



New Mexico Renewable Energy Transmission Authority

Interim Report

July 2024

[www.nmreta.com](http://www.nmreta.com)

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## Executive Summary

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- After a dozen years of hard work, RETA is accomplishing what it was tasked to do.
- The Western Spirit Transmission Project is in commercial operation as of December 2021, because of the RETA-Pattern Energy partnership.
  - 800 megawatts (MW) of wind power are flowing through the Western Spirit transmission line, making powerful wind resources accessible to the electricity grid in New Mexico and the broader western markets.
  - This project represents billions of dollars of investment in renewable power projects that could not otherwise be built due to limitations of the existing electric transmission grid.
- The SunZia Transmission Line, a 3,000 MW HVDC transmission project owned by Pattern Energy, broke ground in September 2023 and is expected to be in commercial operation in 2026. The partnership between Pattern Energy and RETA is to co-develop the New Mexico portion of this 550-mile project – approximately 350 miles.
- RETA has partnered with Southwest Power Group to co-develop the proposed RioSol transmission line, a 1,500 MW AC line that is expected to be in commercial operation in 2028 and is co-located with the SunZia Transmission Line.
- RETA has partnered with Ameren Transmission Company to co-develop the proposed 114-mile, 182 MW Lucky/Mora transmission line.
- RETA has partnered with Invenergy Transmission to co-develop the proposed 400-mile, 4,000 MW North Path transmission line.
- RETA organized and hosted a second Energy Storage Workshop on October 23 & 24, 2023, titled Energy Storage and Reliability for Our Renewable Future – over 200 attendees.
- RETA has two other projects under MOU's. The Crossroads-Hobbs-Road Runner transmission line is a 140-mile, 1,500 MW facility being developed by NextEra, and Grid United's Southline (Phase 2) will be 108-miles in New Mexico and carry 1,500 MW.

## **RETA Background**

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- RETA was established by the NM legislature in 2007 to plan, finance, develop and acquire high voltage transmission lines and storage projects to promote economic development in New Mexico.
- RETA is one of several state-level transmission authorities in the United States and only the second to have issued bonds. RETA-sponsored projects must transmit at least 30% of their power from renewable resources. Most of RETA's current projects are planned to carry 100% of their power from renewable resources.
- New Mexico has some of the most extensive and valuable wind and solar resources in the United States yet has little transmission capacity to access them. RETA was formed to aggressively help develop transmission and storage to cultivate this unique opportunity.
- RETA is working with developers to deliver clean electricity from wind and solar resources to both in-state and export markets.
- RETA's FY23 annual financial compliance audit was submitted in a timely manner to the Office of the State Auditor. There were no audit findings.

## **Western Energy Policies Have Changed Rapidly**

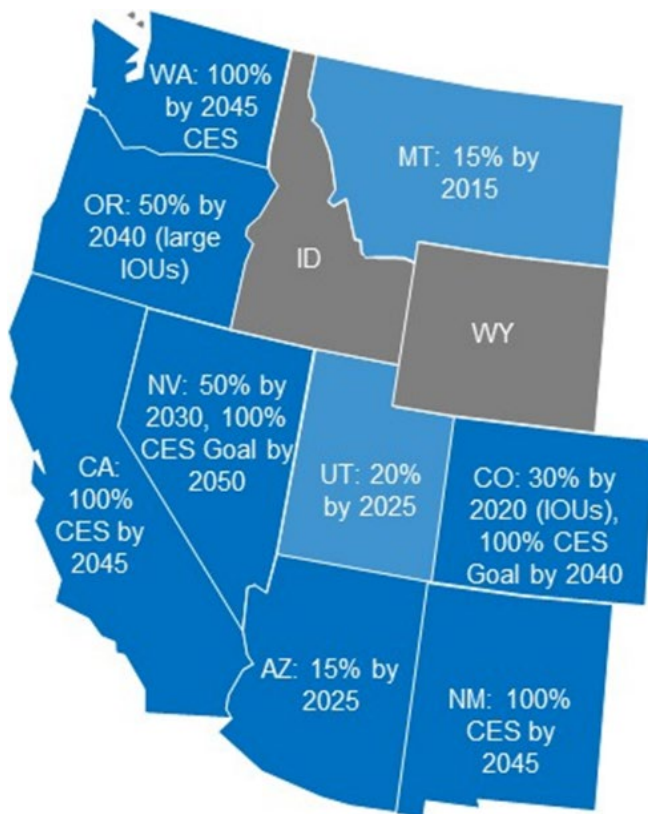
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- RETA is an essential link in supporting New Mexico's Energy Transition Act (ETA), which requires 100% zero-carbon electricity for utilities by 2045 and rural electric cooperatives by 2050.
- The ETA drives the development of ~4 Gigawatts (GW)\* of renewables by 2030, but renewable growth to 11.5 GW is possible by new transmission accessing export markets of Western states.
- Similar policies in the West drive development of ~100 GW renewables by 2035.
- There are about 10 GW of renewable power that are curtailed due to lack of transmission lines to end-use markets.

\* A Gigawatt is a unit of power equal to one billion watts and is enough energy to power about 750,000 homes.

## Renewable Energy Demand Will Grow in the West

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### Clean Energy Goals by State - Many western U.S. states have aggressive clean energy goals:

- New Mexico, California, and Washington require 100% clean energy supply or zero carbon resources by 2045.
- Nevada and Oregon require 50% renewable supply by 2030 and 2040, respectively. Nevada further aims to reach 100% clean energy by 2050.
- Colorado has implemented a 30% Renewable Portfolio Standard (RPS) by 2030, with a goal of 100% clean energy by 2040.
- Montana and Arizona have near-term targets similar to New Mexico's 2020 RPS targets.
- Voluntary standards exist in Utah.



## Great Economics Are Driving Wind & Solar

- Wind and solar are now cheaper than new gas and new coal, even without federal tax credit incentives.
- Wind and solar are a large part of new energy markets based solely on low costs.
- By the early 2030's new wind and solar will be cheaper than existing natural gas.
- An organized Western grid will require transmission upgrades and a flexible grid.

ICF study for NRDC

RETA Transmission Study, 2020. New Mexico Renewable Energy Transmission and Storage Study, consultant ICF Resources LLC.

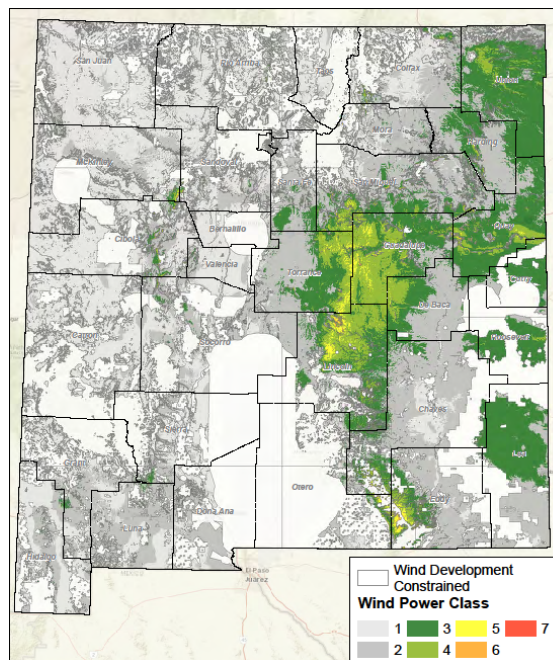
<https://nmreta.com/nm-reta-transmission-study/>

Sources: Energy Strategies, "Western Flexibility Assessment" (2019) and AWEA 2019 Q2 Market Report

Sources: Lazard, "Lazard's Levelized Cost of Energy Analysis" (2018); IRENA Future of Wind (2019)

### Wind Development Potential

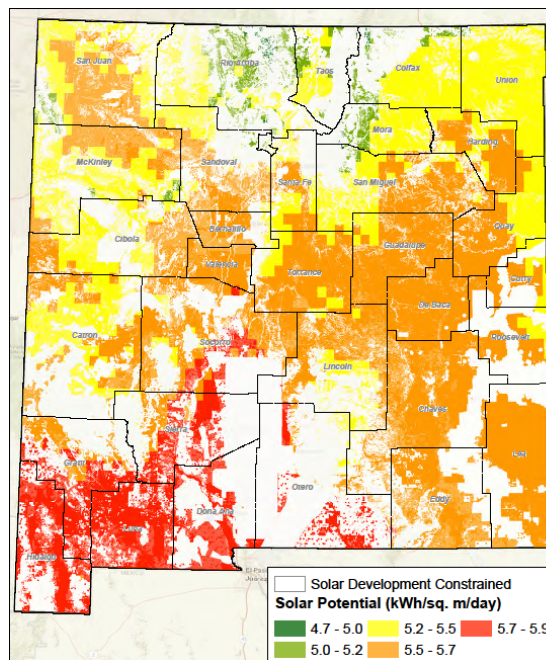
- Total developable land area for commercially viable wind equals 20,500 sq. mi.
- 18,500 sq. mi. on State Trust and private lands.



137,000 MW of highest quality wind potential on State Trust and private lands

### Solar Development Potential

- Total developable solar land area equals 68,000 sq. mi.
- 49,000 sq. mi. on State Trust and private lands.
- Over 9,300 sq. mi. in highest output areas.



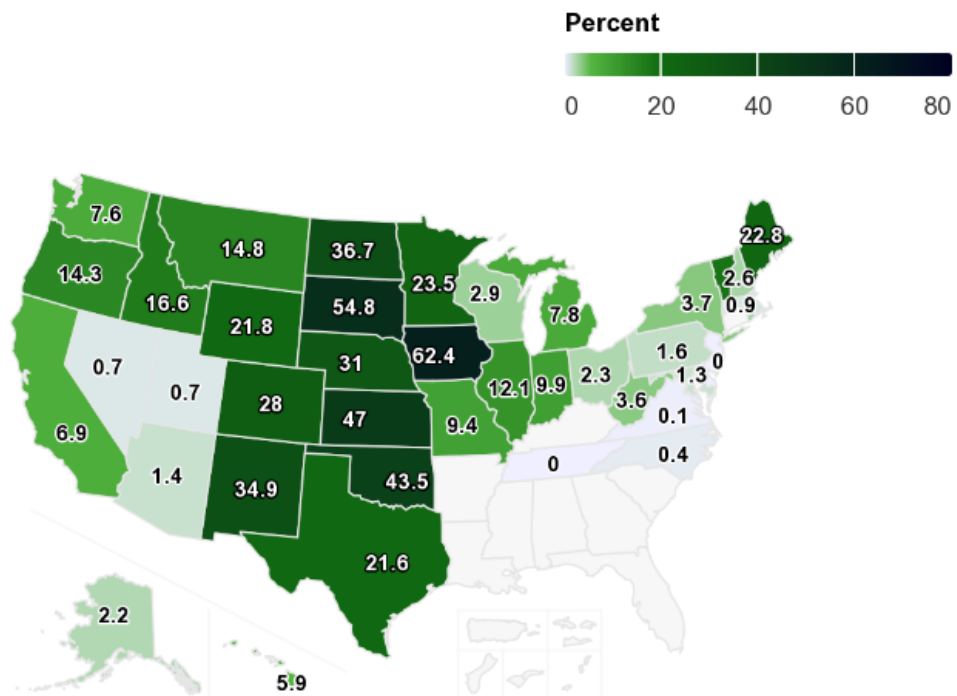
824,000 MW of highest quality solar potential on State Trust and private lands

## Significant Opportunity to Provide Wind Resources to the West

- New Mexico has direct access to transmission grids supporting the western and midwestern U.S.
- Neighboring states in the Midwest like Texas and Oklahoma already have significant development of utility-scale wind energy.
- Wind energy development in the West has lagged behind the Midwest.
- The western markets provide a significant opportunity for New Mexico wind facilities.

## 2022 U.S. Land-Based Wind Energy In-State Penetration

This map shows the 2022 land-based wind energy generation in the United States as a percentage of in-state generation.



© Natural Earth

## RETA Projects

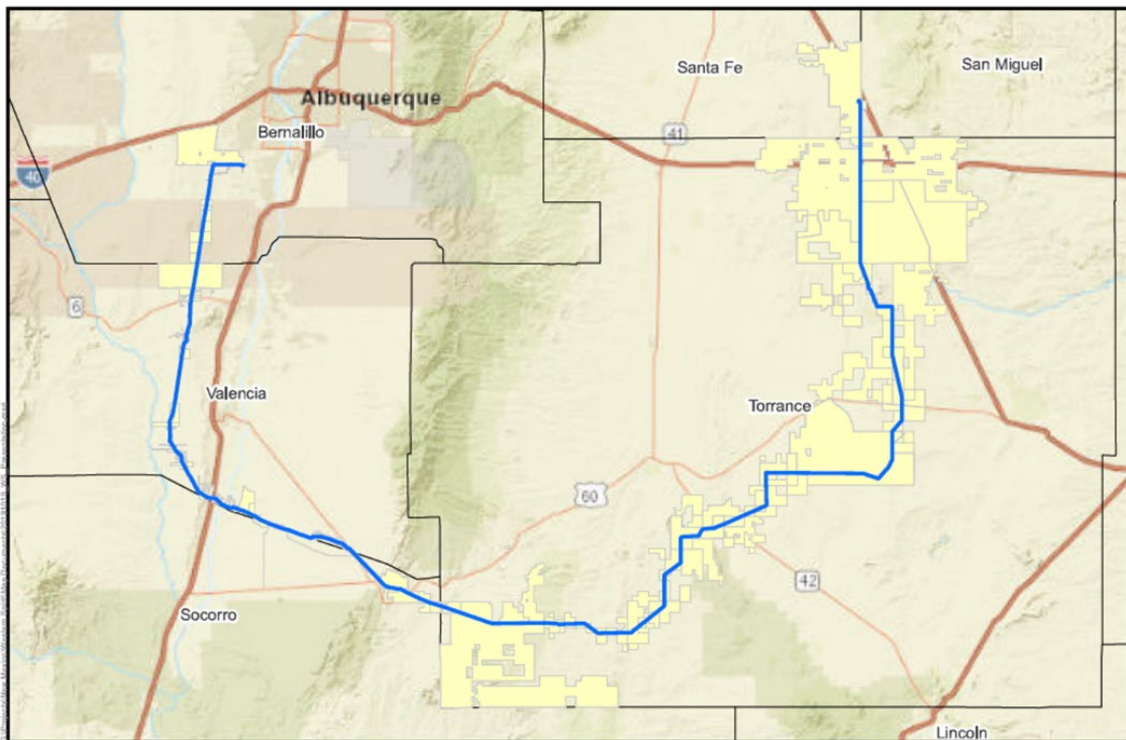
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- The RETA-Pattern Western Spirit project completed billions of dollars of financing for the transmission line and associated wind farms. It achieved commercial operation by the end of 2021 (800 MW of central NM renewable energy is being transmitted on the line).
- RETA has entered into development and lease agreements with SunZia and RioSol. SunZia is an HVDC 550-mile transmission line project in New Mexico and Arizona, with 315 miles located within New Mexico. SunZia is rated at a capacity of 3,000 MW. RioSol is an HVAC transmission line that is in parallel to SunZia and is rated at a capacity of 1,500 MW.
- RETA has entered into a development and lease agreement with Lucky/Mora Transmission, LLC (acquired by Ameren) for a project targeting the northeastern part of the state which has tremendous renewable resources.
- RETA has entered into a development and lease agreement with Invenergy for co-development of 400 miles of an HVDC transmission line that is rated to carry 4,000 MW of renewable energy known as North Path.
- RETA has entered into an MOU with NextEra Energy Transmission for possible development of the Crossroads-Hobbs-Roadrunner project, a 140-mile transmission line that was solicited by the Southwest Power Pool, the Regional Transmission Organization that operates transmission in southeastern New Mexico. The operation of this project will improve service and save money for utility customers in the area and unlock renewable energy constrained by insufficient transmission capacity.
- RETA has entered into an MOU with Grid United, LLC for possible development of Phase 2 of the Southline project, which starts from a sub-station south of Phoenix, AZ, and heads east along the border. Phase 2 will be a 108-mile portion of this line starting in Hidalgo County and terminating just west of Las Cruces at the Afton sub-station. The operation of this project will improve service and save money for utility customers in the area and unlock renewable energy constrained by insufficient transmission capacity to move power along the southern edge of New Mexico and Arizona.
- There are other major developers that are interested in forming a partnership with RETA. RETA is currently working on these agreements.
- Billions of dollars of transmission projects with thousands of jobs are some of the benefits of completed projects and others in development. RETA is the essential link in allowing our State to make renewables work and upgrading our transmission grid. RETA transmission projects are supporting renewable energy development that will help meet the requirements of the Energy Transition Act.



## Western Spirit Transmission Line Project

- Western Spirit is a 150-mile, 345-kV AC transmission line that is the first of its kind public-private partnership between RETA and Pattern Energy.
- RETA began development of Western Spirit in 2010 after it was identified in a NM transmission system study by Los Alamos National Laboratories.
- Commercial operation started in late 2021 and then the line was sold to PNM and added to their existing grid. (This purchase did not impact New Mexico rate payers; 100% of the cost is borne by the wind farms that transmit electricity along the line.)
- 100% of the power comes from renewable resources located in central New Mexico. More than 590,000 homes are powered by the clean, renewable energy generated by this project.
- Western Spirit made possible billions of dollars of investment in renewable power projects that could not otherwise be built due to limitations of the existing electric transmission grid. The project generated nearly two billion dollars in net economic impact.



— Western Spirit Transmission  
■ Parcels

**Western Spirit Transmission  
New Mexico**

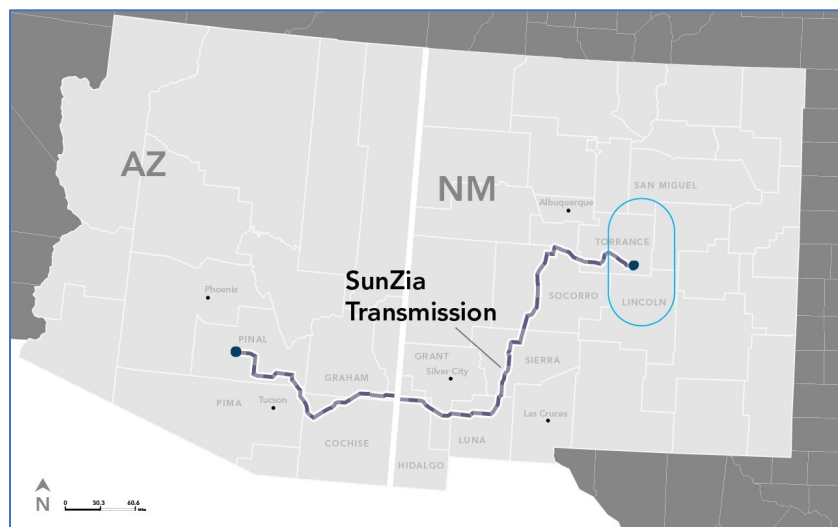


### **Western Spirit Project Map**

## SunZia Transmission Line Project

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- Transmission project under construction from central New Mexico to south-central Arizona that will span 550-miles.
- Designed to bring high-quality renewable wind energy from New Mexico to western utilities and power markets.
- Project consists of a 525 kV HVDC line providing up to 3,000 MW of transfer capacity.
- The SunZia transmission line will unlock the development of the SunZia wind project, a 3,500 MW wind farm with 950 turbines in Torrance, San Miguel, and Lincoln Counties in central New Mexico.
- The SunZia line and SunZia wind projects total \$11 billion of infrastructure investment. This project is currently under construction with approximately 2,000 construction workers in the field – 500 for the transmission line and 1,500 for the wind farms. Approximately 150 permanent jobs will be created.
- Commercial operation is targeted for early 2026.



**SunZia/ Project Map**

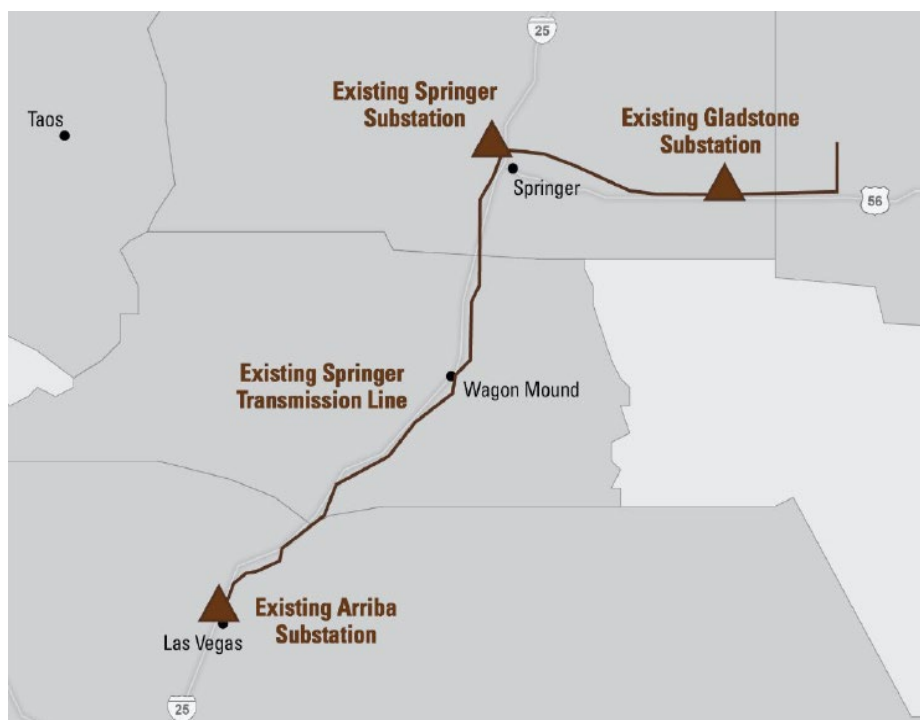
## RioSol Transmission Line Project

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- In parallel to SunZia, the RioSol transmission line is being developed and permitted as an AC line rated at 1,500 MW.
- This 500 kV AC line is designed to interconnect with additional wind and solar renewable energy resources in New Mexico.
- The project is projected to be completed in 2028.

## Lucky/Mora Transmission Line Project

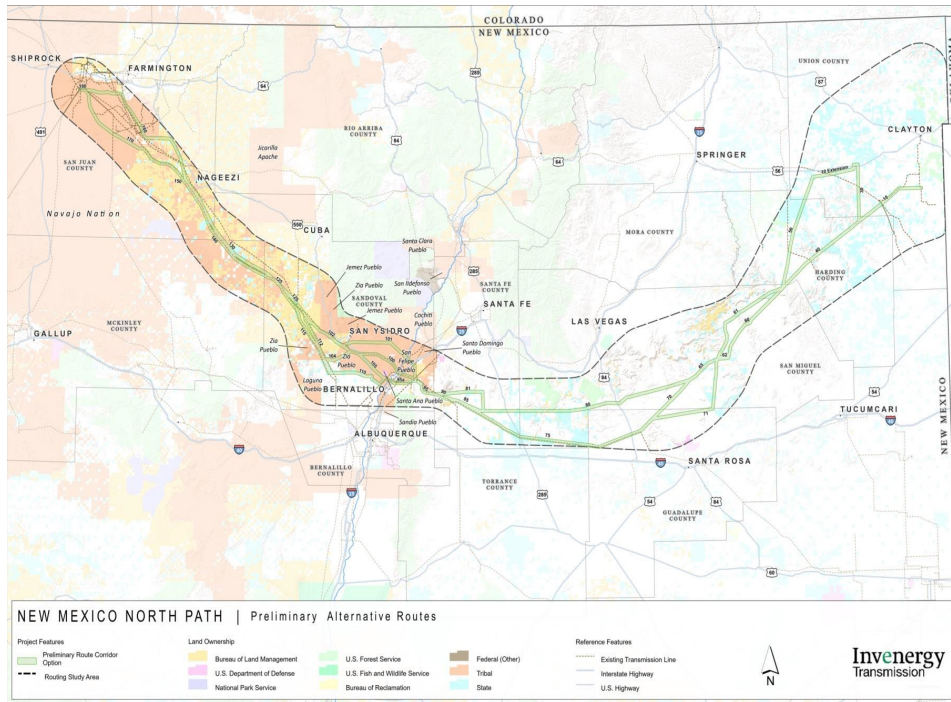
- Proposed 115-mile transmission project from Union County to interconnect with the PNM Arriba substation in San Miguel County.
  - 49-mile 345 kV AC line from the Don Carlos Wind Farm to the Tri-State Springer substation.
  - 66-mile 115 kV AC line from Springer substation to PNM substation.
  - Combination of new route and co-location with existing transmission lines.
- Designed to deliver high-quality wind generated electricity from northeastern New Mexico to an interconnection with the New Mexico grid.
- Currently securing real property site control and access.



**Lucky/Mora Line Project Map**

# North Path Transmission Line Project

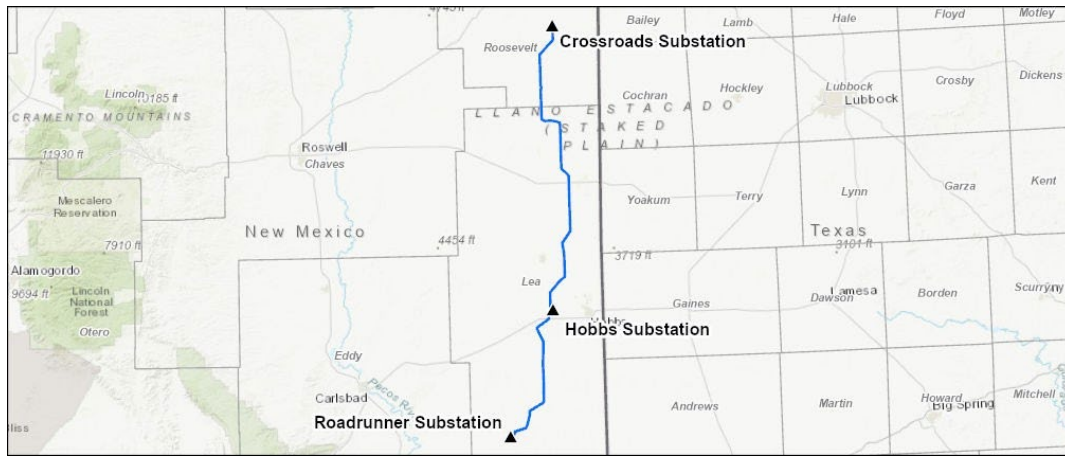
- The North Path transmission line is a proposed 400-mile, 525-kV HVDC project designed to carry 4,000 MW of renewable energy from northeastern New Mexico to interconnect to the Four Corners Substation in northwestern New Mexico.
- RETA entered into an agreement with Invenergy Transmission to develop the project which has an expected completion date of 2032.



**North Path Transmission Line Project Map**

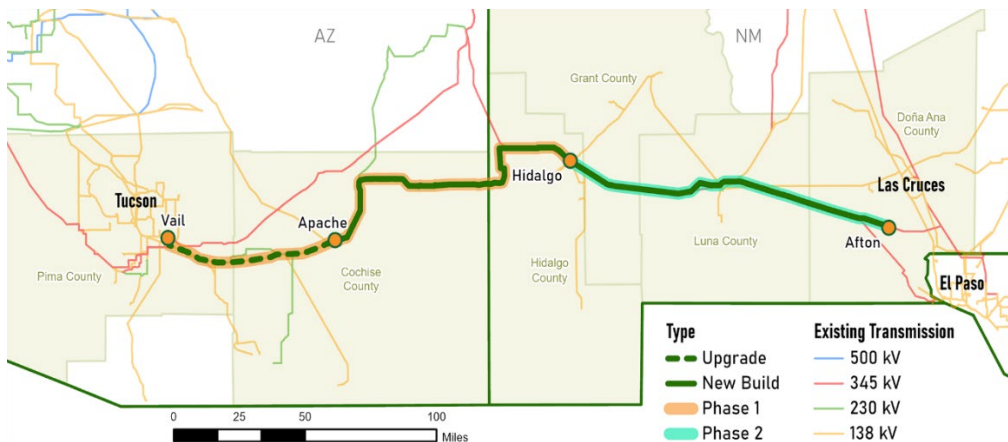
## Crossroads-Hobbs-Roadrunner Transmission Line Project

- RETA signed an MOU with NextEra Energy Transmission Southwest for the Crossroads-Hobbs-Roadrunner Transmission Line.
- This proposed 140-mile 345 kV line will interconnect substations for resiliency on the eastern portion of the state. Awarded through an RFP process by the Southwestern Power Pool – the Regional Transmission Organization in the middle of the US.
- The project will be in commercial operation by the end of 2026.



## Southline Transmission Line Project

- RETA signed an MOU with Grid United for Phase 2 of the Southline Transmission project, running from the Pima County, AZ substation south of Phoenix to just west of Las Cruces, NM.
- The second phase of this transmission line starts in Hidalgo, NM, running east to Afton substation.



## **RETA's 2023 Energy Storage Workshop**

- RETA hosted a two-day workshop, *Energy Storage and Reliability for Our Renewable Future* on October 23 & 24, 2023 at La Fonda. There was no cost to participate.
- About 200 people attended from New Mexico and across the nation.
- Twenty expert New Mexican and national speakers discussed existing and emerging energy storage technologies, as well as related permitting, policy, and financing challenges.
- The topic of storage is critical. As we increase the generation of renewable energy and decrease our reliance on coal and natural gas generation, our electrical transmission will require that we add significant energy storage capacity to reliably serve the public.



## **RETA's Renewable Energy Transmission & Storage Study**

See 2020 New Mexico Renewable Energy Transmission & Storage Study, online at

<https://nmreta.com/nm-reta-transmission-study/>

The following individual documents are available at the link above.

- Executive Summary for the 2020 Study
- Synopsis of the 2020 Study
- The 2020 New Mexico Renewable Energy Transmission & Storage Study
- Executive Summary of the 2022 Study Update
- The 2022 Study Update
- The 2022 In-state Energy Storage report

## **Part of RETA's Core Mission is Collaboration on Policies**

### **COMMUNICATION ON POLICIES**

Maintain communication between local, state, and federal leaders, to implement energy policies that benefit New Mexico.

### **ENSURE LOCAL CONCERNS ARE THOUGHTFULLY ADDRESSED**

Well-meaning local advocacy to prohibit all development could counter state renewable goals and damage critical projects. RETA works with stakeholders to resolve these issues.

### **PRUDENT FISCAL POLICIES**

Care needs to be taken on taxation of renewable and transmission industries so as to not shift competition in favor of other western states. RETA works with the Legislature to ensure New Mexico remains competitive in energy development.

### **ATTRACT INDUSTRY & INVESTMENT**

Attracting renewable and transmission industries can lead to billions of dollars of investment.

## RETA FY23 Financial Statement

### **New Mexico Renewable Energy Transmission Authority**

Statement of Revenues, Expenditures and Change in Fund Balance  
Governmental Fund

For the Year Ended June 30, 2023

AUDITED

	<u>General Fund</u>
<b>Revenues</b>	
Project Development	\$ 1,100,000
Developer payments	531,703
Interest Income	23,200
Total Revenue	<u>1,654,903</u>
<b>Expenditures</b>	
Current	
Personnel	565,330
Contractual services	465,381
Other	42,837
Office	16,280
Telephone and internet	14,609
Insurance	13,865
Travel and meetings	7,410
Rent and Utilities	6,999
Capital outlay	6,110
Debt service - building lease	
Principal	37,881
Interest	1,419
Total Expenditures	<u>1,178,121</u>
Net change in fund balance	476,782
Fund balance, beginning of year	<u>957,502</u>
<b>Fund balance, end of year</b>	<u><u>\$ 1,434,284</u></u>

## RETA's Action Plan

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*The following goals are selected results from RETA's 2024 Strategic Plan and are short term, actionable measures to be taken to address administrative, policy, and technical issues.*

✓ **RETA's priorities are:**

- Continue and expand transmission and storage infrastructure for renewable energy in New Mexico.
- Encourage New Mexico utilities to be a part of a Regional Transmission Organization (RTO) to deliver power more efficiently and cost-effectively to New Mexicans.
- Explore the potential of adding a new export hub to the New Mexico transmission grid.
- Streamline the permitting process to reduce unnecessary delays while not cutting any corners.
- Plan and host a third workshop in 2025.

✓ **RETA will continue:**

- Working with our development partners.
- Reaching out to the public and policy makers regarding the recommendations presented in the Transmission & Storage Study.
- Collaborating with existing partners and expanding relationships.
- Developing new agreements and partnerships with world-class developers in renewable energy and transmission.
- Working with major participants in renewable energy development to prioritize transmission corridors and simplify siting.
- Evaluating the delivery of renewable energy to in-state customers and recommending improvements to New Mexico's grid.
- Monitoring technological advances of long-duration energy storage facilities and the development of microgrids.
- Participating in WestConnect and other transmission planning forums to expedite transmission to regional markets.
- Studying regional efforts such as the California Independent System Operator (CAISO) Extended Day-Ahead Market (EDAM), Southwest Power Pool's (SPP) Markets+, and the development of a western RTO.
- Working with state and federal agencies to streamline permitting, creating a predictable regulatory landscape to build transmission in less time.

## **RETA Board of Directors**

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**Robert Busch**, Chairman of the Board  
**Laura M. Montoya**, New Mexico State Treasurer  
**Melanie Kenderdine**, EMNRD Cabinet Secretary  
**Dr. James Miller**  
**Jeremy Lewis**  
**Phoebe Suina**  
**Mayane Chavez Barudin**

## **Conclusion: The Bottom Line**

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- The RETA Legislation is accomplishing what New Mexico set out to do in 2007.
- With the passage of the Energy Transition Act, New Mexico is becoming a national leader in generation and transmission of renewable energy.
- The Western energy market is demanding enormous amounts of renewable energy.
- RETA is the essential link for our State to upgrade our transmission grid and access renewable resources. Thus, continuing RETA's work is critical to New Mexico's future.