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SUNZIA TRANSMISSION PROJECT

Economic and Fiscal Impacts Analysis Executive Summary

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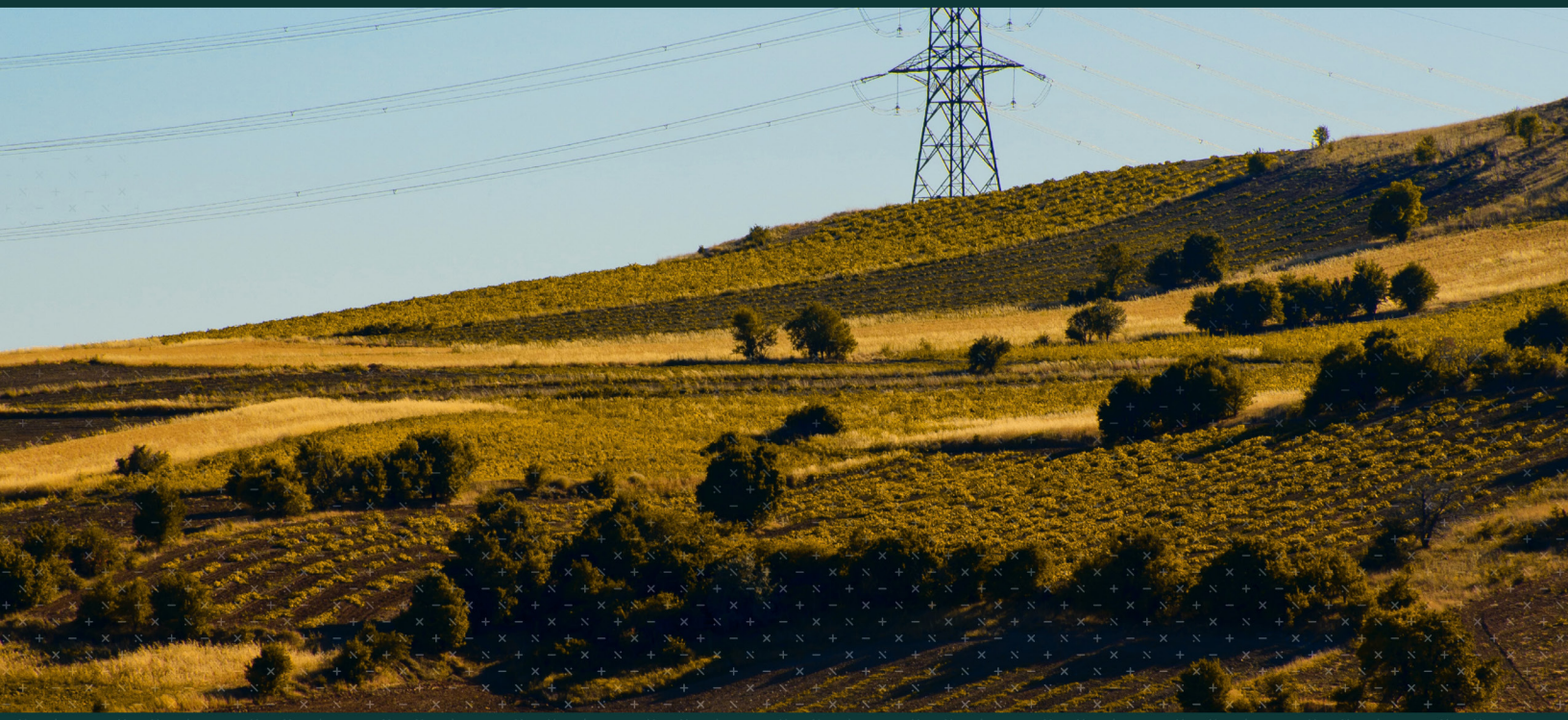

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ES EXECUTIVE SUMMARY

ES.1 PREFACE: ENERGY FOUNDATIONS FOR ECONOMIC DEVELOPMENT

The utilization of energy resources is an undeniable foundation in the historical expansion of economic prosperity in the United States. Throughout this economic evolution, the specific activities of individuals, businesses, and government have harnessed available energy resources and directed these resources' use in achieving economic and social goals.

In short, economic development is shaped by the availability and use of energy resources.

Coal-fired factories and rail transportation fueled the industrial revolution from the mid-nineteenth century. New Mexico's economic foundations in trade, livestock, and agriculture were originally built around railroads in the early years of statehood. The development of New Mexico's coal resources also created regional economies that evolved to provide utility-scale electric generation through the end of the last century. Similarly, oil resources were key in transforming transportation and economic development throughout the past century. And, as natural gas became available to consumer demands in distant population centers, the last half of the twentieth century exploded with petroleum energy-fueled economic opportunity.

Regional New Mexico economies have flourished, and (more generally) its public agencies have received substantial fiscal benefits from energy resource development.

An emerging energy renaissance — focused on renewable energy resources — is similarly creating new economic opportunity for New Mexico. Unlike fossil fuel resources that are generally physically concentrated in specific geologic formations, the primary utility-scale renewable resources (i.e., wind and solar) are characteristically widespread geographically and require significant new infrastructure investments for its development.

As with virtually all new energy resource developments, the most economically viable resources are not geographically located in the principal economic and population centers. This simple truth is the foundation of the SunZia Transmission Project (SunZia).

The need for new transmission infrastructure development was recognized by SunZia's leadership as early as 2006. Concisely stated, the commercial-scale wind resources of central New Mexico vastly exceed in-state demands, and potential market opportunities will never be realized without export to the population and economic centers throughout the western states.[1]

ES.2 THE SUNZIA TRANSMISSION PROJECT

SunZia proposes to build a 552-mile high-voltage electric transmission system from central New Mexico to an interconnection with the western transmission grid southeast of Phoenix, Arizona. The project represents a $3.7 billion private capital investment, and the economic benefits provided to the areas of

[1] An additional factor in this market assessment is that the eastern and western transmission grids, although generally interfacing along the Texas/New Mexico border, pose fundamental technical constraints (e.g., asynchronous operating conditions). This constraint, combined with the size of the renewable energy demands within the Western Grid, suggests the most economic markets for New Mexico's substantial renewable energy resources are within the western transmission grid.

New Mexico and Arizona directly impacted by the infrastructure's development is estimated to be almost $2.7 billion.[2]

Successful development of the SunZia Project places New Mexico renewable energy resources in a highly advantageous market position, with an ability to deliver nearly 16.5 terawatt hours (TWh) of electricity annually — or serve the annual electricity demand of nearly 1.1 million households.[3]

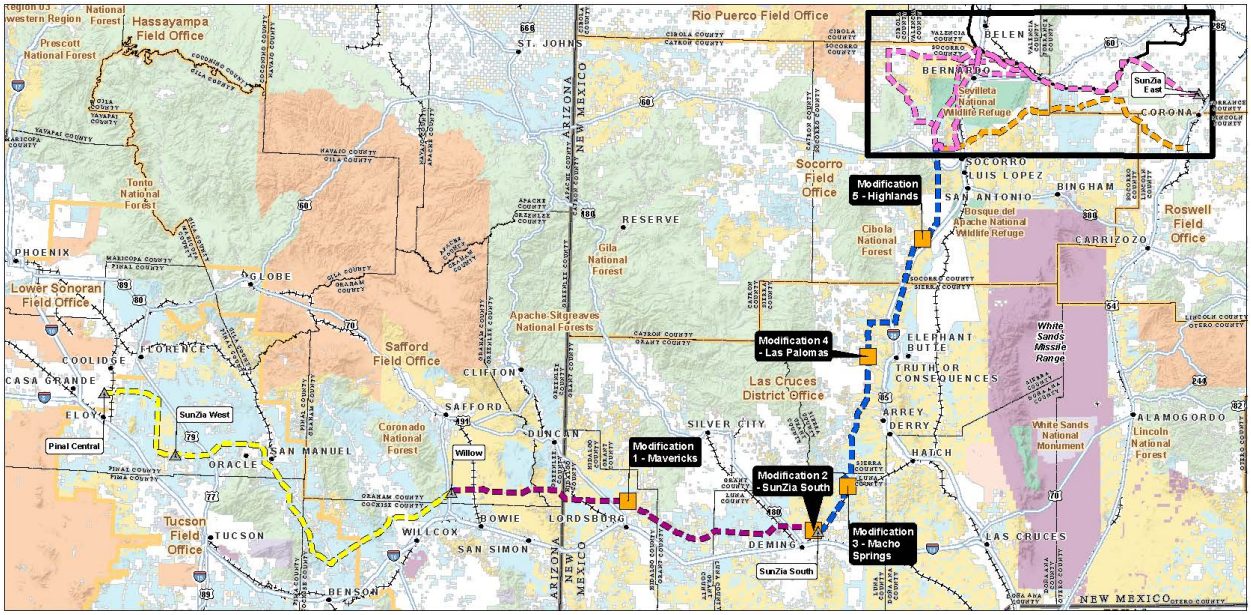
Importantly, as with any transportation infrastructure project, SunZia is only a pathway allowing economic resources to flow from a point of supply to meet market demands.

The project consists of two (largely co-located) transmission lines.

- Line 1: Proposed as a 525 kV direct current (DC) line with construction planned to begin in mid-2022 and to be in service by the end of 2025
- Line 2: A 500 kV alternating current (AC) line with construction expected to begin in 2027 and to be in service by 2030

Combined, these transmission facilities will have an estimated power transfer capacity of up to 4,500 megawatts (MW).

Figure ES-1: SunZia Transmission Map



The transmission lines originate in Torrance County near the village of Corona in east-central New Mexico, proceed west crossing the Rio Grande north of Socorro, then turn south and southwest traversing a total of 12 counties (in both states), and terminates near the City of Coolidge in Pinal County, Arizona.

[2] Inclusive of direct, indirect, and induced economic impacts in New Mexico and Arizona Study Area.

[3] This calculation is based on the average house energy usage in 2015 in the U.S. for the "Mixed-dry/Hot-dry" climate area, which covers most of New Mexico, Arizona, and California, of 51.8 million BTU/year (equal to 15.181 MWh/year). Data Source: https://www.eia.gov/consumption/residential/data/2015/index.php?view=consumption. https://sunzia.net/impact/, accessed 11/27/2020.

SunZia's economic impacts are analyzed from 2008, with historical and current development expenditures anticipated to exceed $449 million through mid-2022. Project construction is estimated to begin in mid-2022 and be relatively continuous through 2029, with total construction costs exceeding $2.6 billion. Operations and maintenance expenditures related to economic impacts for both lines are estimated at nearly $16.8 million per year and total more than $545 million by 2060.

Economic Impacts to New Mexico and Arizona

The total expenditures do not reflect the actual economic impacts that will occur in the two states. The transmission infrastructure's development is a complex engineering project, and a significant portion of both the design and construction resources required for its development must be sourced from specialized professionals located outside of the direct impact Study Area.[4] The impacts with respect to New Mexico, Arizona, and vendors outside the Study Area are summarized in Table ES-1. The direct economic impact of SunZia's development in New Mexico is estimated to be more than $889 million, while direct impacts of the Project's development in Arizona are estimated to be approximately $585 million.

TABLE ES-1: SUNZIA PROJECT DIRECT EXPENDITURES

Direct Economic Impacts by State from 2008 to 2060					
($millions)	Historical Development	Current Development	Construction	O & M	Total Direct Impact
New Mexico	$15	$64	$442	$368	$889
Arizona	$48	$26	$335	$177	$585
Study Area Total	**$63**	**$90**	**$777**	**$545**	**$1,474**
DPV @5%	$63	$90	$598	$193	$944
Out of State	$33	$263	$1,778	$196	$2,271
Total	**$96**	**$353**	**$2,555**	**$741**	**$3,745**
DPV @5%	$96	$122	$1,987	$193	$2,398

These estimated economic impacts are tabulated from 2008 through the end of a 30-year operations profile for Line 2 ending in 2060.

Construction of Line 1 is anticipated to create 419 annual jobs through 2025.[5] An estimated 25 permanent jobs[6] are created with the commencement of Line 1 Operations and Maintenance (O&M) activities in 2026, with a total of 410 annual jobs estimated to be created during the overlapping of Line 1 operations

[4] That is, not all expenditures will occur within the 12-county Study Area or necessarily be sourced from vendors within New Mexico or Arizona. Economic or fiscal impacts that are *not* anticipated to occur within (or directly associated with) the geographic Study Area are generally identified in stated total costs but ignored in the impact analyses provided. However, the analysis tries to account for all locally sourced labor, as well as expenditures that produce economic or fiscal (e.g., tax) impacts within direct proximity to the Study Area.

[5] The analysis assumes that construction of Line 1 begins in mid-2022, with the annual jobs stated for only a half-year, and then average 419 jobs in 2023 to 2025. Jobs are analyzed on a full-time equivalent basis and averaged over Line 1's estimated 42-month construction period.

[6] Note that totals of annual jobs for operations (33 jobs) is less than the total of the three locations due to rounding error.

and Line 2 Construction activities commencing in 2027[7] through the completion of the second transmission line in 2029. At that point (in 2030), the routine O&M activities commence for both lines, with a stable, permanent employment in the Study Area of an estimated 44 annual jobs continuing through the end of the analysis period (2059). Table ES-2 summarizes the estimated annual jobs created by the SunZia Project.

TABLE ES-2: SUNZIA PROJECT EMPLOYMENT — ESTIMATED ANNUAL JOBS

Estimated Annual Job Creation - Line 1 & 2, Substation, Converter Station and Operations									
	2022	2023	2024	2025	2026	2027	2028	2029	2030 to 2060
Construction									
New Mexico	77	154	154	154	N/A	139	139	139	N/A
Arizona	62	123	123	123	N/A	87	87	87	N/A
Out of State	71	141	141	141	N/A	158	158	158	N/A
Total Construction	**209**	**419**	**419**	**419**	**N/A**	**384**	**384**	**384**	**N/A**
O&M									
New Mexico	N/A	N/A	N/A	N/A	16	16	16	16	27
Arizona	N/A	N/A	N/A	N/A	7	7	7	7	14
Out of State	N/A	N/A	N/A	N/A	2	2	2	2	4
Total O&M	**N/A**	**N/A**	**N/A**	**N/A**	**25**	**25**	**25**	**25**	**44**
Total Jobs	**209**	**419**	**419**	**419**	**25**	**410**	**410**	**410**	**44**

Summary of Findings

The analyses of economic and fiscal[8] impacts are based on the estimated expenditures for development, construction, operations, and maintenance of the SunZia Project over the period from 2008 through 2059.

*The renewable resources are available, and the singular constraint driving the extent to which the opportunity may be realized turns on the **timely** ability to participate in the competitive renewable energy markets.*

However, this analysis *does not* consider the economic development and social opportunities created in developing robust *renewable generation assets* facilitated by a transmission infrastructure investment that unlocks new economic opportunity. The potential generation development demonstrates SunZia is a private

[7] Although current schedules for construction of Line 2 do not begin until 2027, it is anticipated that significant Line 2 resource mobilization and repositioning of construction assets will occur during 2026. As with virtually all SunZia activities reported herein, the analysis assumes discrete periods that likely do not reflect the actual timing and scheduling of activities to develop the project.

[8] Fiscal impacts reflect the benefits obtained to local, county, and state government entities in the form of Property and Income Taxes, land lease revenues paid to government entities, payments in lieu of taxes (PILOT), and other direct fiscal revenues paid in relation to the development, construction, and operations of the SunZia Project.

investment in *base economic development* — external capital invested to allow access to new and expansive economic opportunities.

Estimated economic and fiscal impacts can be summarized to include the direct impacts of Project expenditures, as well as the additional indirect and induced economic impacts that result from the new economic activities that occur in the regional economy as the Project activities create additional business and governmental activities. Table ES-3 reflects that estimated direct economic impacts within New Mexico and Arizona are approximately $1.5 billion, while fiscal impacts will be approximately $230 million over the Project analysis period.

TABLE ES-3: SUNZIA PROJECT ESTIMATE ECONOMIC AND FISCAL IMPACTS

Economic and Fiscal Impacts by State from 2008 to 2060					
($millions)	Economic Impact			Fiscal Impact	
	Direct Economic Impacts	Direct & Indirect Economic Impacts	Direct, Indirect & Induced Economic Impacts	Other Taxes & Fiscal Expenditure	GRT & TPT
New Mexico	$889	$1,194	$1,561	$71	$1
Arizona	$585	$784	$1,099	$140	$18
Study Area Total	**$1,474**	**$1,978**	**$2,660**	**$211**	**$19**
New Mexico DPV@5%	$595	$780	$1,142	$37	$1
Arizona DPV@5%	$509	$688	$972	$74	$14
Total Study Area DPV@5%	**$1,104**	**$1,468**	**$2,114**	**$111**	**$15**

The direct economic impacts result in additional purchases of goods and services within the regional economy. To illustrate, Project activities will result in expenditures (e.g., lodging, food, supplies, etc.), which cycle through the regional economy creating income to local businesses and their employees. That additional revenue provides for additional purchases of goods and services from other economic agents in the region. These are (in simple terms) the indirect economic impacts from the direct Project-related expenditures.

Additionally, economic development produces further impacts on other social institutions (e.g., police, fire protection, schools, households, etc.) that further expand regional economic activities, creating what economists refer to as induced impacts (or Social Accounts Matrix impacts). The specific economic multipliers relied on for the indirect and induced impacts are defined for the individual economic sectors in which the direct expenditures occur and are uniquely specified for the economies of both New Mexico and Arizona.

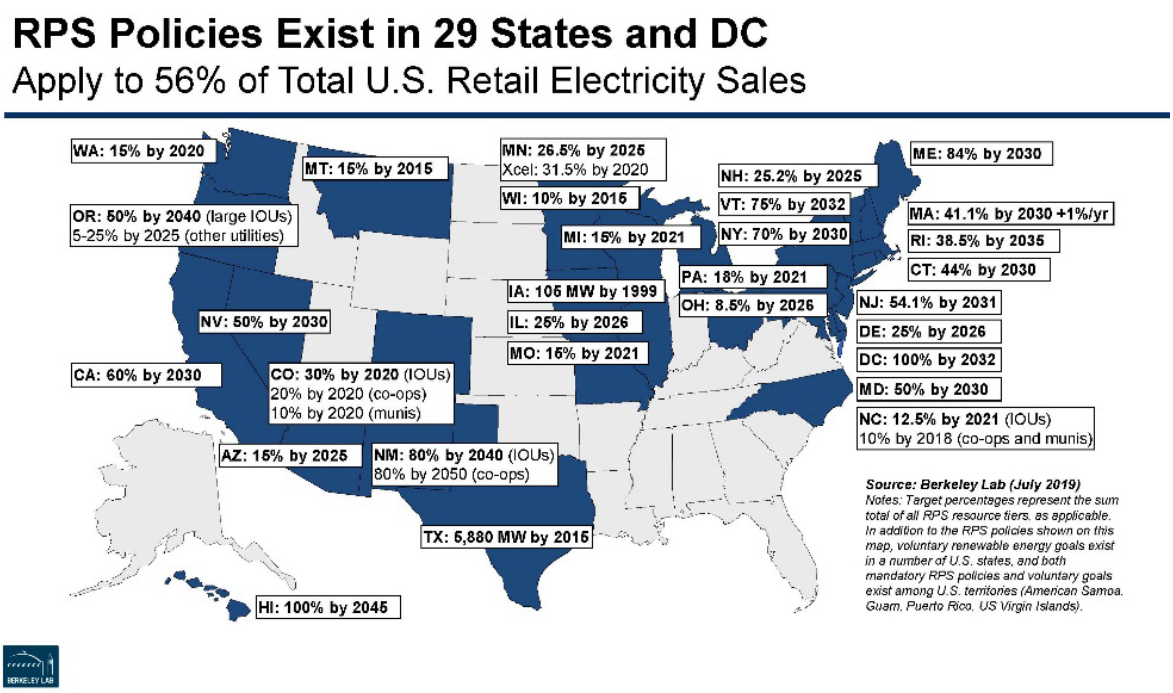
Table ES-3 summarizes the direct, indirect, and induced economic impacts for both the New Mexico and Arizona Study Areas. The total direct impact of nearly $1.5 billion for the Study Area increases to nearly $2.7 billion when indirect and induced economic multipliers are considered.

The analysis of the impacts is also stated in discounted present value (DPV) terms.[9] The DPV calculation discounts future annual impacts at a 5% per year rate, such that the direct impacts can be understood as relating to *economic benefits stated in present value terms of* nearly $1.1 billion — with direct, indirect, and induced benefits assessed to provide almost $2.1 billion (in discounted present value terms), and an estimated DPV impact of $126 million relating to the fiscal impacts in the Study Area from the Project to 2060.

ES.3 PERSPECTIVE: SUNZIA TRANSMISSION AND U.S. ELECTRICITY MARKETS

Largely fueled by emissions-related climate policy concerns and state legislative mandated renewable portfolio standards (RPS), renewable energy resource development has taken on a prominent role in U.S. electricity markets. Carbon emissions goals adopted by a number of western states will require replacement of existing fossil-fuel generation resources serving those states. These policy goals establish timetables for the reduction of carbon emissions from generation sources serving each state's electricity demands. California and New Mexico are both on the forefront of these initiatives and are generally being joined by many of the western states.

Figure ES-2: Renewal Portfolio Requirements (RPS)



These initiatives have created opportunities for significant capital investment in renewable generation resources and will require extensive new transmission infrastructure and reconfiguration of the existing transmission utilization to achieve the goals identified to-date.

[9] Due to the evaluation of impacts over an extended number of years, common economic analysis methods require the *present value discounting* of these impacts to allow recognition that near-term impacts are generally considered to be given greater weight (in social decisions) than impacts that occur in subsequent years. *See, e.g.*, Irving Fisher, *The Theory of Interest*, New York: Macmillan, 1930.

RPS demand growth will require roughly a 50% increase in U.S. renewable energy generation by 2030, equating to 73 GW of new renewable energy capacity.

Focusing on the western electricity grid, it is notable that the 12 western states are expected to have an increase in total retail electricity sales of more than 158.7 TWh between 2020 and 2050, reflecting a nearly a 0.7% annual compound growth rate over 30 years.

More specifically, the eight western states with RPS compliance requirements (i.e., AZ, CA, CO, MT, NM, NV, OR, and WA) can anticipate annual increases in renewable energy demands to meet total retail loads that will grow by 143.8 TWh in the next 30-years — an approximate 2.6% annual compound rate to meet existing regional RPS compliance requirements.[10]

It is notable that even with the full build-out of the SunZia Project, its estimated annual capacity of 16.5 TWh is approximately 10% of the *increased demand* requirements between 2020 and 2050 in the western states.[11]

Renewable energy resources are not evenly distributed across the western states, and these expanded renewable energy resource requirements will be supplied from remote generation locations and delivered via transmission systems to the load centers. Thus, for New Mexico to take advantage of the economic opportunity available with the expansion of renewable energy demands, a very substantial portion of the potential wind resource development opportunity will need to be exported to loads outside the state.

ES.4 SUMMARY: SUNZIA TRANSMISSION AND NEW MEXICO OPPORTUNITIES

New Mexico and Arizona are at the threshold of an opportunity to obtain significant economic and fiscal benefits in developing renewable energy resources — resources that are significant in meeting the expanding demands in the potential markets to be served. The renewable resources are available, and the singular constraint driving the extent to which the opportunity may be realized turns on the *timely* ability to participate in these competitive renewable energy markets. The SunZia Transmission project opens the door to a new path, allowing the market opportunities and corresponding substantial benefits to be realized.

[10] Data is based on the U.S. Energy Information Administration (EIA)'s Form 861. Projections are derived by applying regional growth rates from EIA's Annual Energy Outlook (reference case forecast) to the most-recent available state-level retail sales data. (Source: rps_demand_projections_july_2019.xlsx. Note also, there is some significant probability that the four remaining western states that do not currently have RPS compliance statutes will adopt RPS requirements before 2050.

[11] SunZia Transmission Capacity = 4,500 Megawatt *8760 hours per year* NM Wind Energy Capacity Factor of 45% * line and transformer losses of SunZia of 7% = 16,497,270 Megawatt Hours. [Source: https://sunzia.net/impact/, accessed 12/3/2020]

New Mexico total retail sales in 2020 estimated to be 23,972,000 MWh and projected 2050 total retail sales are 32,754,000 MWh. [Source: EIA, "2020 Annual Energy Outlook (reference case)," U.S. Department of Energy [Source: https://www.eia.gov/outlooks/aeo/tables_ref.php, accessed 12/3/2020]

New Mexico technical wind potential (80m hub height) = 652,575 MW* 8760 hr/yr * 45% capacity factor * 7% line and transformer losses = 2,392,379,105 MWh per year potential.

Therefore, SunZia would transmit approximately 0.7% of the total potential New Mexico wind generation capacity. New Mexico's current installed capacity of 1,952 MW is only 0.3% of the total potential wind generation resources. [NM technical potential and installed capacity data source from: https://www.awea.org/resources/fact-sheets/state-facts-sheets, accessed 12/3/2020] Note: this analysis ignores retirements of fossil fuel and other existing generation facilities during the projection period.

SunZia is focused on tapping the potential wind resources of east-central New Mexico. The competitive opportunity is available, but New Mexico's ability to capitalize on this opportunity requires that the transmission infrastructure be timely developed. That is, many competitive alternatives are vying for entry in this same prize, and the first to move forward with an economic, utility-scale investment is provided the greatest assurance of success.

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