Pattern | New Mexico

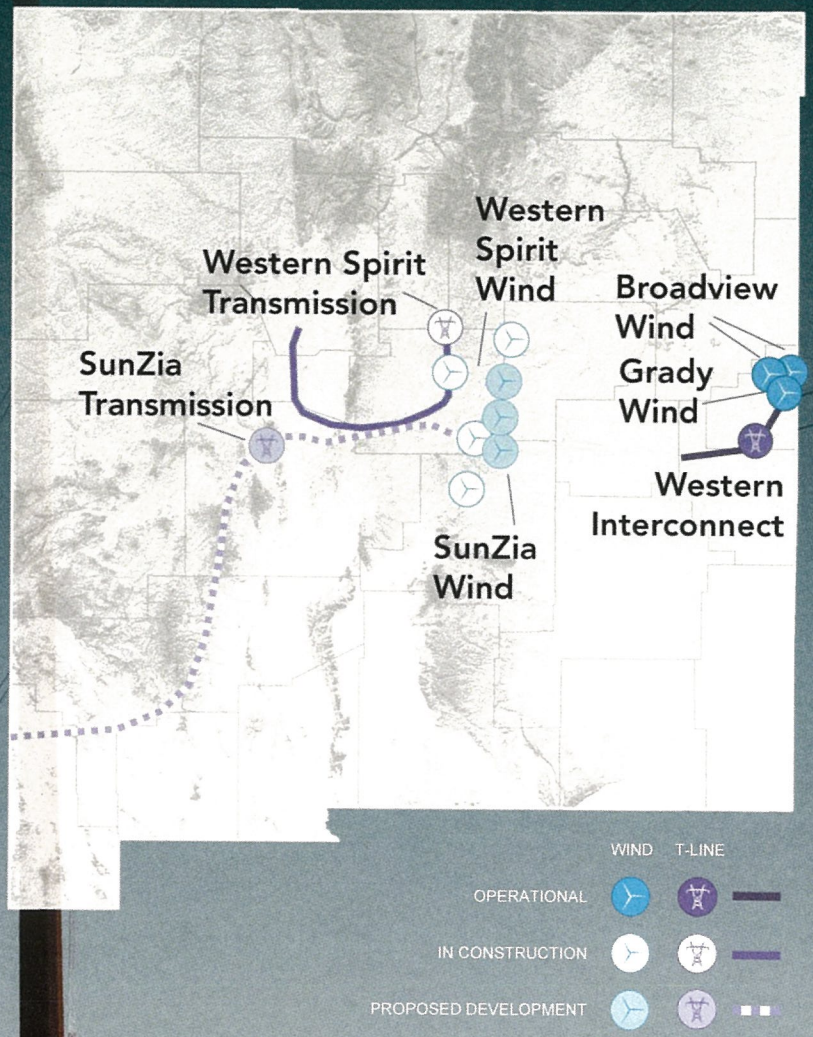
Impacts of Renewable Wind Energy Projects

SOUTHWESTERN UNITED STATES

Global leadership in renewable energy development with a commitment to local communities and environmental stewardship

Since 2012, Pattern has developed **1,594 megawatts** of wind capacity in the southwestern U.S. and over **150 miles** of new transmission lines.

Moss Adams LLP has been supporting Pattern Energy's renewable energy programs since 2015, providing economic and fiscal analyses and testimony relating to development impacts. The data presented in this brief is based on those analyses.



Broadview & Grady

Connection to the regional rural community:
Fostering new base economic opportunity and expanding sustainable foundations for increased fiscal stability.

PRIVATE CAPITAL INVESTMENT

Landowners in New Mexico and Texas understood the value of wind development and created a community-supported project to attract the development of wind farms and new related infrastructure.

732.1 MILLION

225 TURBINES

545 MEGAWATTS

Generation capacity in NM and TX—all operational by 2019

FISCAL IMPACTS

18.9 MILLION

Payments in lieu of taxes (PILOT) agreements will generate $18.9 million in new government revenues over the life of the project.

7.1 MILLION

Project construction will generate $7.1 million in new Gross Receipts Tax (GRT) revenues—an observed increase in GRT revenue.

Total Local Economic Impacts (millions)	Construction	Operations	Total
Direct	$50.5	$1,542	$1,592
Direct & Indirect	$64.8	$1,947	$2,012
Direct, Indirect & Induced	$80.9	$2,121	$2,202

Total Local Job and Wage Impacts	Construction	(annual jobs & wages) Operations & Maintenance
Total Jobs	674	27
Local Jobs	411	27
Local Wages (millions)	$15.3	$2.2

LANDOWNER BENEFITS

$85.5 million was paid to the landowner over the entirety of the project.

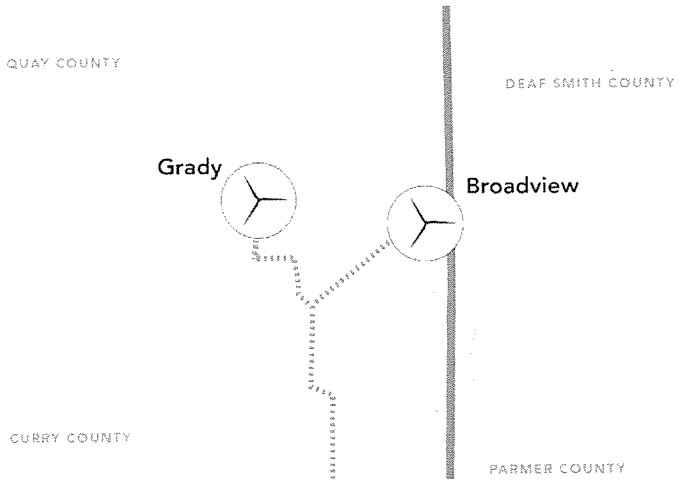
> Through our **partnership with Pattern**, our farm became more of a **self-sustaining enterprise**. We've benefited enormously from the project. We are very grateful to have it.
>
> *– Tyrell Northcutt, Landowner, Curry County, NM*

ENERGY EXPORT

The project includes construction of a 35-mile 345kV AC transmission line connecting the generation to Public Service Company of New Mexico's (PNM) transmission facilities at the Blackwater substation, and providing interconnection to the interstate transmission grid.

Transmission on the existing wholesale interstate grid exports renewable energy from New Mexico through:

- Purchase power agreements (PPAs) with utilities in California—long-term single contract agreements, providing a **stable market environment**
- Base economic development—an external private capital investment, providing access to **new market opportunities** for New Mexico resources



Project expenditures for the Broadview & Grady projects and the Western Spirit projects are realized over the construction and operations periods. To determine the value of expenditures in current value, a 5% discounted present value was applied to the analysis.

Western Spirit Wind & Transmission

Private development of utility-scale wind generation and transmission:
A comprehensive market-based investment to deploy renewable energy infrastructure for interstate export.

PRIVATE CAPITAL INVESTMENT

Base economic development (i.e., private capital investment serving out-of-state markets) is considered the most beneficial form of stimulus for a regional economy. The Western Spirit projects account for **33% of all renewable development capital expenditures** in the state.

PARTNERSHIPS

The Western Spirit Transmission Line is being developed jointly between Pattern Energy and the New Mexico Renewable Transmission Authority (RETA). PNM will purchase the Western Spirit Transmission Line upon commissioning.

2+ BILLION

377 TURBINES

1,050 MEGAWATTS

New wind generation capacity to central-eastern NM

154-mile 345kV AC TRANSMISSION LINE

Opening eastern NM and its vast wind resources to export opportunities

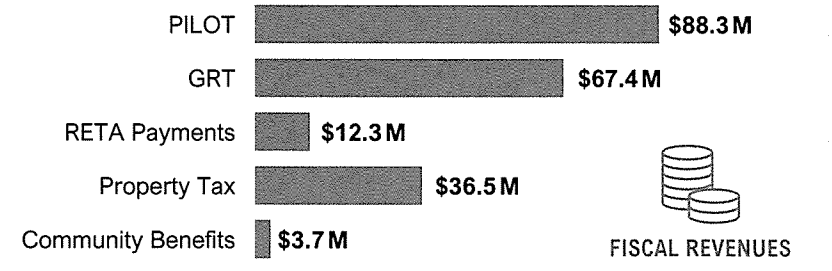
FISCAL IMPACTS

Total Economic Impacts (millions)	
Direct	$3,022.4
Direct & Indirect	$4,587.1
Direct, Indirect & Induced	$5,033.3

Total Job and Wage Impacts	Construction	Operations (30 years)
Total Jobs	965	57
Total Wages (millions)	$65.5	$130.8
Local Jobs	107	57
Local Wages (millions)	$6.4	$130.8

LANDOWNER BENEFITS

$426.1 million in payments to landowners over the life of the projects.



ENERGY EXPORT

The Western Spirit Transmission Line will connect to PNM's BB line at the expanded Clines Corners station. The "horseshoe" shape of the Western Spirit Transmission Line will also connect to the PNM grid west of Albuquerque, interconnecting with PNM's Mesa-Sandia line at the newly constructed Pajarito Switching Station in Bernalillo County.

The connection to the western interstate transmission grid at the Four Corners interconnect uses available wholesale capacity on PNM's San Juan transmission facilities.

EXPANSION OF NEW MEXICO'S RENEWABLE ENERGY GRID

The Western Spirit Line will **nearly double the transmission capacity** available to wind generation locations in east-central New Mexico by reinforcing the state's power grid through increased capacity, resilience, and redundancy. The new transmission line also contributes resilience, redundancy, and flexibility to PNM's system around its central New Mexico load centers.

Broadview & Grady projects' direct impacts have a discounted present value of $882.6 million—and total economic impacts of $1.2 billion.
Western Spirit Projects have a discounted present value of $1.6 billion direct and $2.8 billion total economic impacts.

NEW MEXICO ECONOMIC POLICY ISSUES REGARDING RENEWABLE ENERGY

New Mexico has a highly desirable environment for wind generation and renewable development.

RETA was established by the New Mexico legislature for the express purpose of developing and acquiring transmission facilities that would facilitate development of New Mexico's vast untapped wind and solar generation potential.

The legislature has established a financing mechanism—industrial revenue bonds (IRB)—that provides developers with up to 30-year tax-exempt treatment (Gross Receipts Tax and Property Tax).

In 2019, the New Mexico Legislature passed the Energy Transition Act which provides that "no later than January 1, 2045, zero carbon resources shall supply one hundred percent of all retail sales of electricity in New Mexico." (§ 62-16-4(A)(6) (NMSA 1978))

The U.S. Department of Energy WINDExchange rates New Mexico at a potential generation capacity of 653 GW (at 80 meters), which is third in the nation behind Texas (1,300 GW) and Montana (679 GW). The currently installed base of 2,723 MW of wind capacity ranks New Mexico 13th nationally.

Landowner Benefits

- Stabilization of rural economy
- Wind as a land-based resource—new support to sustainable renewable resource development
- Other community benefits (schools, medical, public safety)

Pattern's Partnerships

- Hired 60% of the graduates from Mesalands Community College Wind Technician program
- Donated to support the Region 9 Cooperative's education program to keep it active through the pandemic

Export Opportunity

Renewable portfolio standards (RPS) demand growth:

- Requires ~50% increase in U.S. renewable energy generation by 2030
- Equal to ~73 GW of new renewable energy generating capacity

Western electricity grid focus:

- 12 western states expected to increase total retail electricity sales of more than 158.7 terawatt-hours (TWh) between 2020 and 2050
- Reflects a nearly a 0.7% annual compound growth rate over 30 years

New Mexico Wind Resources Development

- Offers tens of thousands of square miles of rural ranchlands, providing a compatible co-location opportunity for complementary ranching and wind energy infrastructure
- Underdeveloped wind resources and stagnant rural economy offers ripe environment for development

Interstate Transmission Grid Improvement

- Transmission capacity issues:
  - Utilities are not building transmissions, but must redeploy existing capacity (fossil fuel retirement)
  - Private developer funding is based on long-term PPAs
- Private investment in the grid provides positive grid benefits—at no cost to rate payers
- Provides new transmission infrastructure (e.g., SunZia)

For 2021, American Clean Power reports total renewable energy capital development investments of $6 billion in New Mexico.

Pattern Energy's combined capital investments into the Broadview & Grady and Western Spirit projects total almost **$2.8 billion, accounting for approximately 48% of New Mexico's wind and solar renewable energy development capital expenditures through 2021.**

PREPARED BY MOSSADAMS

The analyses and opinions expressed herein are our own, unless otherwise attributed. Dr. John C. Tysseling and the Economic Consulting group may be reached at john.tysseling@mossadams.com.