



**SunZia**<sup>®</sup>  
DELIVERING CLEAN ENERGY

## SunZia Southwest Transmission & Pattern Wind Energy





## SUNZIA PROJECT PARTICIPANTS



Southwestern Power Group (SWPG) is an independent developer of utility-scale generation and transmission assets, with a market focus in the desert Southwest. Since 2000, the company has distinguished itself as a leading force in evolving energy markets, including renewable energy, storage and smart electrical grids. SWPG is comprised of a select, experienced group of individuals with decades of experience in finance, permitting, licensing, real estate, construction and operations. [www.southwesternpower.com](http://www.southwesternpower.com)



MMR is a global infrastructure firm with more than 4,000 full-time employees in the U.S. and a reputation for completing domestic and global projects within budget, on time and with unwavering consideration for safety. Across the globe, MMR has served clients in the renewable energy, chemical and petrochemical, oil and gas, industrial manufacturing, power generation and power development markets. [www.mmrgp.com](http://www.mmrgp.com)



Pattern Energy is one of the world's largest privately-owned developers and operators of wind, solar, transmission, and energy storage projects. Its operational portfolio includes 28 renewable energy facilities that use proven, best-in-class technology with an operating capacity of 4.4 GW in the United States, Canada and Japan. Pattern is New Mexico's largest clean power company and has a long-term commitment to protect the environment and strengthen communities. [www.patternenergy.com](http://www.patternenergy.com).

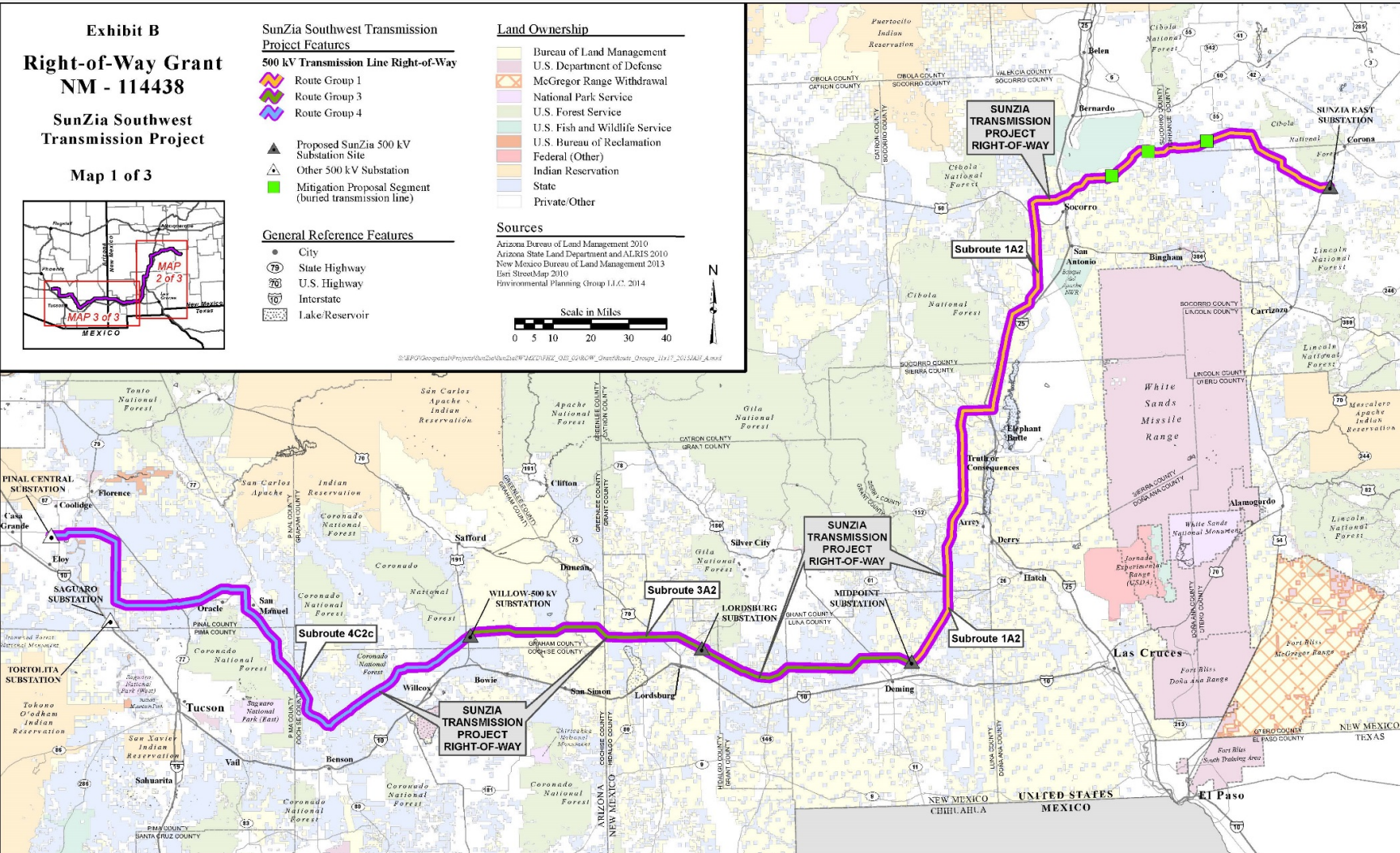


The New Mexico Renewable Transmission Authority (RETA) is a state government entity established to identify and develop transmission and to enable renewable energy in New Mexico. RETA partnered with MMR and SWPG to facilitate SunZia as a benefit to the grid and is now a co-developer of the project. RETA has also worked with Pattern Energy to develop and construct the Western Spirit line. [www.nmreta.com](http://www.nmreta.com)

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# SunZia Southwest Transmission Project



Proposed in New Mexico and Arizona and will exceed 500 miles in length

Two 500kV lines providing up to 4,500 MW of transfer capacity

SunZia's first customer is Pattern Energy that will own and operate wind generation facilities in central New Mexico

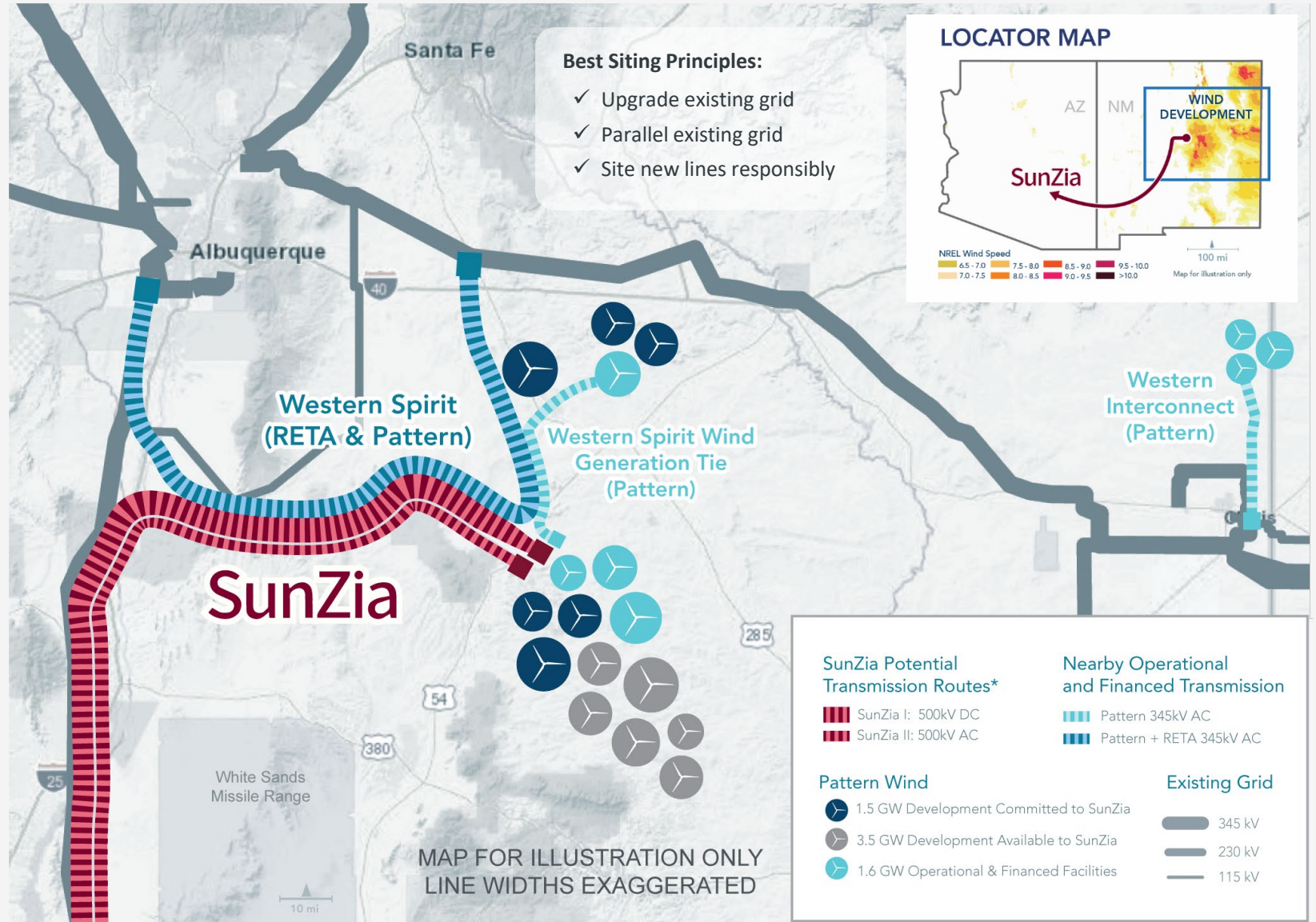




# SUNZIA PROJECT AREA

	TRANSMISSION	WIND
<b>SunZia I</b>	500+ mi DC 3 GW Transfer Capacity	3,200 MW In Service by 2025
<b>SunZia II</b>	500+ mi AC 1.5 GW Transfer Capacity	1,850 MW In Service after 2025

## PROJECT PARTICIPANTS



Note: Pattern Energy's wind development assets are separate and distinct projects from SunZia I and SunZia II. Wind installations will be larger than line capacities to maximize transmission efficiency.

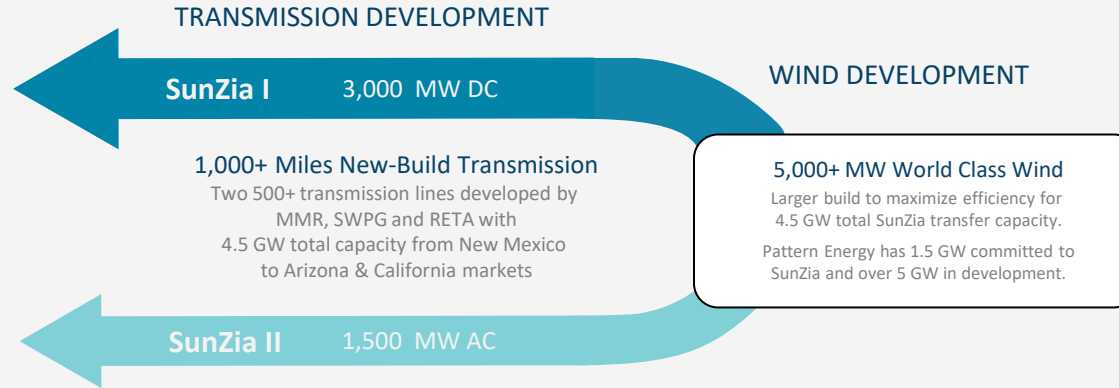
\*Final route will be determined by BLM during NEPA.



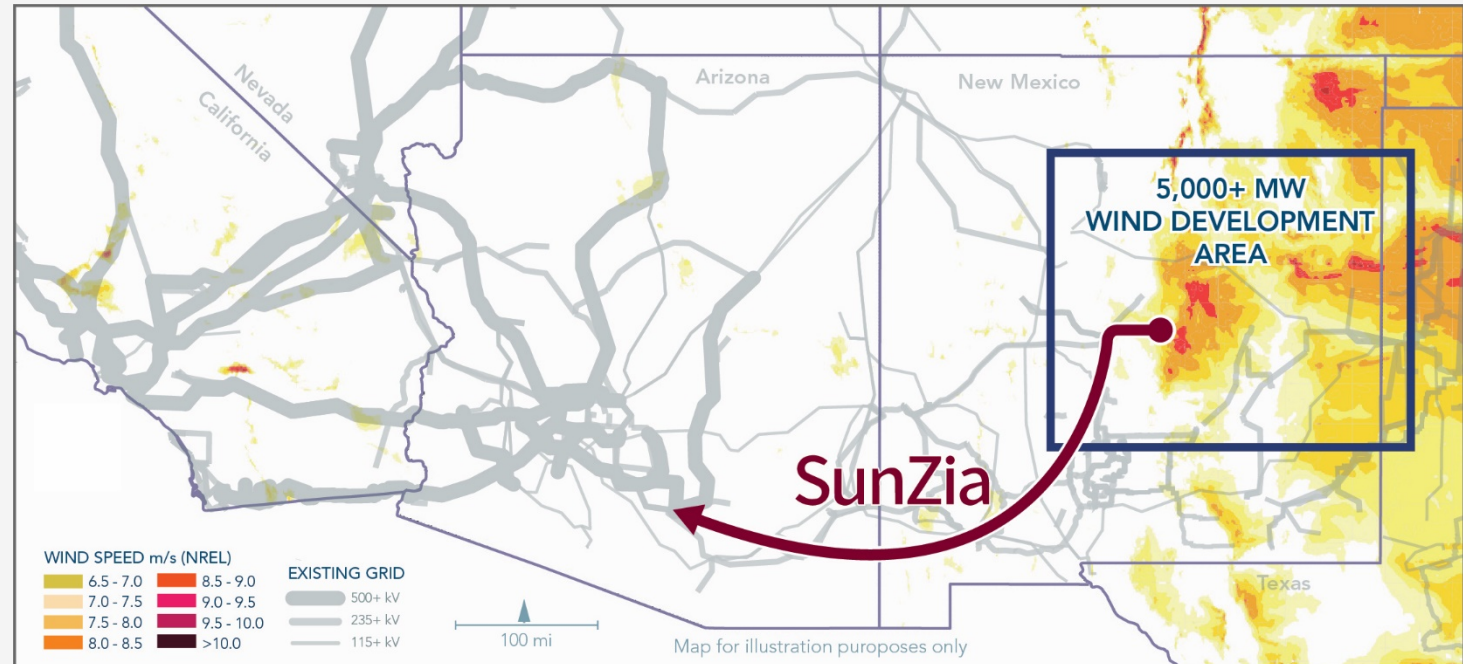


# SUNZIA PROJECT DESCRIPTION

	TRANSMISSION	WIND
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## PROJECT PARTICIPANTS



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# History & Background

- 2006: Project Initiation
- Sept 2008: SF-299 submitted to BLM
- June 2013: Final EIS issued by BLM
- 2014: Environmental Assessment on Department of Defense (DoD) Mitigation Proposal
- Jan 2015: BLM issued a Record of Decision
- Mar 2016: Memorandum of Agreement (MOA) with DoD on Mitigation Proposal
- Sept 2016: Executed ROW Grant Agreement with BLM
- Starting 2016: Per the MOA, regular meetings with White Sands Missile Range and coordination on their test operations in New Mexico
- Dec 2018: Started evaluation a potential re-route that would avoid the WSMR testing area
- Mar 2020: SF-299 submitted to federal agencies

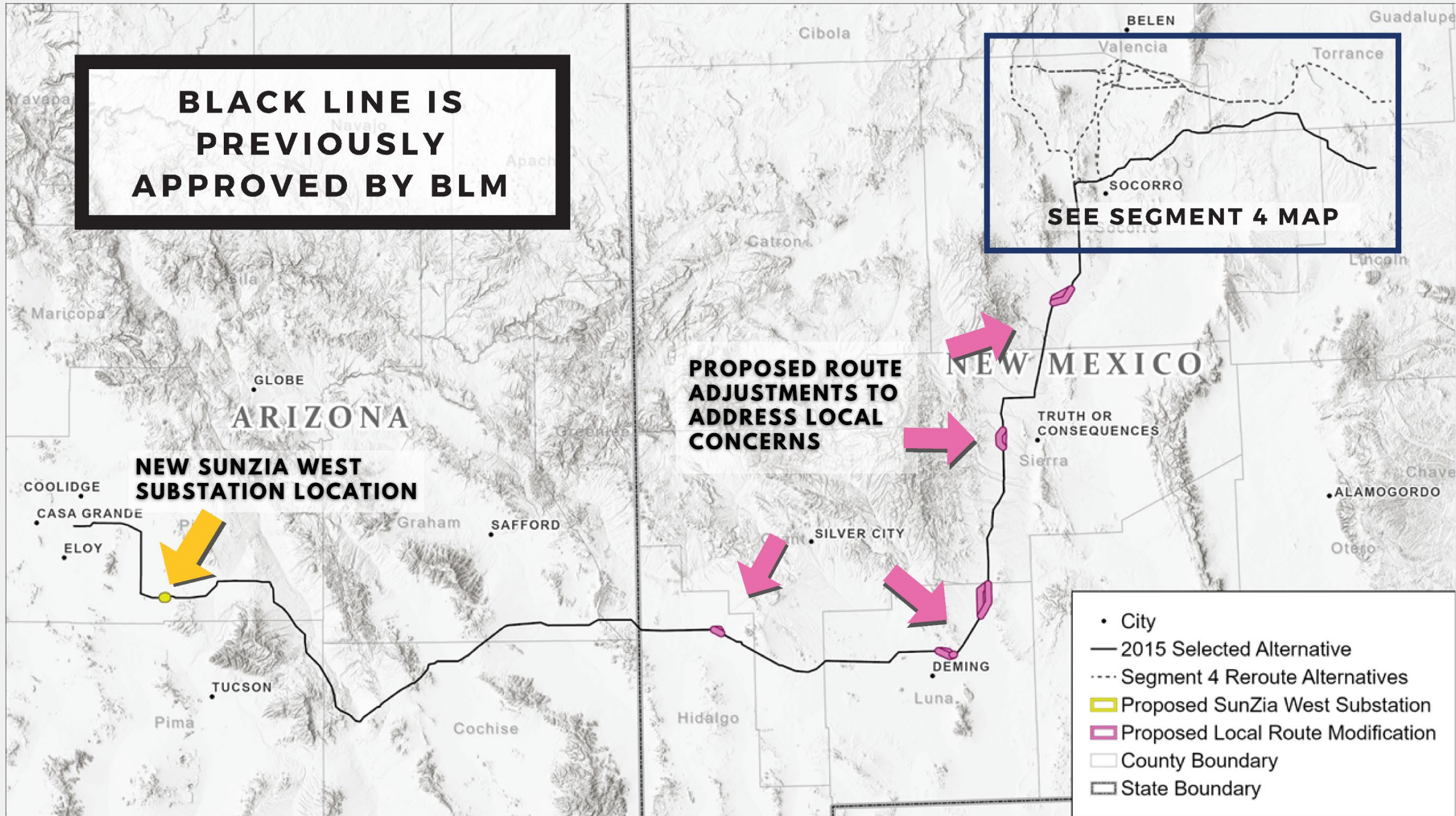


**BLACK LINE IS  
PREVIOUSLY  
APPROVED BY BLM**

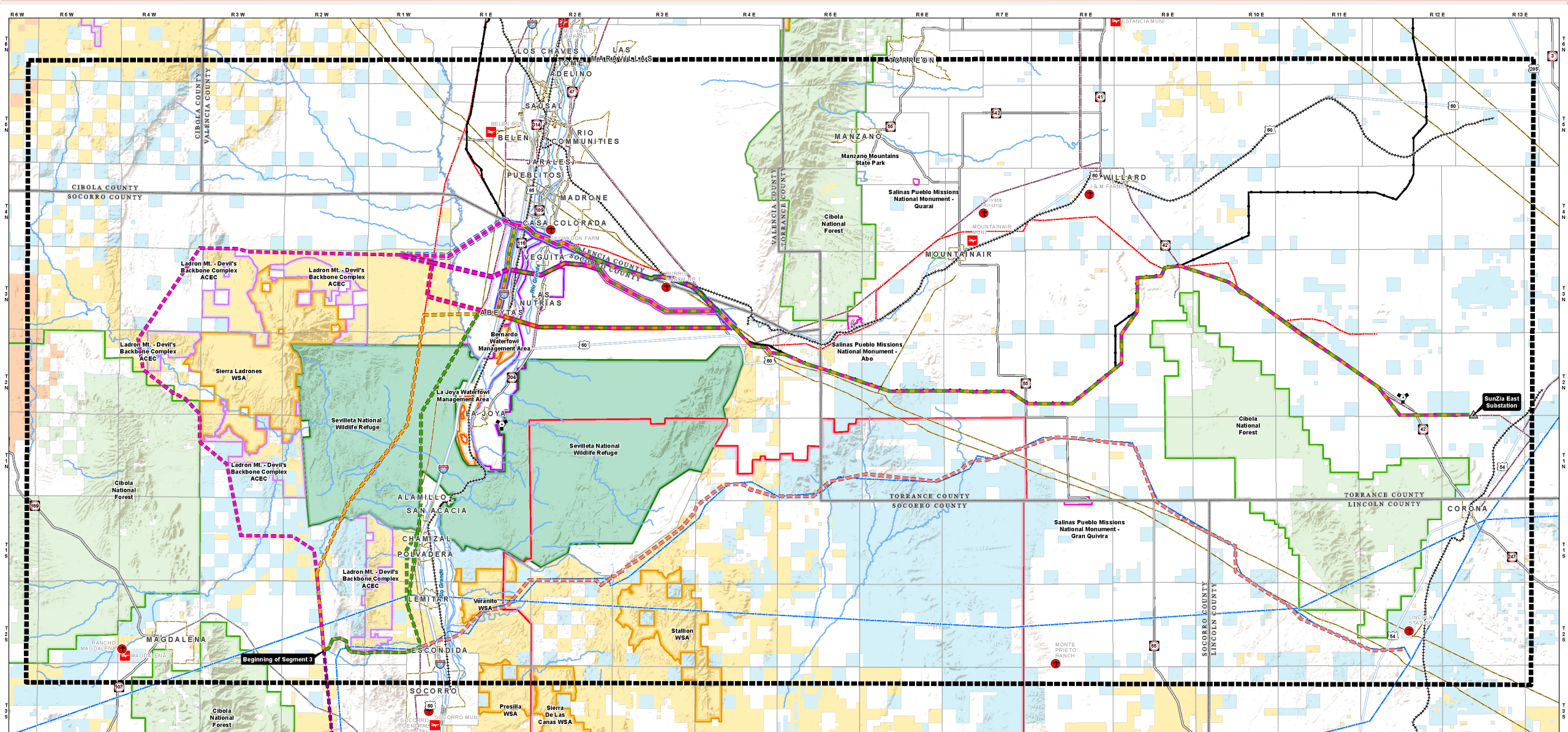
**SEE SEGMENT 4 MAP**

**PROPOSED ROUTE  
ADJUSTMENTS TO  
ADDRESS LOCAL  
CONCERNS**

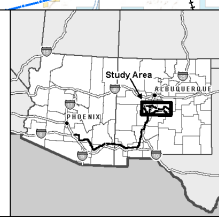
**NEW SUNZIA WEST  
SUBSTATION LOCATION**







<b>Project Features</b> Planned SunZia East Substation Segment 4 - 2015 Selected Route Segment 3 Study Area <small>*All alternative routes use their corresponding sub route.</small>	<b>Alternative Routes</b> Route 1 Route 2 Route 3 Sub Route A-1 Sub Route A-2 Sub Route A-3 Sub Route A-4	<b>Existing Utilities</b> Planned Western Spirit 345 kV Transmission Line 69kV Transmission Line 115kV Transmission Line 138kV Transmission Line	<b>Transportation Features</b> Interstate Highway U.S. Highway State Highway Railroad River / Stream 161kV Transmission Line 230kV Transmission Line 345kV Transmission Line 500kV Transmission Line Oil / Gas Pipeline	<b>Jurisdictional Areas</b> Bureau of Land Management National Park Service U.S. Forest Service U.S. Fish and Wildlife Service Public Airport Private Airstrip Navigational Aid (VORTAC)	<b>Administrative Boundaries</b> City Limit County Boundary Socorro Special Zoning District Area White Sands Missile Range Northern Call Up Area (NCUA) Tribal Land State Land Private / Other	BLM Area of Critical Environmental Concern (ACEC) BLM Wilderness Study Area (WSA) National Wildlife Refuge (NWR) Ladd S. Gordon Waterfowl Management Complex National Forest National Monument New Mexico State Park PLSS Township Range
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SunZia Southwest Transmission Project  
 Right-of-Way Grant  
 Figure R1-18  
 Component 3 -  
 Segment 4 Alternative Routes

0 3 6  
 Miles

SunZia  
 Date: 9/16/2021



# SunZia EIS and Plan of Development

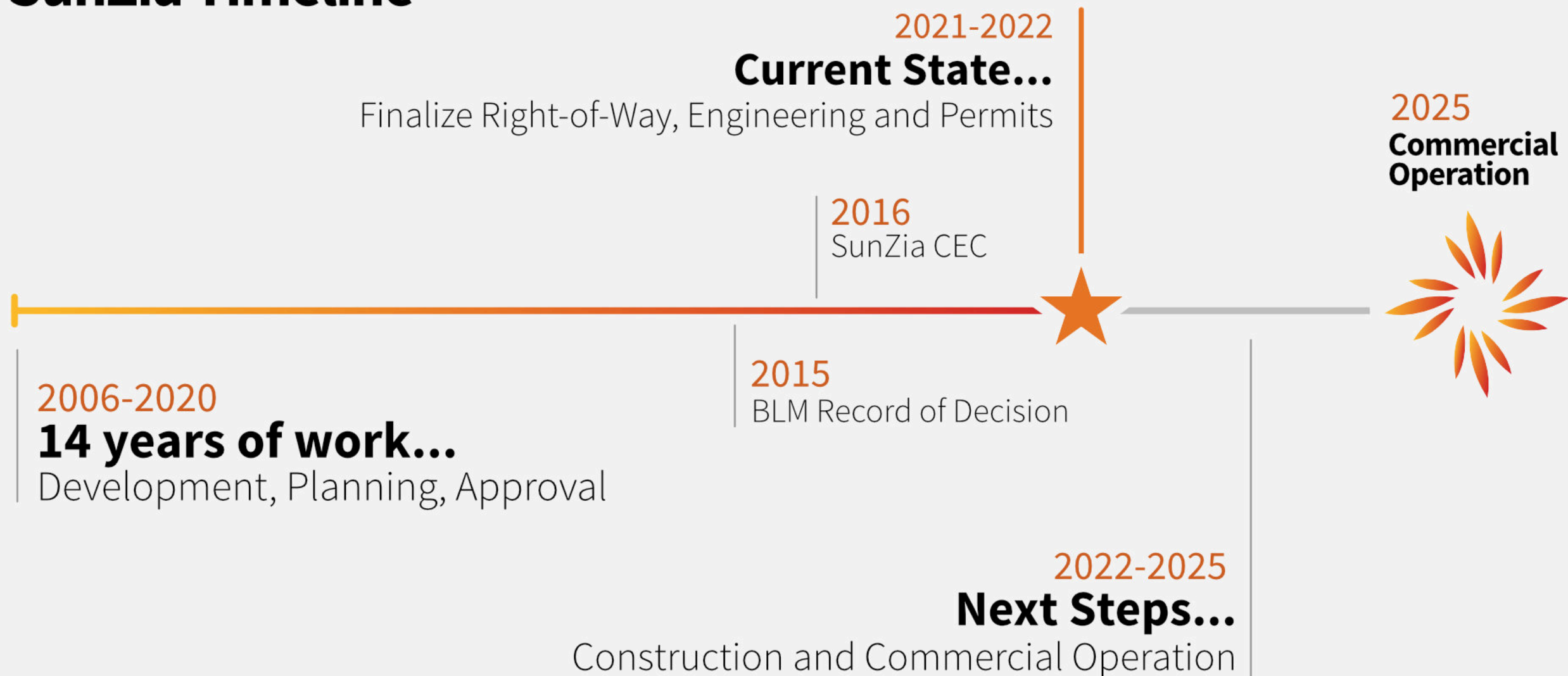
- Draft EIS will include a visual analysis that will include Key Observation Points throughout the SunZia Project area, including Socorro County
- Plan of Development
  - Construction Plan and Program
  - Emergency Preparedness and Response Plan Guidelines
  - Fire Protection Plan

# SunZia EIS Schedule

<b>Milestone</b>	<b>Start Date</b>	<b>End Date</b>
EIS for Project Changes	March 27, 2020	April 26, 2023
Issuance of Notice of Intent to prepare an EIS		June 4, 2021
Public Scoping and Comment Period	June 4, 2021	July 6, 2021
Cooperating Agency Review of ADEIS	January 6, 2022	January 20, 2022
Notice of Availability of Draft EIS and POD		April 2022
Draft EIS Public Comment Period (90 days)	April 2022	July 2022
BLM Publishes FEIS		January 2023
BLM Record of Decision		March 2023



# SunZia Timeline



**Thank You!**







# SUNZIA ENVIRONMENTAL RESPONSIBILITY

## Conservation Stakeholder Engagement

SunZia and Pattern Energy have spent over four years meeting with environmental experts to inform the science-based solutions at the heart of the NEPA permit application.

The result is a replicable model of engagement as a gold standard of direct dialogue with the nation’s top biological and conservation experts, as well as local stakeholders. The premise was to **listen**, **learn**, and **plan** for siting, conservation and mitigation practices and achieve conflict resolution.

Sustained and iterative engagement with local, regional, and national leaders from conservation community has allowed SunZia and Pattern to identify important environmental issues and priorities, resulting in meaningful changes to project design and conservation benefit strategy and commitment.

## Environmental Working Group

Pattern and SunZia meet routinely with leading environmental organizations from civil society to assess project resource impacts and permitting challenges and assumptions to ensure that the project advances climate and infrastructure needs without compromising important conservation priorities.

## EXAMPLES OF GROUPS CONSULTED



Pattern & SunZia Staff touring potentially impacted area with environmental groups

*"Wind projects like Pattern's have a development footprint, but the **renewable energy** they produce is essential to stemming the threat posed by climate change. Renewable energy is key to mitigating the dire impacts of climate change at local, national and global levels."*

- Jaime Rappaport Clark  
CEO, Defenders of Wildlife  
*Albuquerque Journal, 2019*



# SUNZIA: AMERICA'S LARGEST CLEAN POWER PROJECT



**5,000+**  
**1,000+**

MW American Wind Energy  
Miles Transmission Infrastructure



**4,000+**  
**12 Million**

Clean Energy Jobs  
Metric Tons CO<sub>2</sub> Annual Offset



**\$28 Billion**  
**\$20 Billion**

Private Investment  
Economic Benefits



**50 Million**  
**.64 Percent**

Americans' Electricity Needs Served  
U.S. Electricity GHG Reductions



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DELIVERING CLEAN ENERGY

Numbers reflect full transmission build and also total wind capacity enabled.

Sources: EPA emissions calculator, U.S. Census, Moss Adams, IMPLAN Systems model





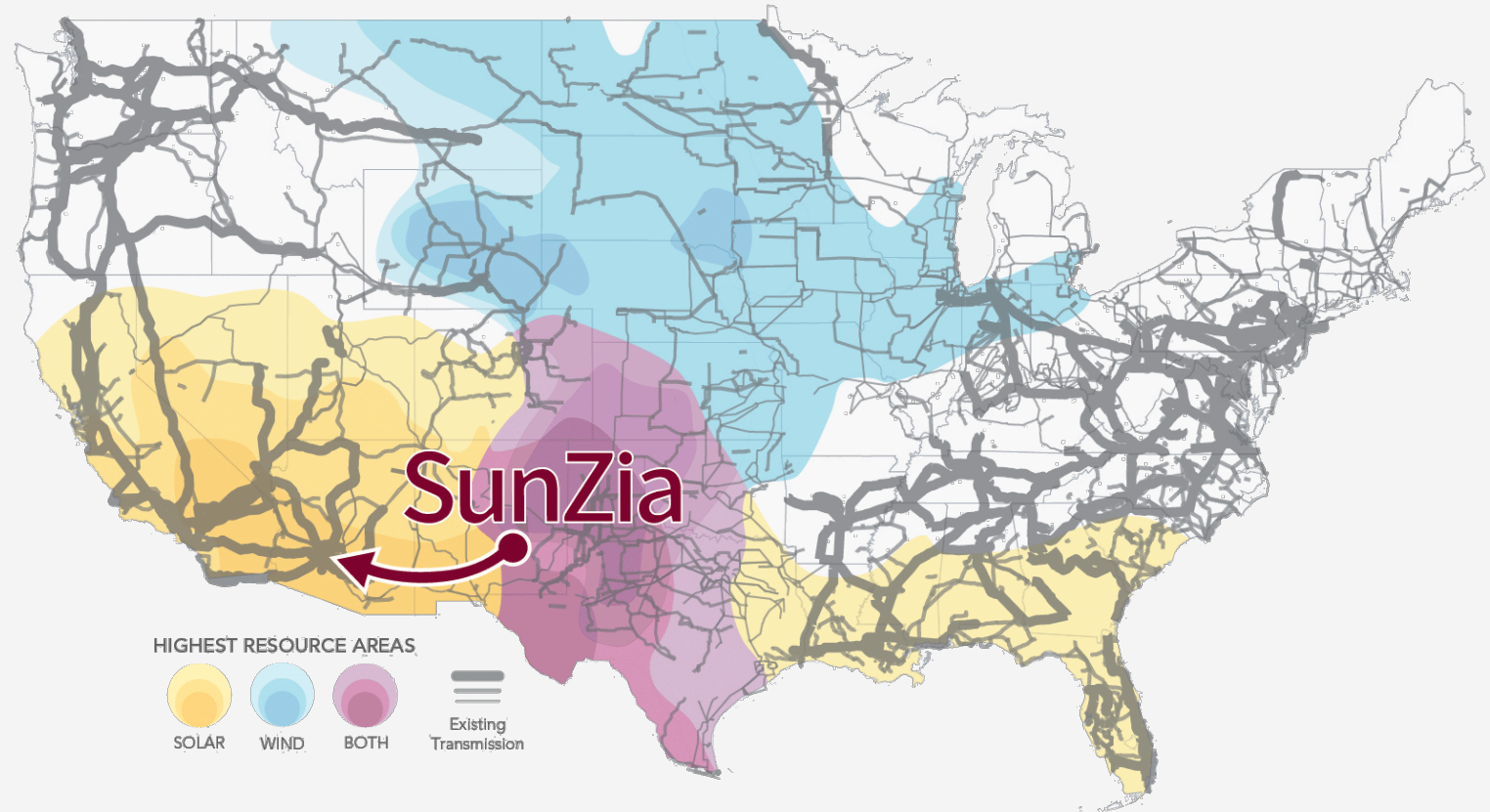
## EXECUTIVE SUMMARY

The SunZia Southwest Transmission Project (“SunZia”) is one of the nation’s most innovative and impactful clean energy projects, designed as a superhighway for wind power in the American West. It is one of the largest, most viable near-term opportunities to unlock a historic and unprecedented amount of clean power for markets that need it most. SunZia will enable over \$28 Billion of private economic investment, driving down significant levels of U.S. emissions, and creating thousands of good-paying jobs in underserved rural communities.

SunZia is a rare late-stage transmission development project with over a decade of community outreach among environmental groups, local stakeholders and governments, unions, and the U.S. Military, as well as partnerships with best-in-class wind developers and a rigorous gold-standard plan for environmental siting.

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**Largest Clean Power Project in U.S. History**







## SUNZIA ALIGNS WITH FEDERAL PRIORITIES

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### Largest Clean Power Project in U.S. History

Federal NEPA Action Enables Construction by **2022 Mid-Terms**

Federal Policies, Values and Goals	SunZia	Detail
<b>Federal Permits for Renewables</b> <small>Sec. 207, Executive Order on Tackling Climate Crisis</small>	✓	Permit approvals for SunZia would be a clear win for the Executive Order, unlocking 5,000+ MW of wind energy with construction as early as 2022.
<b>25 GW of New Federal Permits for Renewables by 2025</b> <small>Sec. 3104, FY2021 Consolidated Appropriations Bill</small>	✓	SunZia alone would represent 20% success for the 25 GW renewable energy permitting goal, as a single Federal action enables 5+ GW of wind.
<b>100% Carbon-Free Grid by 2035</b> <small>The American Jobs Plan</small>	✓	SunZia is a unique near-shovel-ready interregional project enabling the best wind and solar in the West to backstop each other, which is needed for a 100% clean grid. Recent blackouts in California and Texas point to the critical need for such regional connections to prevent emergencies as we approach a carbon-free grid.
<b>Good-Paying Jobs, with Opportunity for Unions</b> <small>The American Jobs Plan</small>	✓	SunZia is committed to creating good-paying jobs, and project participants Pattern Energy and the New Mexico Renewable Energy Transmission Authority (RETA) have a record of hiring union labor for nearby high-voltage lines like the 345kV Western Spirit line, which is being built in 2021 with over 70% union labor.
<b>Lower Energy Bills for Middle Class American</b> <small>The American Jobs Plan</small>	✓	Wind and solar are now the least cost energy sources in history. SunZia enables more of the grid to run reliably on renewables, which brings down energy prices for everyone. Los Angeles Mayor Eric Garcetti said that Pattern’s New Mexico wind would be, “the best value for our customers.”
<b>Improved Air Quality and Public Health Outcomes</b> <small>The American Jobs Plan</small>	✓	The wind enabled by SunZia ramps up in the evening, balancing solar and displacing the need for the polluting, fast-ramp gas plants sited in urban areas, which have disproportionate health impacts on low-income disadvantaged communities.
<b>More Grid Resiliency</b> <small>The American Jobs Plan</small>	✓	SunZia increases grid reliability and resiliency with regional diversity, pairing wind and solar together. Regional connections have emerged as a critical grid need as the grid weathers the impacts of climate change.



## ECONOMIC BENEFITS: SUNZIA & PATTERN WIND

	Direct Project Investment			Economic Benefits <i>(Development, Construction, and 30 Years of Operations)</i>		
	Development, Construction	Operations (30 Years)	Total	New Mexico	Arizona	Total
<b>SunZia Transmission</b>						
515 Miles	\$3.2 B	\$815 M	\$4 B	\$1.8 B	\$1.1 B	\$2.9 B
<b>Pattern Energy Wind</b>						
3,200 MW	\$5 B	\$10.3 B	\$15.4 B	\$9.5 B	\$1.1 B	\$10.6 B
<b>Pattern Energy Wind</b>						
1,850 MW	\$3.1 B	\$6 B	\$9.1 B	\$5.5 B	\$1 B	\$6.5 B
	<b>Total Investments: \$28+ Billion</b>			<b>Total Economic Benefit: \$20+ Billion</b>		

“Economic Benefits” include direct project spending, indirect benefits, and induced economic impact. Figures above account for state and local taxes, salaries and wages, private land payments, state land payments, community benefit payments, rate reductions from grid service, and local goods and services.

Source: Moss Adams economic studies based on real data from recent New Mexico wind and transmission projects constructed and operated by Pattern Energy.