\$0.0	\$0.1	\$0.2
Development & Permitting	\$15.0	\$9.0	\$6.1	\$7.0	\$37.1
Financing and IDC Costs	\$12.0	\$9.0	\$6.0	\$1.2	\$28.2
Total Estimated Project Costs	\$320.8	\$208.4	\$144.6	\$47.7	\$673.8
Total Estimated NM GRT	\$4.0	\$2.5	\$1.6	\$0.4	\$8.5
Updated 2019 Estimated NM Gr	oss Receipts Tax	Liability (\$millio	ns)		
Turbines Costs	\$195.2	\$135.3	\$93.2	n/a	\$423.7
Estimated GRT on Turbines	\$0.0	\$0.4	\$0.3	n/a	\$0.6
EPC Costs	\$60.8	\$40.9	\$40.1	\$22.3	\$164.0
Estimated GRT on Contracted EPC	\$1.7	\$1.4	\$1.7	\$1.4	\$6.1
Non-Contracted EPC	\$12.9	\$6.9	\$5.8	\$2.2	\$27.9
Estimated GRT on Non-Contracted EPC	\$0.4	\$0.0	\$0.0	\$0.0	\$0.4
Development & Permitting	\$21.2	\$14.1	\$10.0	\$27.4	\$72.7
Financing and IDC Costs	\$15.8	\$9.8	\$6.9	\$4.2	\$36.7
Total Estimated Project Costs	\$308.0	\$208.7	\$157.9	\$57.5	\$732.1
Total Estimated NM GRT	\$2.1	\$1.7	\$1.9	\$1.4	\$7.1
Project Cost Difference	(\$12.8)	\$0.3	\$13.3	\$9.8	\$58.3
GRT Difference	(\$1.9)	(\$0.8)	\$0.3	\$1.0	(\$1.4)

<sup>\*</sup>Grady Wind\* is currently in the construction phase. Original estimates updated based on other components of the project.

The reduction in Gross Receipts Tax liability is largely due to two factors related to Grady Wind. First, there is the reduction in the projected cost of the Grady Wind component — which is still in the construction phase — based on the actual costs incurred in development of the portions of the Broadview Projects which are now operational.

As an evolving technology, the cost of wind generation has declined in recent years, from a peak cost of about \$2,000 per kW, to as low as \$800 per kW in early 2018.6 Being constructed later than planned,

the Grady Wind portion of the project is benefited by these decreasing prices, and subsequent reduction in Gross Receipts Tax liability. In addition to the lower than expected cost of turbines, the final negotiated terms of Industrial Revenue Bonds also differed slightly from the assumptions relied upon in the original projections. In response to this, Pattern Development took several measures to mitigate the resultant tax revenue impacts, which are described in detail in a later section of this report which includes impacts that we did not consider in the 2015 Report.

### Property Tax Issues

Industrial Revenue Bonds ("IRB") have been negotiated for the Broadview Projects in New Mexico. The specifics of the property tax benefits flow from the statutory provisions relating to IRBs.<sup>7</sup> The specific benefit is to treat the tangible property acquired with the proceeds of the bonds as non-taxable property assets. Without further belaboring the discussion, it is enough to say the tangible property assets of the Projects that have been purchased with the IRBs are exempted from property tax liability for the thirty-year life of the bonds.

The only specific property tax impact of the development of the Projects<sup>8</sup> will be to provide additional income that potentially supports additional tangible property investments that could raise the total assessed property value over time, and thereby indirectly increase property tax revenues. However, the

direct effect of the IRBs is to keep much of the tangible property values associated with the capital project from being subject to property tax liability during the term of the revenue bonds. This can be considered to be a fiscal opportunity cost associated with the wind generation development.

However, the developers have recognized these impacts, and have executed (or have offered proposals) to provide annual payments in lieu of taxes ("PILOT") agreements with the relevant local governments and school districts currently anticipated to amount to about \$630 thousand per year for thirty years. The PILOT payments may be thought to reduce or eliminate the fiscal impacts of the property tax "opportunity costs" that result from the issuance of IRBs for the Project.

<sup>&</sup>lt;sup>6</sup>U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, "2017 Wind Technologies Market Report", [https://emp.lbl.gov/wind-technologies-market-report accessed 2/26/19]

<sup>&#</sup>x27;Section 7-36-3 NMSA 1978. Note that the foregone property tax revenues associated with the IRB financing vehicle is significantly less than the assets financed, and these are all new property asset values developed by the Clines Corners Wind Projects' investments. The specific impact, however, is dependent on the specific location of the property and cannot by readily assessed in the context of the Projects' facilities at this time, and are in part offset by PILOT payments.

<sup>&</sup>lt;sup>8</sup>Nearly all capital costs related to tangible property have been IRB financed, although some limited project facilities may be subject to property tax.

### Direct, Indirect, and Induced Impacts

As is common practice in economic and fiscal impact reports, we have relied upon economic multipliers in order to estimate indirect and induced impacts of the development project. In particular, this analysis employs the IMPLAN model. In performing the original analysis, the 2012 version of IMPLAN multipliers for New Mexico were used. Since that time, several updated versions of the IMPLAN model have been published. For this retrospective analysis, the 2017 version of IMPLAN multipliers for New Mexico are used.

Because economic multipliers are sector specific, care must be taken to identify appropriate sector multipliers. While we have updated the multipliers to the latest available data, for the sake of consistency, we have used the same sectors for the update as for the original report. During the construction phase of the project, we applied the sector defined as "construction of other new nonresidential structures". During the Operational Periods of the projects, it is appropriate to use multipliers for the "electric power generation, transmission, and distribution" sector. For land owner benefits, we selected the "beef cattle ranching and farming" sector multipliers, due to the largely rural area where the project is located, which is dominated by cattle ranches.

The original 2012 and updated 2017 IMPLAN economic multipliers are presented in Table 4.

Economic Multipliers										
Cost Component	Origina	l Report	Updated Report							
Cost Component	Type I	Type SAM	Type I	Type SAM						
Construction Of Other New Nonresidential Structures	1.2981	1.6359	1.2701	1.5948						
Electric Power Generation, Transmission, And Distribution	1.0504	1.2206	1.2358	1.3413						
Beef Cattle Ranching And Farming	1.6501	1.7485	1.5806	1.7829						

Table 4

## **Economic Multipliers**

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. 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.

Economic multipliers are sector specific, and reflect differences in sector spending patterns.

We include a more in-depth discussion of economic multipliers in our original report.

Table 5 shows the comparison between the originally projected direct, indirect, and induced impacts for the Broadview Projects during the construction phase of the project. From the previous table, it is obvious that the updated 2017 multipliers, with the exception of Electric Power Generation, Transmission, and Distribution, are slightly lower than the 2012 multipliers. For the Broadview Projects as a whole, the direct impacts are slightly higher than originally projected. In combination, the increase in direct impacts overcomes the multiplier

decrease: The updated impacts are slightly higher than the originally projected impacts through the construction period of the Projects.

It is worth pointing out here that the estimated direct local impacts for the Grady Wind portion of the Projects are unchanged. Changes in the indirect and induced impacts associated with Grady Wind are simply an artifact of the change in the updated multipliers.

Original Summary of Construction Period Economic Impacts (\$millions)											
	Grady Wind Energy Center*			Broadview Projects							
	Direct Impact	Direct & Indirect Impact	Direct, Indirect, & Induced	Direct Impact	Direct & Indirect Impact	Direct, Indirect, & Induced					
Local Construction Contracts	\$11.90	\$15.40	\$19.50	\$34.80	\$45.20	\$56.90					
Land Owner Benefits	\$0.60	\$1.00	\$1.10	\$1.50	\$2.50	\$2.60					
Total Annual Development Period Impacts	\$12.50	\$16.40	\$20.60	\$36.30	\$47.40	\$59.50					
Updated Summary of Con	struction F	eriod Ecor	nomic Impa	cts (\$millio	ns)						
Local Construction Contracts	\$11.90	\$15.11	\$18.98	\$36.45	\$46.29	\$58.13					
Land Owner Benefits	\$0.63	\$1.00	\$1.12	\$1.50	\$2.37	\$2.67					
Total Annual Development Period Impacts	\$12.53	\$16.11	\$20.10	\$37.95	\$48.66	\$60.81					
Difference	\$0.03	(\$0.29)	(\$0.50)	\$1.65	\$1.26	\$1.31					

<sup>\*</sup>Grady Wind Energy Center is still in the construction phase. Estimated direct impacts are unchanged.

Table 5

Impacts over the operational period of the Broadview Projects are estimated to be significantly higher than originally projected, as shown in Table 6. As mentioned earlier, this is mostly due to an under estimation of transmission expenses in the original report. That has been corrected here, and the impact is significant.

Original Summary of Operational Period Economic Impacts (\$millions)										
	Grady '	Wind Energy	Center	Bro	oadview Proje	ects				
	Direct Impact	Direct & Indirect Impact	Direct, Indirect, & Induced	Direct Impact	Direct & Indirect Impact	Direct, Indirect, & Induced				
Operational Costs	\$1.00	\$1.10	\$1.20	\$2.00	\$2.10	\$2.40				
Land Owner Benefits	\$1.00	\$1.70	\$1.70	\$2.20	\$3.60	\$3.80				
Transmission Revenue Benefits <sup>†</sup>	\$8.00	\$8.40	\$9.80	\$20.00	\$21.00	\$24.40				
Total Annual Operational Period	\$10.00	\$11.20	\$12.70	\$24.20	\$26.70	\$30.60				
Updated Summary of Ope	erational Pe	eriod Econ	omic Impac	ts (\$million	s)					
Operational Costs	\$1.10	\$1.36	\$1.48	\$2.00	\$2.47	\$2.68				
Land Owner Benefits	\$1.20	\$1.90	\$2.14	\$2.80	\$4.43	\$4.99				
Transmission Revenue Benefits <sup>†</sup>	\$12.60	\$15.57	\$16.90	\$31.70	\$39.18	\$42.52				
Total Annual Operational Period	\$14.90	\$18.83	\$20.51	\$36.50	\$46.07	\$50.19				
Difference	\$4.90	\$7.63	\$7.81	\$12.30	\$19.37	\$19.59				

Table 6

## New Mexico Renewable Energy Production Tax Credit

Unlike the other impacts discussed in this Report, the Renewable Energy Production Tax Credit ("REPTC") is a direct cost to the state. It is a refundable tax credit based on the amount of qualified renewable energy generated. Economically speaking, an avoided cost is considered in the same way as a benefit.

When the initial economic and fiscal impact report was drafted, it was assumed that all three components of the project – BEJN, BEKW, and Grady Wind – would be eligible to receive REPTC. Because of the way that the credit waiting list (i.e., queue) is structured, and Grady

Wind being constructed later than expected, Grady Wind will not be eligible for REPTC. The maximum amount of the credit is \$4 million per project. Grady Wind's ineligibility will reduce the maximum credit per year from \$12 million to \$8 million, subject to availability. Also, in the original report, it was assumed that the projects would receive \$4 million in 2017, which is the maximum amount for a single project. There was only enough available budget in the aggregate credit statewide credit cap for \$320 thousand to be allocated to the Broadview Projects. In total, the expected amount of REPTC received by the Broadview Projects is estimated to be about \$43.7 million less than originally estimated over the ten years of the credit. (See Table 7)

Broadview Projects Pot	ential NM Renewable P	roduction Tax Credit	
	Original Estimate	Updated Estimate	Difference
2016	\$0	\$0	\$0
2017	\$4,000,000	\$320,000	(\$3,680,000)
2018	\$319,860	\$319,860	\$0
2019	\$6,001,370	\$2,001,374	(\$3,999,996)
2020	\$7,549,820	\$3,549,820	(\$4,000,000)
2021	\$10,549,400	\$6,549,402	(\$3,999,998)
2022	\$12,000,000	\$8,000,000	(\$4,000,000)
2023	\$12,000,000	\$8,000,000	(\$4,000,000)
2024	\$12,000,000	\$8,000,000	(\$4,000,000)
2025	\$12,000,000	\$8,000,000	(\$4,000,000)
2026	\$12,000,000	\$8,000,000	(\$4,000,000)
2027	\$4,000,000	\$0	(\$4,000,000)
2028	\$4,000,000	\$0	(\$4,000,000)
TOTAL	\$96,420,450	\$52,740,456	(\$43,679,994)

Table 7

### **Employment Impacts**

Pattern Development has provided, through the contractors involved, the peak employment figures for the construction phase of the Broadview Projects. In multiple categories the number of construction employees changed significantly. Some of the changes simply reflect shifting of categories amongst contractors. The employment numbers also reflect peak employment across multiple projects, and as such, categories may not be properly aggregated – that is, the same people worked on multiple components of the Projects, and are counted here more than once.

Being employed on the projects as part of contracted arrangements, it is also hard to count what amounts to "new" jobs. Construction tradespeople who worked on these Projects would likely have still been employed by the same contractors on other projects in the absence of these Projects. Table 8 contains the original and updated construction employment figures.

Operations and Maintenance employment estimates have not changed from the original report.

Constructi		nent Estima	ne compan							
	Original	Estimate		Updated Estimate						
	Total Employment	Local Employment Factor	Estimated Local Employment	Total Employment	Local Employment Factor	Estimated Local Employment	Local Employment Difference			
Western Inte	rconnect									
Linemen	26	50%	13	14	21%	3	(10)			
Supervisory	5	10%	1	15	20%	3	2			
Other	25	75%	19	58	10%	6	(13)			
Total Project	56	59%	33	87	14%	12	(21)			
BEKW/BEJN										
Siemens	26	0%	0	0	0%	0	0			
Supervisory	15	10%	2	57	14%	8	6			
Other	165	75%	124	244	53%	130	6			
Total Project	206	61%	126	301	46%	138	12			
Grady Wind										
Siemens	26	0%	0	0	0%	0	0			
Supervisory	15	10%	2	65	12%	8	6			
Other	165	75%	124	260	34%	89	(35)			
Total Project	206	61%	126	325	30%	97	(29)			
Total Broadvi	ew Projects									
Siemens	52	0%	0	0	0%	0	0			
Linemen	26	50%	13	14	22%	3	(10)			
Supervisory	35	14%	5	137	14%	19	14			
Other	355	75%	267	562	40%	225	(42)			
Total Projects	468	61%	285	713	35%	247	(38)			

Table 8

PAGE 13 Evidence from Published Data

## EVIDENCE FROM PUBLISHED DATA

In addition to updated expenditure data provided by Pattern, we also explored public data sources to identify corroborating information.

Of course, changes in the levels of economic activities in specific business sectors are difficult to identify where data are aggregated. Hints can be provided by comparing business activity and employment data in specific sectors, as well as other techniques for "teasing" specific information out of aggregated economic data.

During the specific time period in which the Broadview Projects were being developed in Curry County, construction activities were also underway related to other projects in the region. During this time, Southwest Cheese Company invested in a construction project to expand its facilities. Additionally, Xcel Energy built the Curry-Bailey 115 kV 37-mile transmission line which became operational in September 2016.<sup>10</sup>

Economic activities — and changes in economic activities over time — are reported (in part) through

Gross Receipts Tax ("GRT") payment records. This monthly data, reported at the local level and aggregated to county and statewide levels, 11 allows for analysis of different business sectors' taxable receipts during periods prior to, during, and after the completion of the Broadview Projects development activities, and throughout the Projects' operations. Analysis of Curry County shows that Construction and Utilities industries are the top two economic industries in the unincorporated area of the county based on taxable gross receipts.

As previously mentioned, economic activity for construction registered two separate periods of significant increases in gross receipts. The first one occurred in early 2016 through mid-2016. The second one occurred in early 2017. These spikes in economic activity are in line with the period of construction of the Broadview Projects. The economic data provides evidence of the impact the construction had on the region which translated to tax revenues to the County governments.



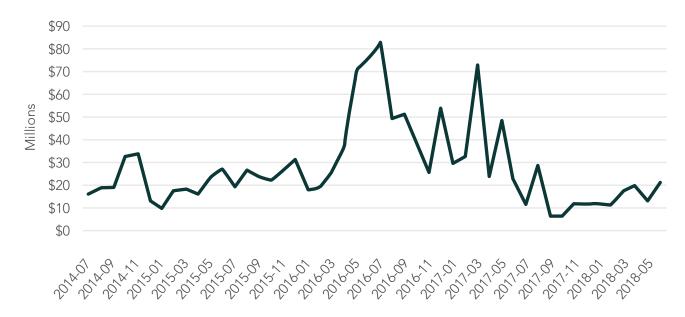
THE FARM BECAME MORE OF A SELF-SUSTAINING ENTERPRISE. WE ARE VERY GRATEFUL TO HAVE IT."

- TYRELL NORTHCUTT, CURRY COUNTY PROPERTY OWNER

<sup>&</sup>lt;sup>10</sup> According to powerfortheplains.com the construction of the transmission line was expected to commence in 2015 and last between 18 to 24 months. During this timeframe employment levels in the construction industry, combined with construction gross receipts data, may provide insight into the specific impacts of the Broadview Projects, as discussed below...

<sup>&</sup>lt;sup>11</sup>New Mexico Gross Receipts Tax data are (typically) reported by business entities, compiled monthly by the Taxation and Revenue Department, and aggregated (for publication) to various municipal and county levels. Details of taxable gross receipts is available by business sector (i.e., NAICS codes) and provides detailed data of economic activities in a particular municipality or county.

#### **Construction Employment Estimate Comparison**



The chart shows high levels of activity during the middle of 2016, and again in early 2017. These high levels of activity may be (in part) attributed to the construction of the three major construction projects previously mentioned. It is difficult to assert the specific level of this reported economic activity directly attributable to the Broadview Projects. However, it is likely that the Broadview Projects developments played a big role in the economic activity in this sector. The investment levels of the Broadview Projects surpass those made by the Southwest Cheese company<sup>12</sup> and Xcel Energy.<sup>13</sup>

The utilities sector on the other hand, doesn't show the same levels of increases in economic activity during the period of development or operation of the Broadview Projects. Additionally, a number of tax deductions are

available for utilities-related activities in New Mexico which could explain the different patterns in Gross Receipts reported in the Utilities industry.

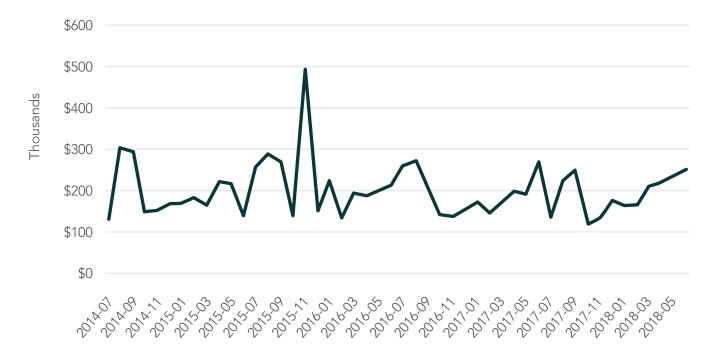
The following chart is a time-series representation of the economic activity in the form of Gross Receipts in Curry County. The Gross Receipts data does not seem to capture economic activity resulting from the operation of the Broadview Projects. However, the data shows a positive trend beginning in late 2017 through early 2018, coinciding with the operation of the Broadview Projects. Additionally, an exploration of employment data in this sector in a subsequent section seems to provide supporting evidence for increases in employment in this industry.

<sup>&</sup>lt;sup>12</sup>"Southwest Cheese Plant in Clovis Begins \$140 Million Expansion." MYHIGHPLAINS, MYHIGHPLAINS, 9 Nov. 2015, https://www.myhighplains.com/news/southwest-cheese-plant-in-clovis-begins-140-million-expansion/265004460

<sup>&</sup>lt;sup>13</sup>"Curry-Bailey 115 KV Transmission Line Project." Xcel Energy - Curry-Bailey 115 KV Transmission Line Project, www.powerforthe-plains.com/Projects/Curry-Bailey-115-kV-Transmission-Line-Project. Wehmhoener, Karl.

PAGE 15 Evidence from Published Data

#### **Utilities Gross Receipts - Curry County**



Further analysis of Gross Receipts Tax data offers a window into broader economic activity in Curry County during the development period of the Broadview Projects. A series of industries registered increases in economic activity in the form of Gross Receipts Taxes, while other industries reported economic activity for the first time during the timeframe. With the use of public data available it would be speculation to suggest that these industries reported economic activity as a result of the Broadview Projects based on the timing. Nevertheless, it is worth mentioning the emergence of these industries at the same time as the development of the Broadview Projects. The following industries reported economic activity for the first time during the 2015-2017 timeframe:

- Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals (NAICS 334515);
- Testing Laboratories (NAICS 541380);
- Custom Computer Programming Services (NAICS 541511);

Some of the types of services provided by these industries range from equipment to test electrical signals (NAICS 334515) to testing services performing acoustics and vibration testing (NAICS 541380).

Other industries that registered increased economic activity are the following:

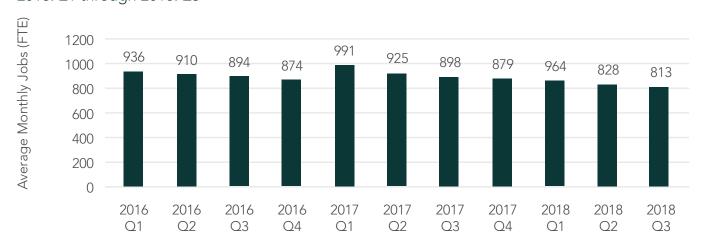
- Computer Facilities Management Services (NAICS 541513);
- Management, Scientific, and Technical Consulting Services (NAICS 5416);
- Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324);
- Electrical Lighting Equipment Manufacturing (NAICS 3351);
- Lighting Fixture Manufacturing (NAICS 335120);
- Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing (NAICS 335122).

The lack of sufficient data limits conclusions which may be be drawn based on the increase of economic activity in these industries. This list is intended to offer a different view into the economic activities that occurred during the time of development of the Broadview Projects. These activities may have been spurred by the construction and development of the Broadview facilities.

In addition to the data provided by Pattern Development, employment data was used to analyze the potential impacts of the development of the Broadview Projects. Our analysis isolated the employment data for Construction and Utilities in the unincorporated area of Curry County.

The following graphs illustrate the trends in employment in these two industries in the areas studied.

## **Quarterly Ave Construction Employment — Curry County** 2016:Q1 through 2018:Q3



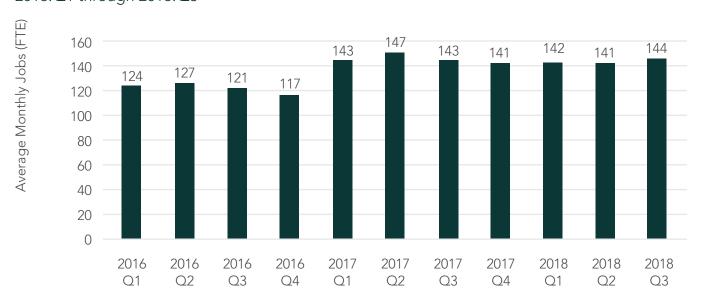
PAGE 17 Evidence from Published Data

Construction employment has experienced an overall downward trend with one increase during the first quarter of 2017. This period coincides with the construction of the Broadview Projects as well as with the construction activities of other projects in the region. However, considering that at least three multimillion dollar projects took place between 2015 and 2017, the construction employment data doesn't seem to reflect those levels of activity. The workforce in Curry County has been declining over the years, opening the possibility that construction workers from other areas

may have been recruited for these projects.

Turning to the second industry analyzed, we find that employment in the Utilities sector experienced a noticeable increase in the first quarter of 2017. The new jobs created have brought employment to a new level which has remained steady ever since. According to data made available by the Bureau of Labor and Statistics, unincorporated Curry County registered an increase in average employment of 26 jobs in the first quarter of 2017.

## **Quarterly Ave Utilities Employment - Curry County** 2016:Q1 through 2018:Q3



The employment data does not provide enough detail to discern the source of these jobs. However, given the timing, it is likely that these jobs were created by the Broadview Projects.

The 2015 Report outlined various economic benefits. Analysis of publicly-available data corroborates the firm's previous assessment that the Broadview Projects would create new economic activity. The data confirms – at least partially – that increases in construction activity during the period of development of the Broadview Projects, and increases in employment in

the Utilities industry in the first quarter of 2017, can be attributed to the Broadview Projects.

This analysis recognizes other projects that took place in the same area and around the same time as the development of the Broadview Projects. However, it is worth reiterating that the investment levels in the Broadview Projects were greater than those made by the Southwest Cheese Company, and Xcel Energy. This fact increases the certainty that the increases in employment and economic activity may be highly attributable to the Broadview Projects.

## CURRY COUNTY PROFILE

## Demographic and Economic Updates

Demographically, Curry County has not significantly changed since the publication of the original report. In that time, Curry County has experienced slight decreases in population and employment, as can be seen in Table 9. Otherwise, population is similarly distributed, with the City of Clovis accounting for approximately eighty percent of the total county population.

Curry County	Populat	ion and	Employment (v	v/ Selected Con	nparisor	ns to Ne	ew Mexico)	
E	Est. 2017 I	Populatio	n	2015 – 2017 Population Growth Rate				
49,812 (2.3% of NM population)				-1.2% ann	ually (NM	Growth I	Rate 0.1%)	
2015 & 2017 (est.) Population by City/Village								
	20	15	2017		20	15	2017	
Clovis	39,3	349	38,962	Grady	11	1	105	
Texico	1,1	77	1,117	Melrose	se 67		639	
2017 Labor Force	and Empl	oyment D	ata – Curry County					
Civilian Labor F	orce	Е	mployment	Unemployment	Rate	NM Unemployment Rate		
24,492			20,268	5.70%		6.70%		
2014 Labor Force	and Empl	oyment D	Pata – Curry County					
Civilian Labor F	orce	Е	mployment	Unemployment Rate		NM Unemployment Rate		
21,514			20,450	4.90%		6.50%		

Table 9

Curry County has a population that is relatively younger than the state of New Mexico as a whole,<sup>14</sup> with a median age of 30.8 years versus the statewide median age of 37.3 years. Over 56% of the population in Curry County is under 35 years old, as compared to about 47% for the same cohort state-wide. Figure 1 compares Curry County to New Mexico, by age cohort.

#### Percent of Population, by Age



New Mexico

Curry County, New Mexico

<sup>&</sup>lt;sup>14</sup>U.S. Census Bureau, "2013-2017 American Community Survey 5-Year Estimates," [https://factfinder.census.gov Accessed February 22, 2019]

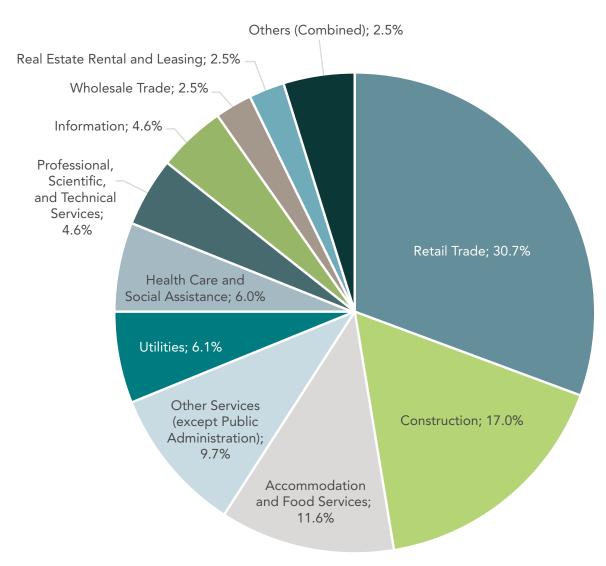
PAGE 19 Curry County Profile

Curry County also has a higher ratio of males to females than the New Mexico, with 108.3 males per 100 females versus 98.0 males per 100 females for New Mexico. Both of these differences can be explained by the presence of Cannon Air Force Base, which has a population that is younger, with a median age of 21.9, and more predominantly male, with 144.8 males per 100 females, than either the New Mexico or the rest of Curry County.

## Fiscal Updates

Curry County as a whole, has not seen a significant change in the composition of Gross Receipts Taxes paid in terms of the industries paying taxes. The top five industries for the county as a whole – Retail Trade, Construction, Accommodation and Food Services, Other Services (Except Public Administration), and Utilities, are unchanged in ranking, though the percentage share of each make have changed slightly. (See Figure 2)

#### Gross Receipts Tax Paid, By NAICS Sector



The data does not show significant changes in Gross Receipts taxes paid by industry when compared to the 2015 study. The economic composition of the region has remained steady with Retail Trade and Construction remaining as the top two industries.

Since the 2015 study, little has changed in Curry County, but for the previously mentioned shifts in construction activity and employment in the utilities sector. The most significant impacts to the economy in Curry County derive from the construction activities that took place between 2016 and 2017. Construction of other projects in the area would have contributed to the increases shown in the data. It is our belief however, that the Broadview Projects are responsible for most of the impact found in the data.

One aspect that has seen a sustained impact in the region is the addition of full-time jobs in the Utilities

industry. Beginning in the first quarter of 2017, Curry County experienced an increase of approximately 22% over the previous quarter in Utilities jobs. Additionally, these jobs have remained at steady levels since the commenced operation of the Broadview Projects in March 2017.

New employment and increased economic activity serve to confirm the economic impacts of the Broadview Projects in Curry County. While general economic and demographic indicators for Curry County show that the its make up hasn't changed, a closer observation into specific time frames and industry sectors tell a story of economic benefits. The Broadview Projects have created a new source of energy generation, while brining positive, long-term economic benefits to the local economy.



EVERYBODY JUST FELT LIKE THEY WERE PART OF THE PROJECT, SIGNING THAT BLADE LIKE THEY WERE ROCK STARS."

- ERNIE KOS, CLOVIS CHAMBER OF COMMERCE EXECUTIVE DIRECTOR





PAGE 21 Summary and Conclusions

## SUMMARY AND CONCLUSIONS

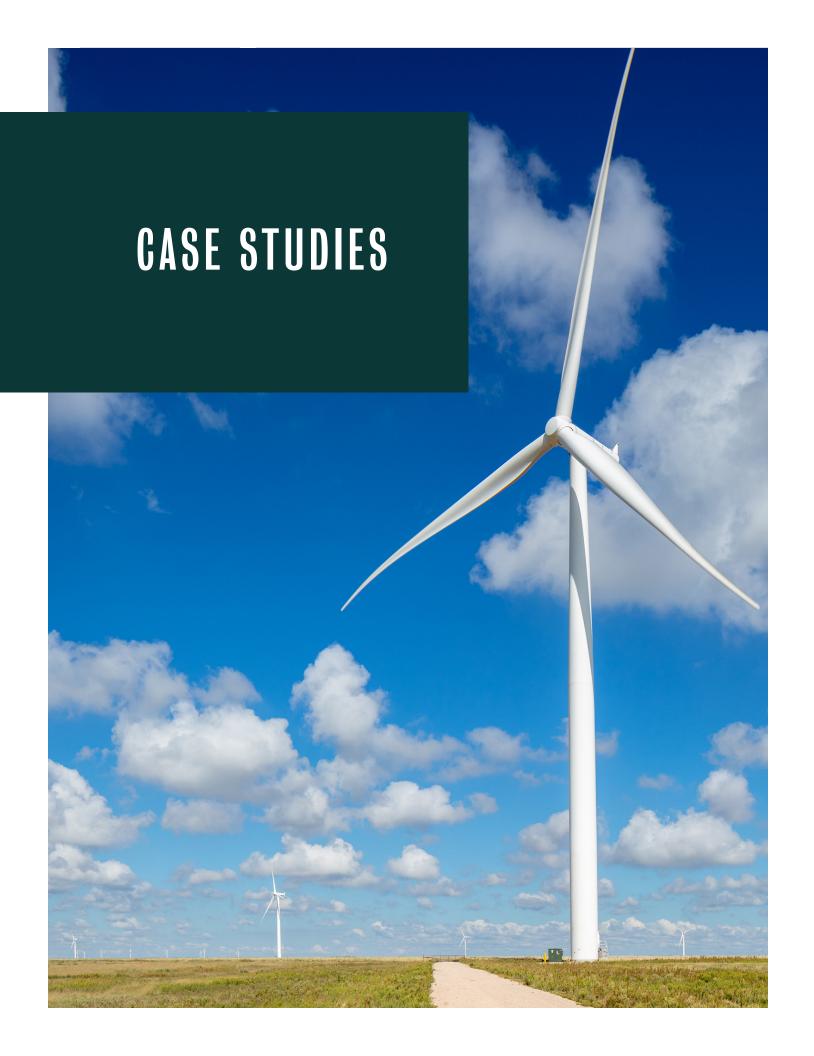
In summary, this exercise has demonstrated our original impact estimates to be conservative. The original estimates were made with the best available data from Pattern and publically available sources. Every attempt was made to accurately forecast project costs and the resultant economic and fiscal impacts. With any project of this magnitude, and especially in an industry evolving as rapidly as wind generation, actual costs will differ from projected costs.

Significant differences from the original estimates are seen in the Transmission Expense, Other Operating Costs, and Landowner Payments categories. In all three categories, the updated impacts are higher than the original updates. In total, the Direct Economic Impacts of the Broadview Projects is now estimated to be about \$1.2 billion, as compared with an original estimate of \$756 million. Including indirect and induced impacts, the project creates about \$1.6 billion in regional impacts, where the original estimate was about \$980 million. Table 10 lists the summary economic impacts, in nominal (i.e., undiscounted) and discounted present value terms, as well as the difference between the original and updated estimates.

Summary Economic Impacts of Broadview Projects (30-Year Analysis) (\$millions)											
	Local Construction Expenditures	Local Employment (jobs)	Local O&M W&S Expenses	Landowner Payments	Other Operating Costs	PILOT Payments	Transmission Expense	Direct Economic Impacts	Direct & Indirect Economic Impacts	Direct, Indirect & Induced Economic Impacts	
2015 Original Estimate	\$34.8	27	\$58.6	\$67.5	\$12.0	\$15.8	\$593.9	\$756.2	\$892.9	\$979.8	
2019 Revised Estimate	\$36.5	27	\$58.6	\$85.5	\$58.8	\$18.9	\$949.0	\$1,177.8	\$1,457.3	\$1,589.6	
Discounted Present	: Value										
2015 Original Estimate	\$34.8	n/a	\$35.2	\$35.3	\$6.1	\$8.5	\$301.6	\$402.5	\$463.7	\$524.9	
2019 Revised Estimate	\$36.5	n/a	\$35.2	\$44.5	\$30.1	\$9.7	\$486.3	\$622.0	\$770.5	\$844.2	
Difference	Difference										
Impacts	\$1.7	0.0	0.0	\$18.0	\$46.8	\$3.1	\$355.1	\$421.6	\$564.4	\$609.8	
DPV Impacts	\$1.7	n/a	0.0	\$9.2	\$24.0	\$1.2	\$184.7	\$219.5	\$306.8	\$319.3	

Table 10

As detailed previously, the publically available data also supports the estimates presented here. Utilities employment data, in particular, illustrates an increase in jobs that coincides in both numbers and timing with the permanent operations and maintenance jobs created by the Projects.



PAGE 23 Case Studies

# Industrial Revenue Bonds give communities a say in where those dollars go

Pattern Development, as an independent renewable energy company that seeks to strengthen communities and serve its customers, sees benefit in using Industrial Revenue Bonds (IRBs) as part of its development projects. IRBs, economic incentive tools to attract business and industry, were issued for the Broadview wind generation facilities.

IRBs allow the issuing local entity, in this case the Village of Grady, to negotiate a payment in lieu of taxes (PILT), which affords local communities the opportunity to negotiate and have a say in the projects to be updated or built rather than merely following the standard gross receipts and property tax processes.

This makes IRBs essentially an economic advantage for the Village of Grady and means that the Village issues and hold the bonds, according to Chase Gentry, Executive Director of the Clovis Industrial Development Corporation.

Since PILT agreements are negotiated to be lower than the standard gross receipts and property taxes, the benefit to a company like Pattern Development also makes sense, but what are the benefits of IRBs to local New Mexico communities?

The advantages to the communities are many, such as a confirmed revenue stream for a set number of years, Chase said.

The communities can share with the partnering company where they would like to see the IRB dollars earmarked. Additionally, for IRBs designated for electrical generating facilities only, local school districts also must approve the PILT, Chase said. This caveat

allows companies like Pattern Development to partner with school districts and ensure that superintendents and their districts have a seat at the table and are being served in the discussion process.

For the Broadview Projects, the Village of Grady and Texico Municipal Schools partnered with Pattern Energy to identify and determine where the IRB dollars were to be spent.

Grady residents can see firsthand the Village's improvements from IRB dollars. Grady has new flooring and seats in the school gym, where the community gathers to cheer on its basketball teams. The school also has a new outdoor running track not far from the gym.

Located on the border of Texas and New Mexico, the Texico Municipal Schools were able to improve learning experiences for their students. Specifically, capital-outlay work for enhancing the school were just a few of the improvements made possible from these earmarked funds.

Without the incentives inherent in an IRB, a project might go to another state, meaning New Mexico could miss out on this important revenue opportunity. Without such a project, community members in a village or a school district would miss out on the financial benefit and likely wouldn't have any say in what projects receive funding.

## Generations Keeps Together by Renewable Energy

Wind generation projects have strengthened family ties among land owners in addition to the financial benefits.

Todd Northcutt's family has homesteaded in northern Curry County since 1906. He and his wife Tammy are members of the Broadview Wind facility, and their land hosts a series of wind turbines. The Northcutts, who love farming and ranching, feel confident that the partnership with Pattern Development provides them with the peace of mind that they can keep their operation in their family and continue doing what they love to do. Before their collaboration with Pattern Energy, they weren't certain that northern Curry County offered secure futures for their two youngest children, Tucker, 21, and Timia, 19.

For the Northcutts, the partnership to capture renewable energy has brought their family closer together. The Northcutt's eldest son Tyrell, 33, moved back to Grady in 2013 with his wife Maria and their then-three children. In 2015, a property that had been previously owned by Todd's uncle was being sold. Todd Northcutt negotiated the purchase of the land, and Tyrell secured the financing of a very low interest government loan. The efforts put forth by the Northcutts and Pattern Development demonstrate their deep commitments to renewable energy and the community.

Pattern Development entered into a lease agreement with Tyrell and Maria to host turbines on their land.
But the federal government as the lienholder wouldn't allow Pattern Development to build turbines on this Northcutt property. Pattern Development stepped in and negotiated with the federal government for nearly a year to purchase the mortgage and so as to allow Tyrell and Maria to pay back the mortgage using turbine royalties, essentially paying off half of the mortgage up front.

As Tyrell says, "The farm became more of a selfsustaining enterprise. We've benefited enormously from the project. We are very grateful to have it."

Pattern Development's collaboration with the Northcutts illustrates Pattern's commitment to understanding each partner's unique needs as the renewable energy company creates a prosperous tomorrow for the greater community.

PAGE 25 Case Studies

## Pattern Energy wins over Clovis Chamber leader Ernie Kos

As the Executive Director of the Clovis Chamber of Commerce for 25 years, Ernie Kos knows the importance of promoting business growth.

But she's the first to admit that she was initially skeptical that Pattern Development's renewable energy operations could co-exist with the venerable Cannon Air Force Base, one of the region's largest employers. Ernie, whose family is from Hawaii, grew up in Clovis because her father was stationed at Cannon Air Force Base.

Knowing how large of an employer Cannon Air Force Base is, Ernie voiced her concerns to Pattern Development about how its proposed generating facilities might affect the base's mission and in turn the well-being of the City of Clovis and the population of Curry County.

Through a dialogue, Pattern Development, the leadership of Cannon Air Force Base and the Curry County Commission came together on an agreement that ensured that Cannon Air Force Base was able to upgrade its radar equipment and future proof the base and keep them prepared for any mission changes that may occur in the years to come.

To Ernie, the trusted conversations provided a foundation for Pattern Development's collaborative approach and reinforced Pattern Development's commitment to Eastern New Mexico's success.

"Pattern Development became part of the community," Ernie said, "building relationships with civic leaders and hosting or participating in community events."

One of the Pattern Developmentvevents included a community blade signing to commemorate the partnership. Residents, elected leaders and Pattern Development team members signed their names on a wind turbine blade, signifying the commitment of Pattern Development's renewable energy initiatives to the region.

As Ernie puts it, "Everybody just felt like they were part of the project, signing that blade like they were rock stars."

Pattern Development's collaborative approach and commitment to community provides Ernie confidence in a renewable enery partnership.

## Pattern helps build better roads in Curry County

Community members want roads to be maintained and to see first responders on the streets.

But what if a county lacks the funding to provide these services to the appropriate level? That was the issue facing Curry County residents living in eastern New Mexico, not far from the Texas border.

Leveraging public funding mechanisms known as Industrial Revenue Bonds (IRB) and Payments in Lieu of Taxes (PILT), Pattern Development is helping the City of Texico, Village of Grady and the Grady Municipal Schools. The monies are used by the entities to fund local priorities that include road improvements, emergency equipment and renovated school projects.

The funding, provided over the span of two decades, allows the communities and county to prioritize funding and project timelines. In Curry County, leaders identified road improvements as a priority.

"The roads were in bad shape," Curry County Manager Lance Pyle said, adding that Curry County will have those payments for the next 20 years, which removes uncertainty regarding how future road improvements will be paid in the northern part of the County.

A portion of the funds also were set aside for emergency medical service and law enforcement. Rural residents in the county can see these tangible benefits around them. The Village of Grady's volunteer fire department leveraged the funds to pay for infrastructure and equipment that were previously unfunded.

The same is true for Curry County's law enforcement. The Sheriff's office was able to use the funding to improve emergency response and public safety in the northern part of the County.

Pattern Development also contributed funds to complete the Broadview fire station—even though that wasn't part of an IRB and the Imagination Library Program to children in Curry County, Lance said. Rather Pattern Development illustrated how strongly the company views community partnerships. When Pattern Development became aware of a community need, the company made its assistance available and helped fund the project accordingly.

