

SUNZIA WIND AND TRANSMISSION PROJECT





MASSIVE WIND POWER PROJECT PROMISES TO CHANGE THE LANDSCAPE OF CLEAN POWER GENERATION AND DELIVERY

Explore the impacts of the largest renewable energy project to date, SunZia Wind and Transmission, including construction, permitting, footprint, economic impact, and maintenance

Over many years and with thoughtful planning, construction of the clean energy project SunZia Wind and Transmission is underway, marking a crucial advancement in America's journey toward a cleaner electricity grid. Western states have abundant natural resources but currently lack the infrastructure to harness renewable energy and transport it to major consumer markets.

The SunZia project, stretching from New Mexico to California, promises to change the landscape of power generation and delivery as the largest and most comprehensive renewable energy infrastructure project in U.S. history. It is among

many new projects paving the way to clean energy goals. The Biden/Harris administration's Inflation Reduction Act provides billions in tax incentives for rebuilding infrastructure that expedite the construction of SunZia's expansive wind farm with hundreds of miles of transmission lines.

As the most extensive wind development in the Western Hemisphere, SunZia will generate three times more power than the Hoover Dam, with completion expected in 2026. Projects of this scale highlight the transformative possibilities of harnessing and transporting clean energy, leading the way to a successful shift toward sustainable energy.

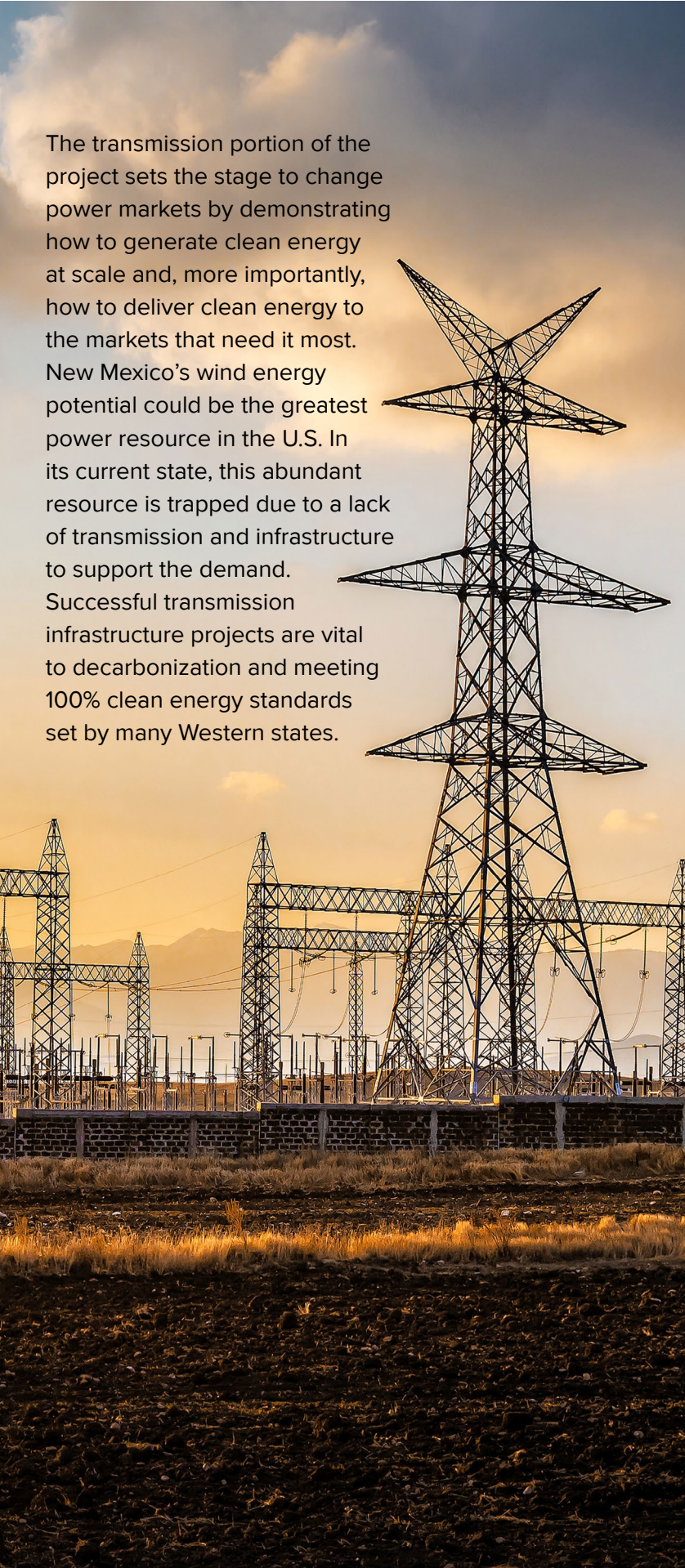


Project Overview and Implications for the U.S. Energy Landscape

The SunZia project is a 3.5 gigawatt wind farm in New Mexico that will supply power to Arizona and California through a 550-mile transmission line. Construction began in 2023 across the Torrence, Lincoln, and San Miguel counties of New Mexico after many years of planning, permitting, and negotiations with various agencies and stakeholders.

The project is a key element of California's climate strategy. California and five other western states set goals for 100% clean electricity, which is only possible through massive projects like SunZia. The wind farm will provide clean energy to 3 million Americans during the evening when solar power declines and natural gas use traditionally surges.

The SunZia, the Chokecherry, and Sierra Madre projects in Wyoming represent a significant advancement in clean energy generation and delivery in the U.S. energy market. Amid incredible strides in solar and wind development, challenges to storing and transmitting the harnessed energy have proved difficult to meet.



The transmission portion of the project sets the stage to change power markets by demonstrating how to generate clean energy at scale and, more importantly, how to deliver clean energy to the markets that need it most. New Mexico's wind energy potential could be the greatest power resource in the U.S. In its current state, this abundant resource is trapped due to a lack of transmission and infrastructure to support the demand. Successful transmission infrastructure projects are vital to decarbonization and meeting 100% clean energy standards set by many Western states.

The economic breakdown of the \$20.5 billion impact of the construction and operation of SunZia Wind and Transmission includes:

Direct impact of \$16B through:

- Capital expenditure
- Operational expenditure
- Payments to private landowners

Indirect impact of \$1.9B from the purchase of goods and services including:

- Food
- Lodging
- Supplies

Induced economic impact of \$1.1B through the expansion of public services like:

- Emergency services like police, fire, and EMS
- Schools and libraries
- Water and wastewater infrastructure

Fiscal impacts of \$1.3B from direct payments to public entities, including:

- Taxes
- Tax credits
- Community sponsorships
- Federal agency payments
- State land payments

The financial agreements backing SunZia are a milestone in renewables financing, proving clean energy can attract capital investment at a scale previously only available for traditional energy generation.

Economic and Industrial Impact

The SunZia Transmission and Wind project's economic impact is estimated at \$20.5 billion. According to Energy, Economic & Environment Consultants LLC, the economic benefits of SunZia come at no added cost to ratepayers.

Additional financial incentives came from the Inflation Reduction Act (IRA), which provides billions in clean energy tax credits. Pattern Energy Group secured \$11 billion in financing for the project, \$8.8 billion for construction and term facilities, and a \$2.25 billion tax equity term loan facility. Pattern Energy confirms that the tax equity facility portion of the funding monetizes tax credit benefits received from the IRA.

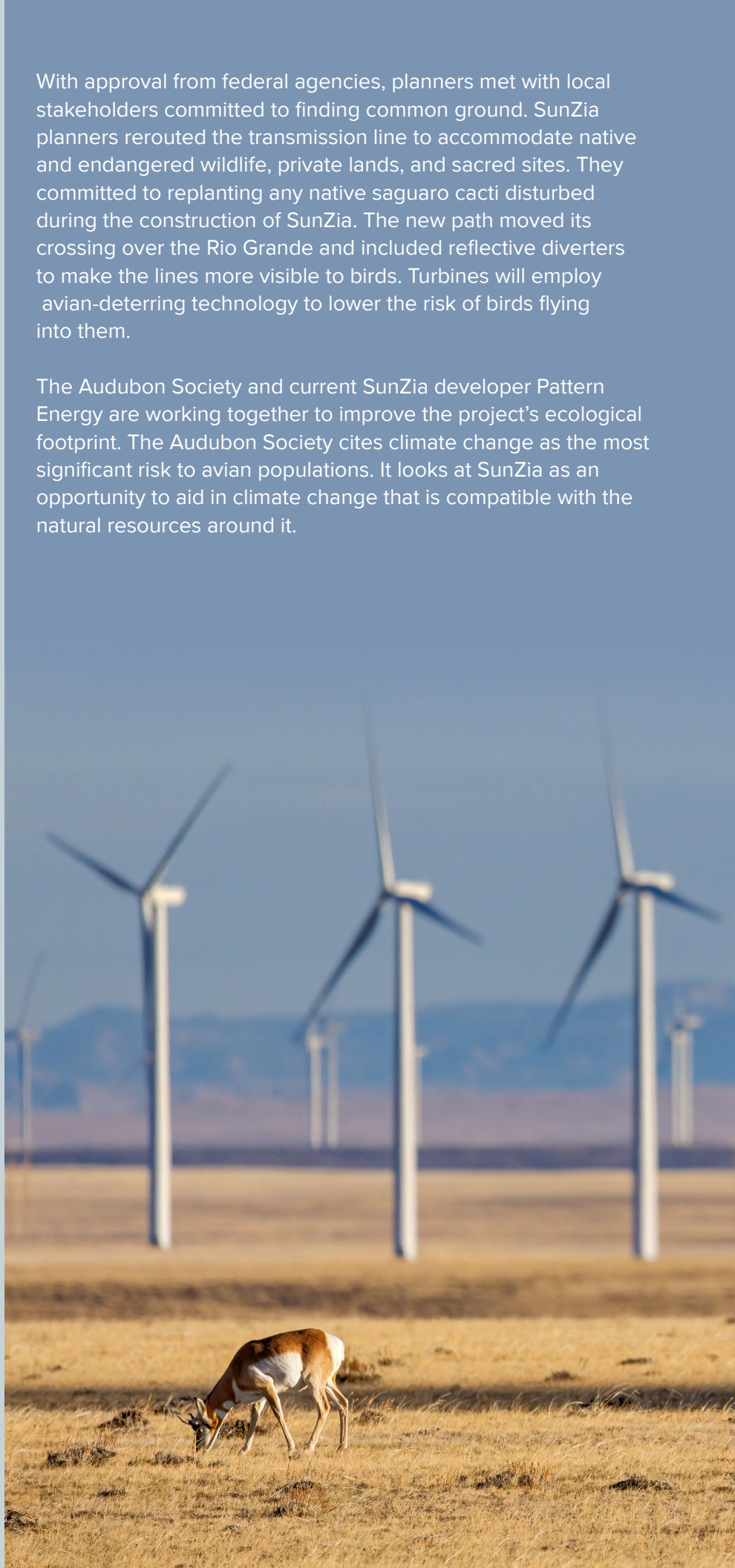
Approval and Construction Review

Although U.S. markets demand efficient, renewable energy sources, the final approval to begin SunZia took 17 years to execute, which is why US lawmakers are working to streamline the federal process for approving infrastructure projects. Approval for this privately funded project required the involvement of 10 federal agencies, five state agencies, and nine local authorities. Nearly 550 miles of transmission lines affecting so many stakeholders made mapping a path for SunZia difficult for developers.

During much of the lengthy approval process, developers consulted the stakeholders, including the Bureau of Land Management (BLM), The Department of Defense, and local government entities to determine the best route. In the process, a transmission path was designed that avoids the White Sands Missile Range to prevent disruptions in transmission. The route also avoids tribal lands and turned to the BLM to approve the development of SunZia on federal lands. After seven years of review, the project finally received approval from BLM.

With approval from federal agencies, planners met with local stakeholders committed to finding common ground. SunZia planners rerouted the transmission line to accommodate native and endangered wildlife, private lands, and sacred sites. They committed to replanting any native saguaro cacti disturbed during the construction of SunZia. The new path moved its crossing over the Rio Grande and included reflective diverters to make the lines more visible to birds. Turbines will employ avian-detering technology to lower the risk of birds flying into them.

The Audubon Society and current SunZia developer Pattern Energy are working together to improve the project's ecological footprint. The Audubon Society cites climate change as the most significant risk to avian populations. It looks at SunZia as an opportunity to aid in climate change that is compatible with the natural resources around it.



Construction of SunZia was temporarily halted in November of 2023 over concerns from Native American leaders regarding possible disruption of cultural sites and danger to wildlife. SunZia developers conducted surveys and worked with Native American tribes to determine critical cultural sites. As construction began soon after the suspension, Pattern Energy reiterated its commitment to support the consultation process between the tribal leaders and the federal government and to employ any mitigation efforts resulting from their agreement.



Economic and Industrial Impact

The SunZia Wind and Transmission project will be the largest of its kind, as it pairs the generation of renewable energy with the building of critical transmission infrastructure. Breaking ground in 2023, it is the most significant renewable power generator since the completion of the Hoover Dam in 1935.

SunZia's construction marks another milestone in the Biden/Harris administration's efforts to achieve a 100% clean electricity grid by 2035. Accelerating transmission buildout will lower consumer costs, prevent power outages, and create union jobs while diversifying the nation's renewable energy portfolio and combating climate change.

Large-scale development of renewable energy generates capital expenditures that trickle down to suppliers. For example, GE Vernova received an order for 674 turbines, the largest in its history. Danish turbine maker Vestas Wind Systems received their largest onshore wind order of 242 turbines for the SunZia project. Contracts of this size revived wind turbine manufacturing at a time when transmission restraints and increasing competition from solar questioned future development. Massive infrastructure developments like SunZia are changing wind technology and the outlook for development.



Industry Outlook and the Role of ISS

While new developments are promising in many ways, the current American wind energy infrastructure is aging. New equipment often requires unplanned maintenance as initial installation problems are addressed to get turbines running efficiently at total capacity. Wind turbines can operate for up to 20 years but require proper operation and regular maintenance. The road ahead for efficient wind production requires expertise in turbine maintenance and optimization from entities like Industrial Service Solutions (ISS).

ISS has more than 1,700 employees and over 50 locations nationwide. With local knowledge and extensive experience in wind turbine services, ISS is strategically positioned to provide quality support to a growing customer base.

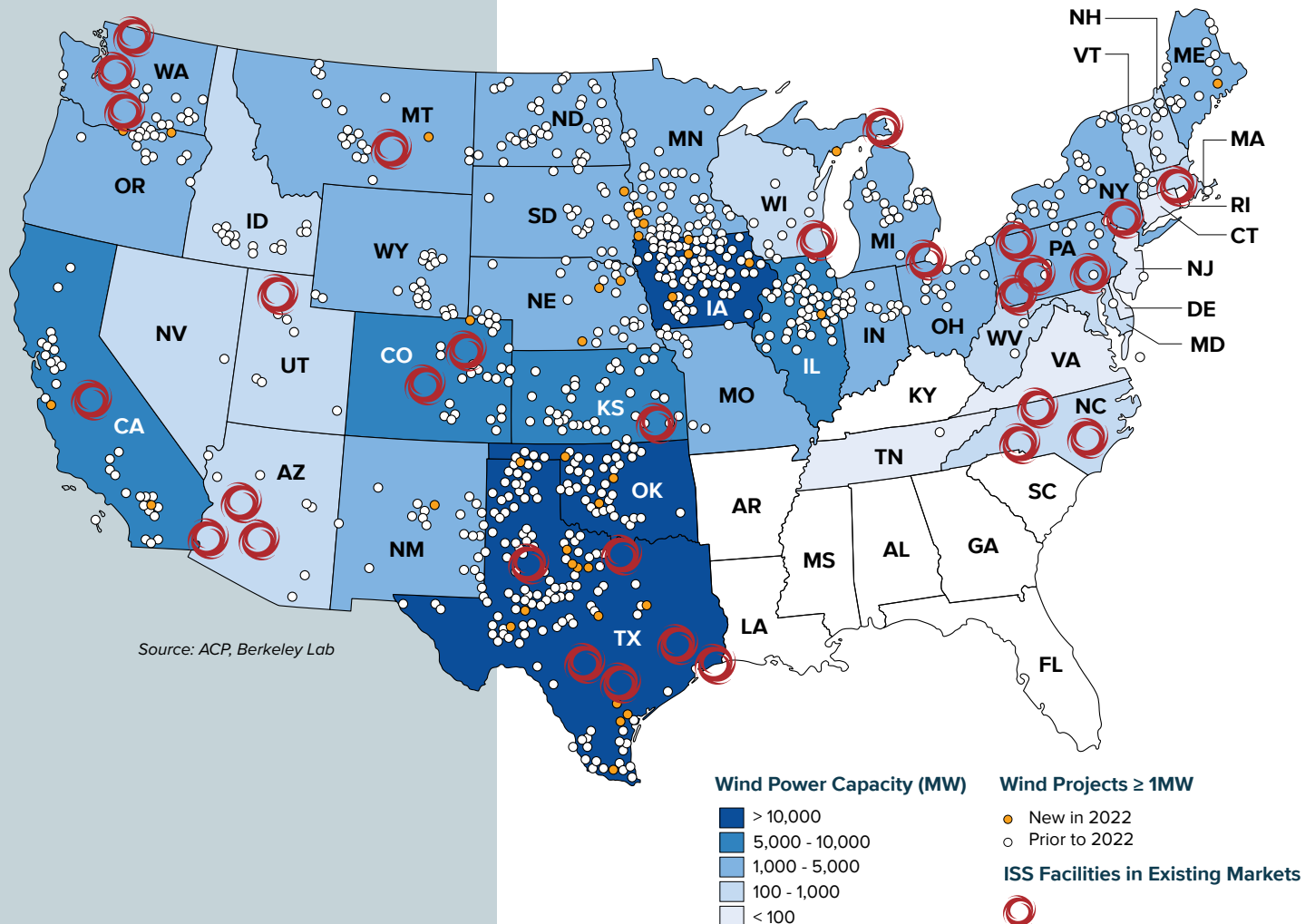
ISS employs teams of certified wind service technicians operating up-tower to provide regular maintenance such as:

- Inspections
- Lubrication
- Filter change-outs
- Bearing replacements

Other mission-critical services ISS provides to the wind energy industry include:

- Turbine generator overhaul and testing at facilities equipped to provide teardown, inspection, evaluation, machining, fabrication, welding, balancing, testing, and quality control services.
- Comprehensive control systems integration with a dedicated team of professional engineers, programmers, fabricators, and installers.

ISS control systems are UL508A Certified and NQA 1 Compliant, designed by registered Professional Engineers, and installed by licensed electrical contractors. Custom e-houses and control cabins managing complex distributed systems, leveraging grid connections of up to 13,800 volts.



Conclusion

The SunZia Wind and Transmission project represents a historic milestone for the wind power industry and the future landscape of renewable energy. Ensuring the longevity of a project of this magnitude requires partnership with experts in wind power services and solutions.

ISS has the workforce and expertise to keep wind power functioning and meet clean energy goals. To keep your project running, contact ISS today and become part of this monumental shift in U.S. energy production.





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