

# National Association of State Trust Lands

2023 Summer Conference

July 11, 2023



# North America Portfolio

35 operating projects representing over 6GW.

- >2GW in the west

Additional >25GW in development.

Pattern has forged a reputation as a company that brings hard projects to fruition.

## Key Pattern Values:

- Safety - Our top priority is protecting the safety of the public, our employees, and everyone who works with us.
- Community - We participate in and contribute to our local project communities.
- Environment - We aim to exceed industry standards in mitigating environmental impacts and advancing best practices.



### Projects and Facilities

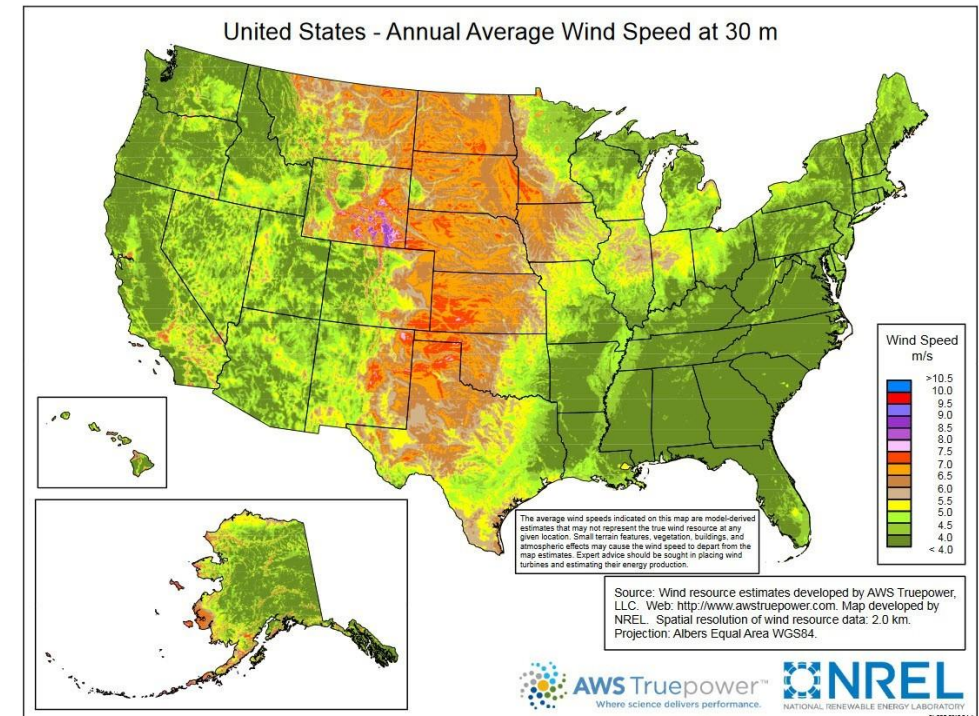
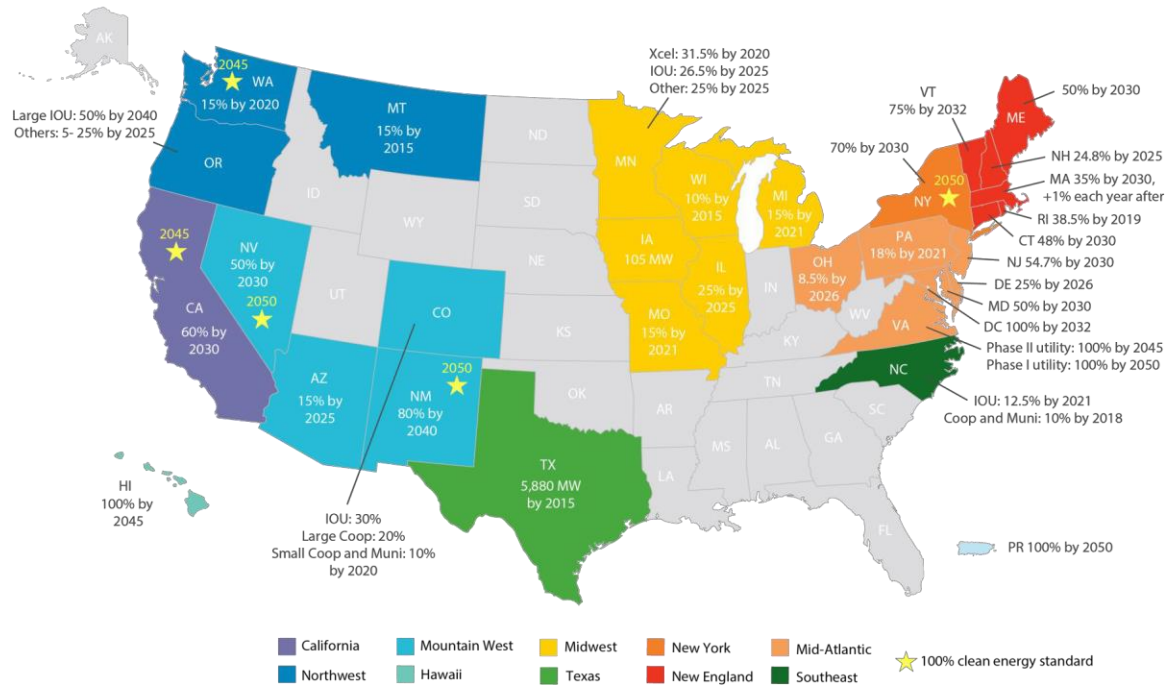


### Corporate Offices

- Headquarters
- Office

# Policy & Economic Drivers

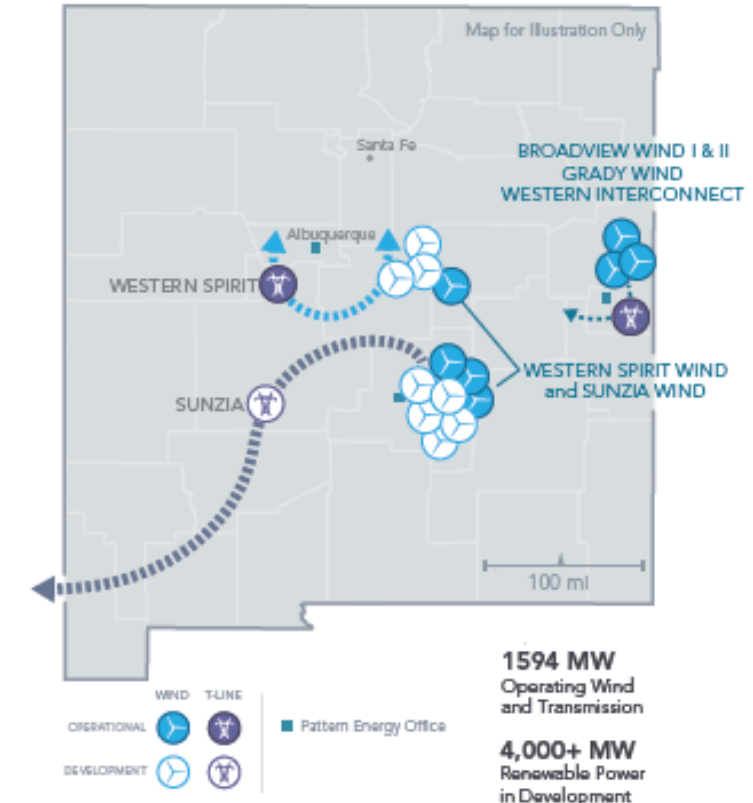
- ~80% of energy use in the West is now aligned on decarbonization
- Drives ~100 GW of new renewables by 2035 & 150 GW by 2050
- Wind & solar is now cheaper than new gas or coal, even without the federal incentives



# New Mexico Experience

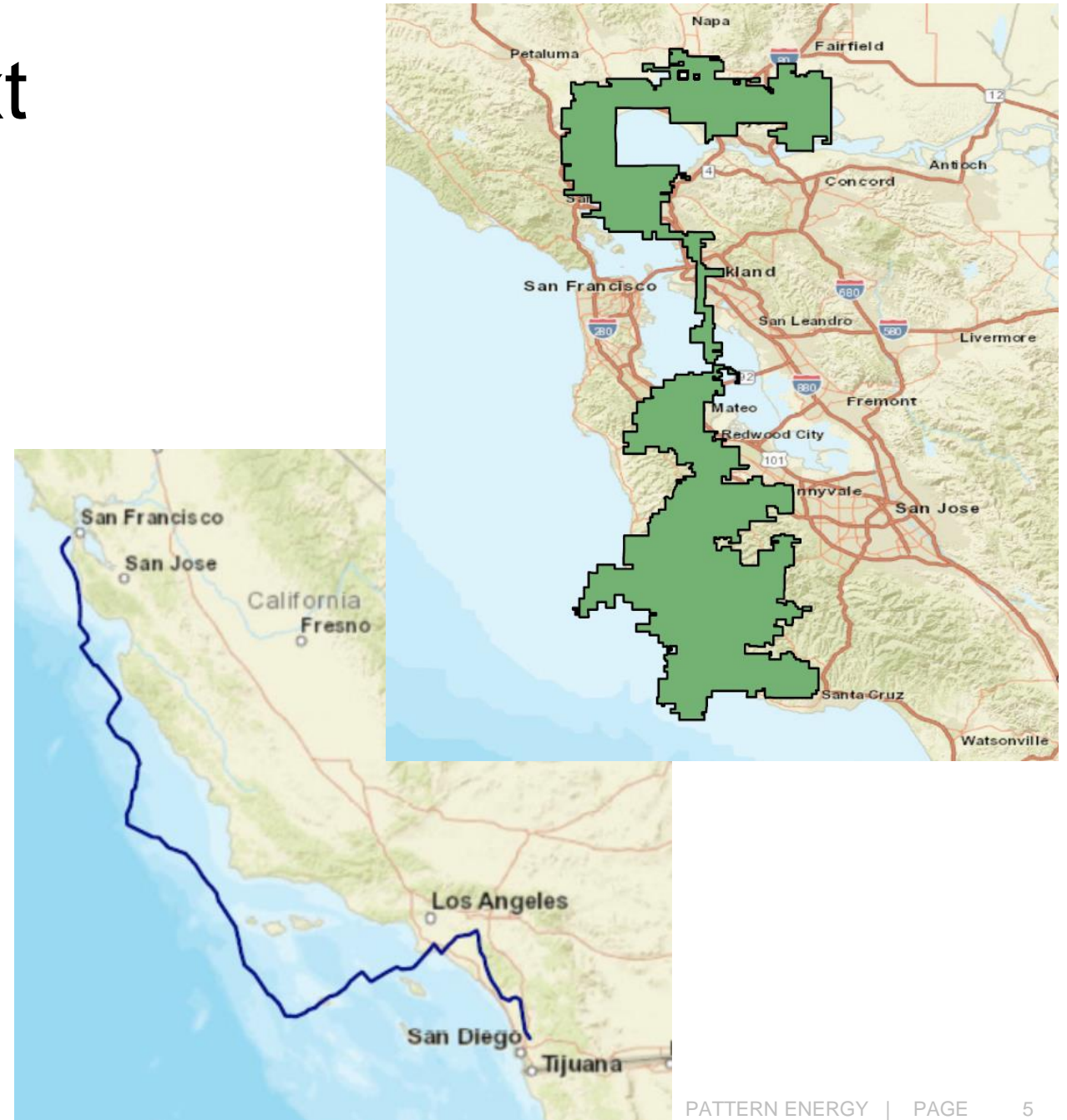
	OPERATING		OPERATING	DEVELOPMENT
	Broadview Wind	Grady Wind	Western Spirit Wind	SunZia Wind – Includes SunZia Wind South LLC and SunZia Wind North LLC
Size	324 MW	220 MW	1,050 MW	3,500+ MW
County	Curry, NM Deaf Smith, TX	Curry, NM	Guadalupe, Lincoln, and Torrance, NM	San Miguel, Lincoln, and Torrance, NM
Status	COD 2017	COD 2019	COD 2021	Expected full construction ramp in 2023, COD 2026
Inter-connection	Western Interconnect; 35-mile 345kV Developed & constructed by Pattern, owned & operated by Pattern		Western Spirit Transmission; 155-mile 345kV Developed & constructed by Pattern, to be sold to PNM	SunZia Transmission Project; 550+-mile 525kV Developed by SWPG
Capital Cost	\$732 Million		\$2 Billion	~\$8 Billion
Pmt. In Lieu of Taxes	\$18.9 Million		\$88.3 Million	~\$303 Million
Total Econ. Impact	\$2.2 Billion – Direct, Indirect & Induced		\$5.03 Billion – Direct, Indirect & Induced	\$15.9 Billion – Direct, Indirect & Induced
Offtaker	SCE	SMUD	LADWP, SJCE	In process

Pattern Energy's New Mexico Portfolio



# Project Scale and Context

Project	MW / Cost
Diablo Canyon	2,256 MW Largest CA Generator
South Texas Project	2,760 MW Largest Nuclear Plant in TX
Hoover Dam	2,080 MW
Western Spirit	1,050 MW Largest Single-Phase Wind Project in US History
<b>SunZia</b>	<b>3,515 MW wind + 3,000 MW transmission</b> <b>&gt;\$8 billion</b> <b>Largest Wind farm in Western Hemisphere</b>



# Environmental Stewardship

SunZia has established robust environmental best practices to reduce project impacts and study effective habitat restoration strategies in partnership with local and state experts. Environmental mitigation projects for the projects are varied in scale and subject and include:

- **Ongoing research into sandhill crane flight behavior** in partnership with U.S. Fish & Wildlife Service (USFWS) which resulted in the publication of peer-reviewed science that can inform future transmission line design
- Upcoming **funding scientific research** to USFWS and New Mexico State University to understand upland bird population declines in the desert southwest
- Purchasing **new mitigation lands** in Pinal County, AZ
- Installing, testing, and studying the efficacy of a **novel technology increase the visibility of the transmission line for large-bodied waterfowl** (illuminating the transmission line with UV light), which began in 2021 in supplemental funding to ongoing research in the Audubon Rowe Sanctuary;
- Working with USFWS and the Nature Conservancy to purchase and donate **1,200-acres along the Rio Grande to expand the Sevilleta National Wildlife Refuge.**
- **Extensive habitat restoration** work with AZ Game and Fish Department



# Western Spirit & SunZia State Land Impacts

- **New Mexico – Western Spirit**

- 8,700 acres leased
- Rent Payments \$7.9 million
- Transmission ROW Fees \$6.6 million

- **New Mexico – SunZia**

- 172,103 acres leased
- Upfront lease auctions \$10.4 million
- Rent Payments \$140 million
- Transmission ROW Fees \$55 million

- **Arizona – SunZia**

- 4,586 acres leased
- Fees >\$14 million

- **Overall Impacts**

- SunZia Wind and Transmission combined will deliver widespread economic benefits across NM and AZ with an economic impact over \$20 billion

# Agreements & Considerations

## NM State Land Office

- 16 wind leases
- Wind gentie application
- Transmission ROW
- Transmission permanent roads
- Transmission temporary construction easement
- Right of entry
- Seismic testing

## AZ State Lands

- Right of entry
- ROW
- Access & temporary construction easements
- Special land use permit

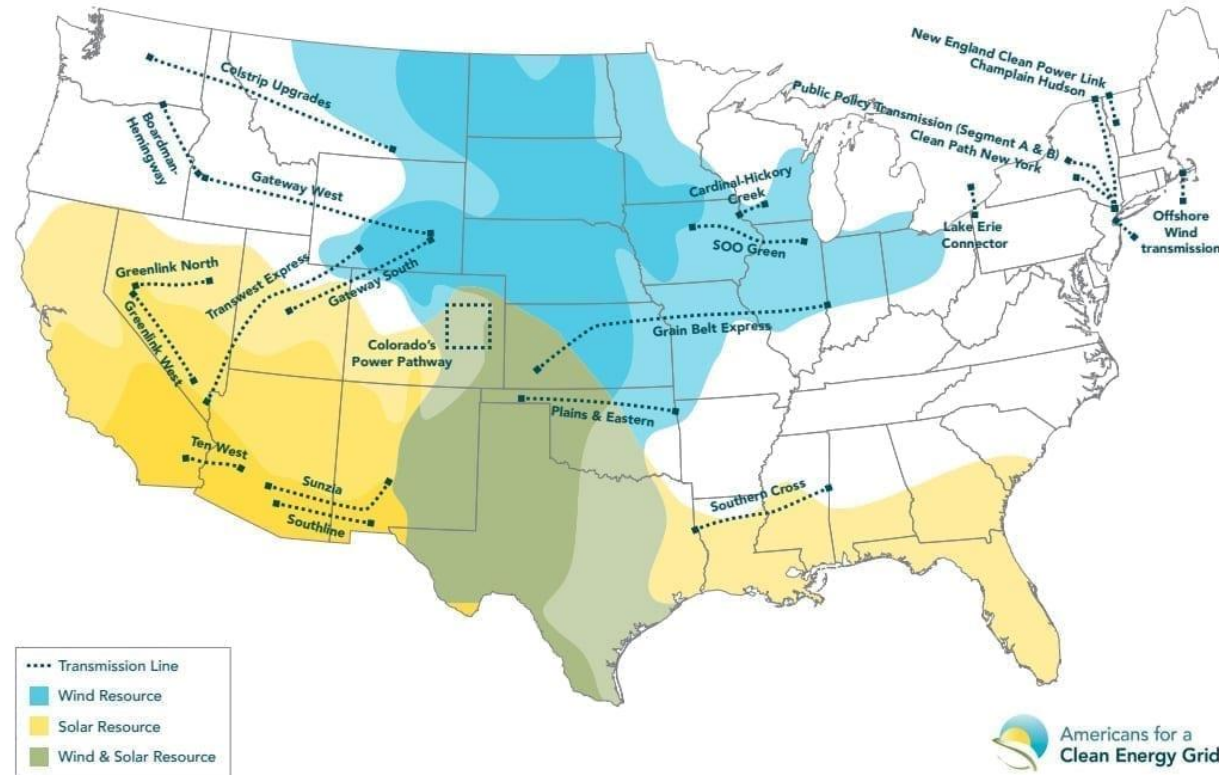
## Boiler Plate Agreements Needed

- Geotechnical
- Met tower
- Aviation detection lighting system
- Rights of way
- Roads
- Temporary construction easements
- Need defined terms & renewal rights due to financing considerations



# Transmission Is The Key To Success

A 2019 analysis by global consulting group Wood Mackenzie found that reaching 100 percent renewable electricity would require adding 200,000 miles of high-voltage transmission lines — doubling the existing total — at a cost of \$700 billion. A complex web of independent system operators, state regulators and utility companies oversee the planning and construction of new grid infrastructure, with frequent disagreements about who should bear the cost.



# Contact Information

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