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# Economic Impacts from Renewable Energy Development in New Mexico

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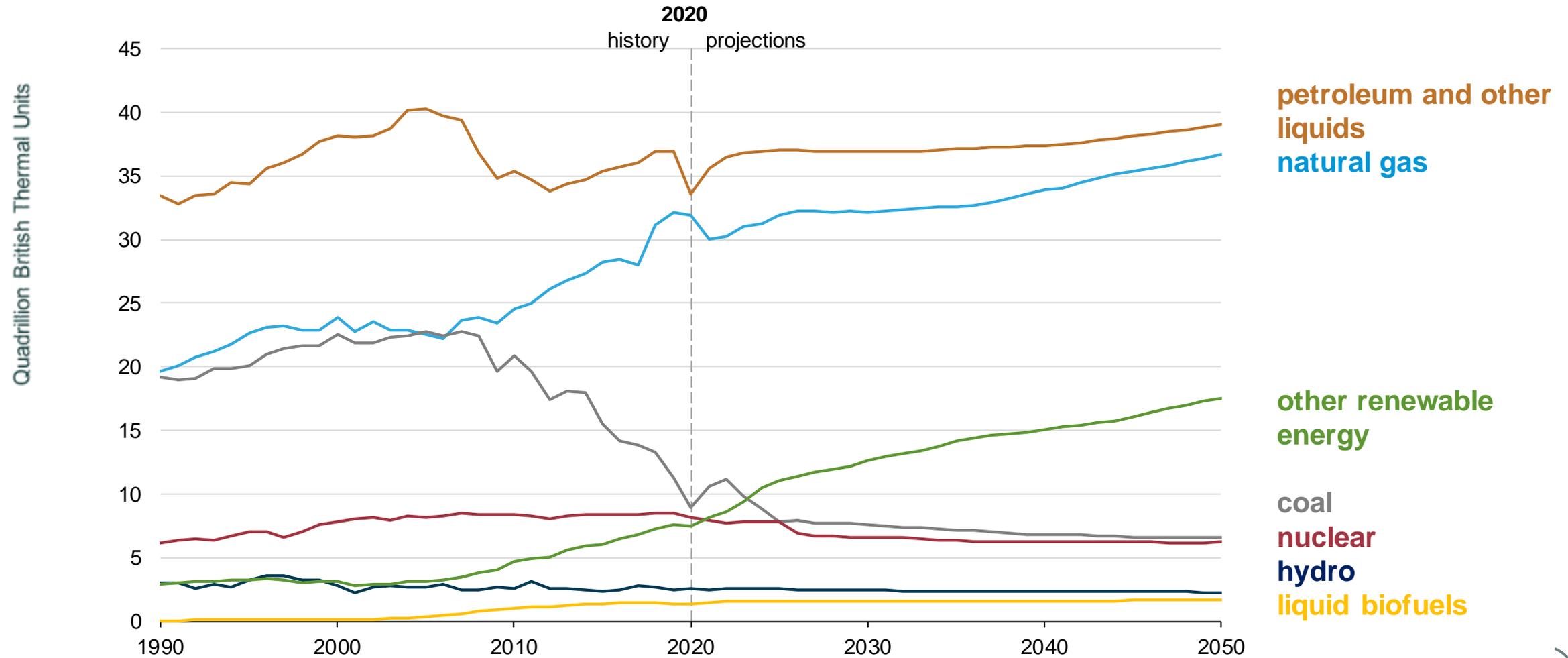
PRESENTATION TO THE INTERIM SCIENCE, TECHNOLOGY & TELECOMMUNICATIONS COMMITTEE OF THE NM LEGISLATURE

Presented by John Tysseling  
September 16, 2021



# U.S. Energy Markets

U.S. Energy Consumption, by Fuel  
AEO2021 Reference Case



- Source: U.S. Energy Information Administration, "Annual Energy Outlook 2021," U.S. Department of Energy, Washington, DC.

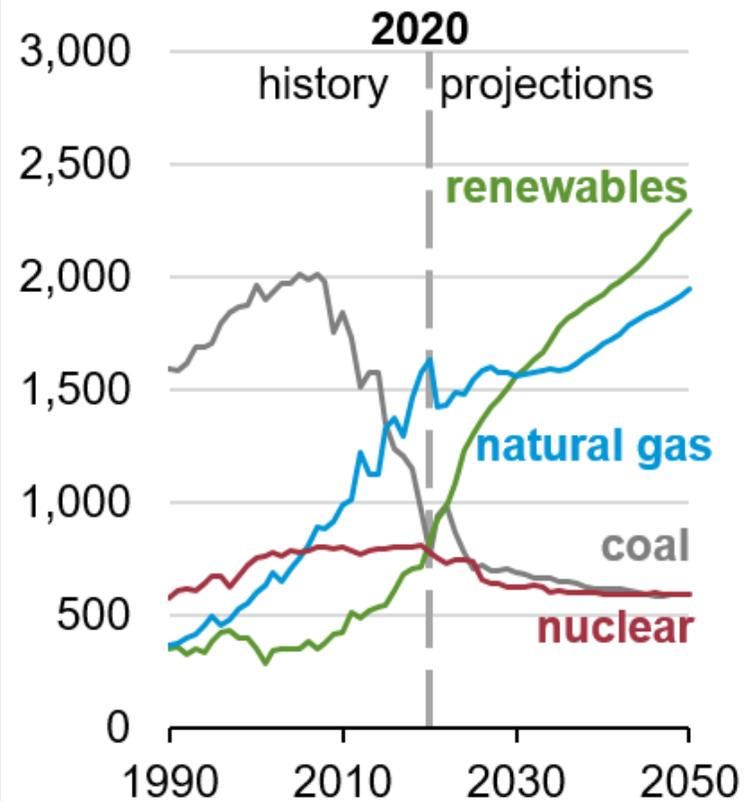


# U.S. Energy Markets

## U.S. electricity generation, AEO2021 oil and gas supply cases

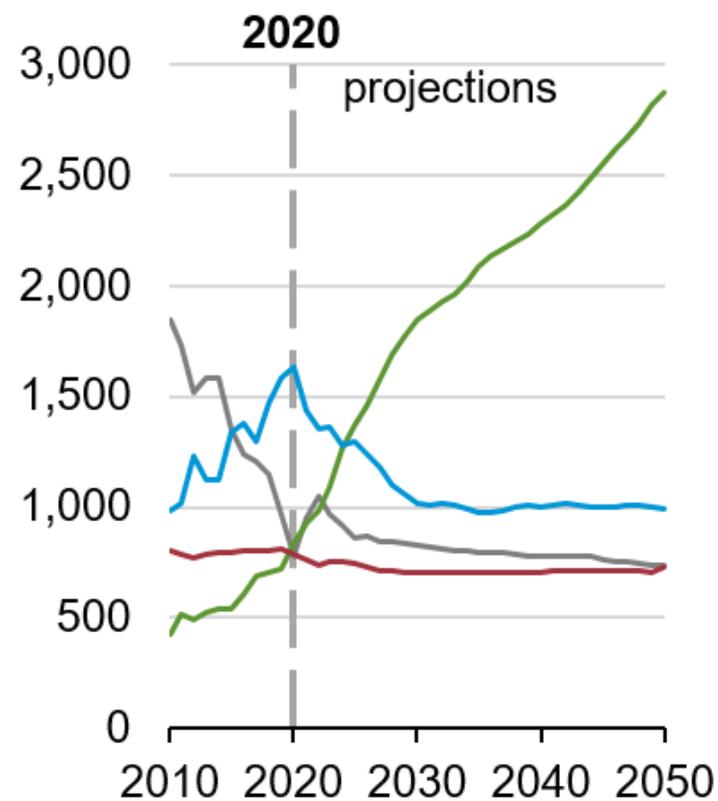
### Reference case

billion kilowatthours



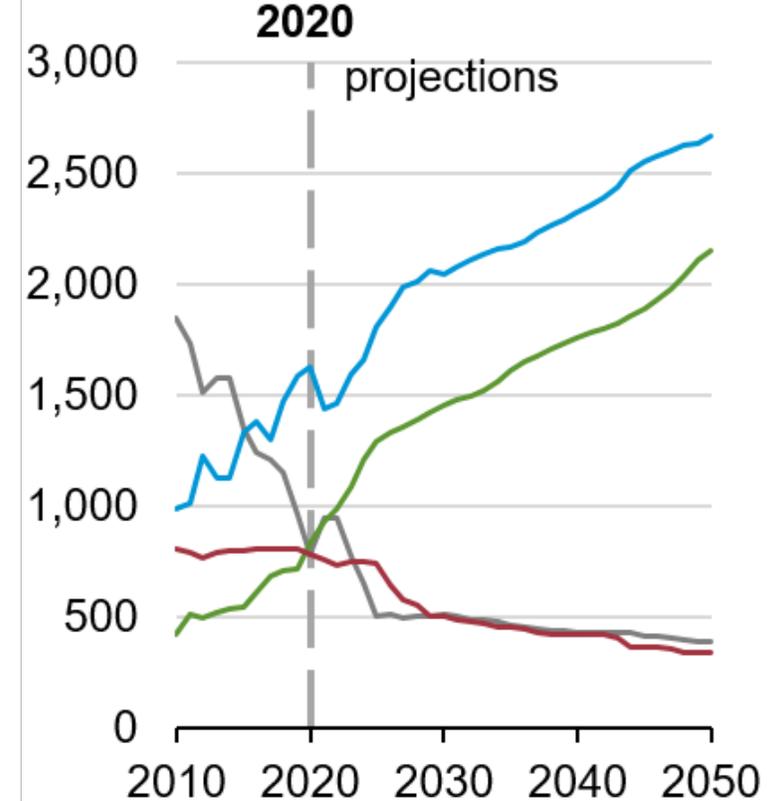
### Low Oil and Gas Supply case

billion kilowatthours



### High Oil and Gas Supply case

billion kilowatthours

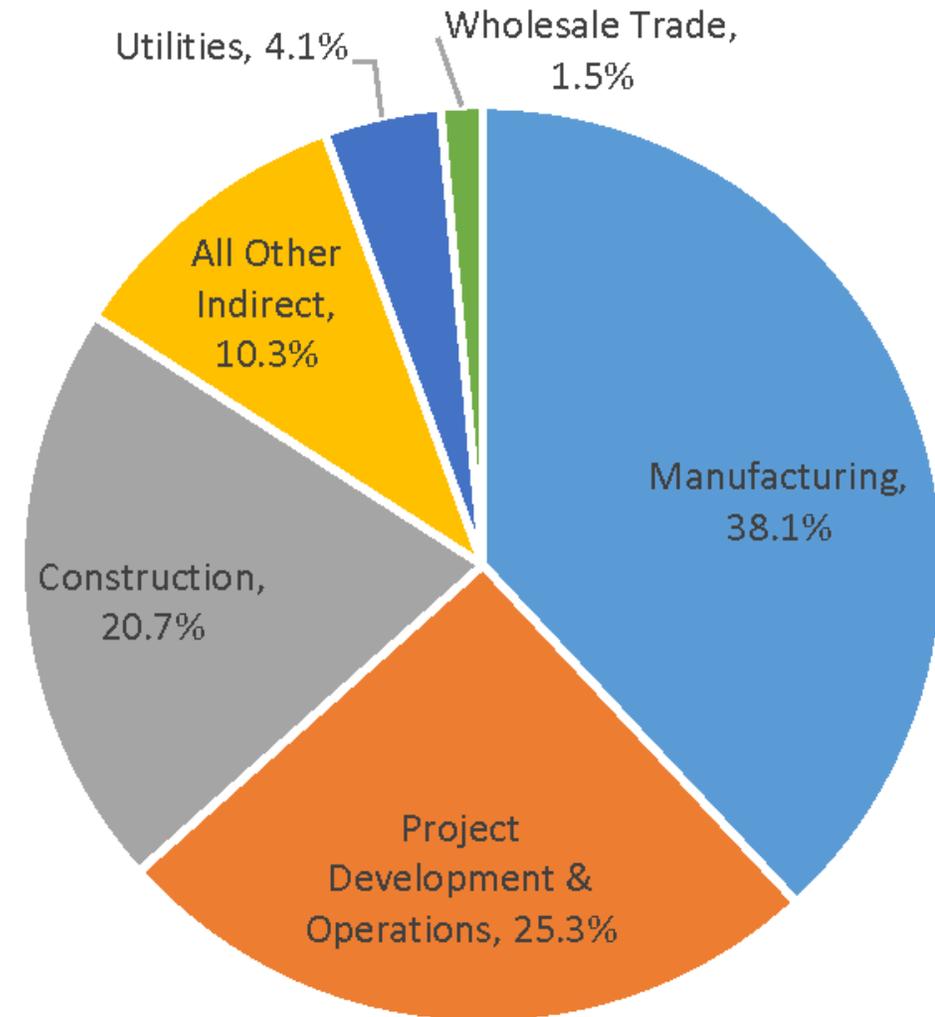


- Source: U.S. Energy Information Administration, "Annual Energy Outlook 2021, U.S. Department of Energy, Washington, DC.



# Renewable Energy Job Creation: Distribution by Sector (through 2030)

- ❖ Manufacturing and project development & operations sectors are expected to see the majority of employment growth with increased solar, wind, and battery storage capacity.
- ❖ Manufacturing would account for 38 percent of job-years created over the next 10 years, while project development and operations represent 25 percent of job-years created, followed by construction at 21 percent, utilities at four percent, and wholesale trade at two percent.
- ❖ All other indirect employment include any additional jobs created across agriculture, mining, retail trade, transportation, educational services, healthcare, arts, entertainment, and recreation, accommodations and food services, public administration, and other services such as repair and maintenance; these sectors would comprise about 10 percent of total job-years created through 2030.

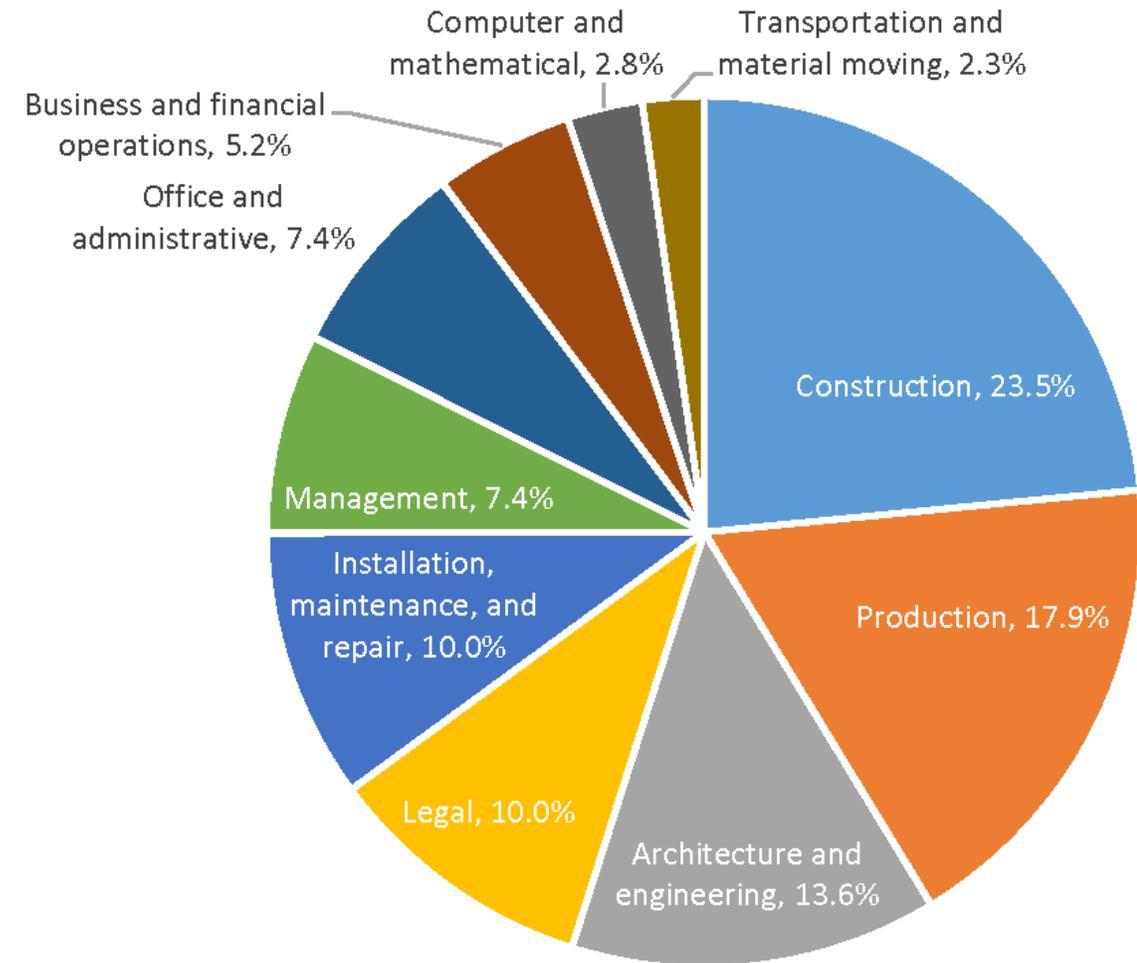


Source: American Clean Power, "2021 Clean Labor Supply"



# Renewable Energy Job Creation: Distribution by Occupation (through 2030)

- ❖ The majority of jobs generated support above-average annual wages. Of the total jobs generated across the top 35 in-demand occupations, **65% of jobs support an average annual wage that is higher than the national average wage of \$56,310.**
- ❖ **Wind turbine technicians**—an occupation that will see the greatest gap in supply—made an **average of \$59,340 in 2020**; this is 5% higher than the national average.
- ❖ Wind turbine service technicians, solar photovoltaic installers, semiconductor processing technicians, structural metal fabricators and fitters, electricians, and electrician helpers will have **significant supply gaps over the next 10 years**. On average, roughly 70,200 jobs created for the next 10 years will be across these occupations.

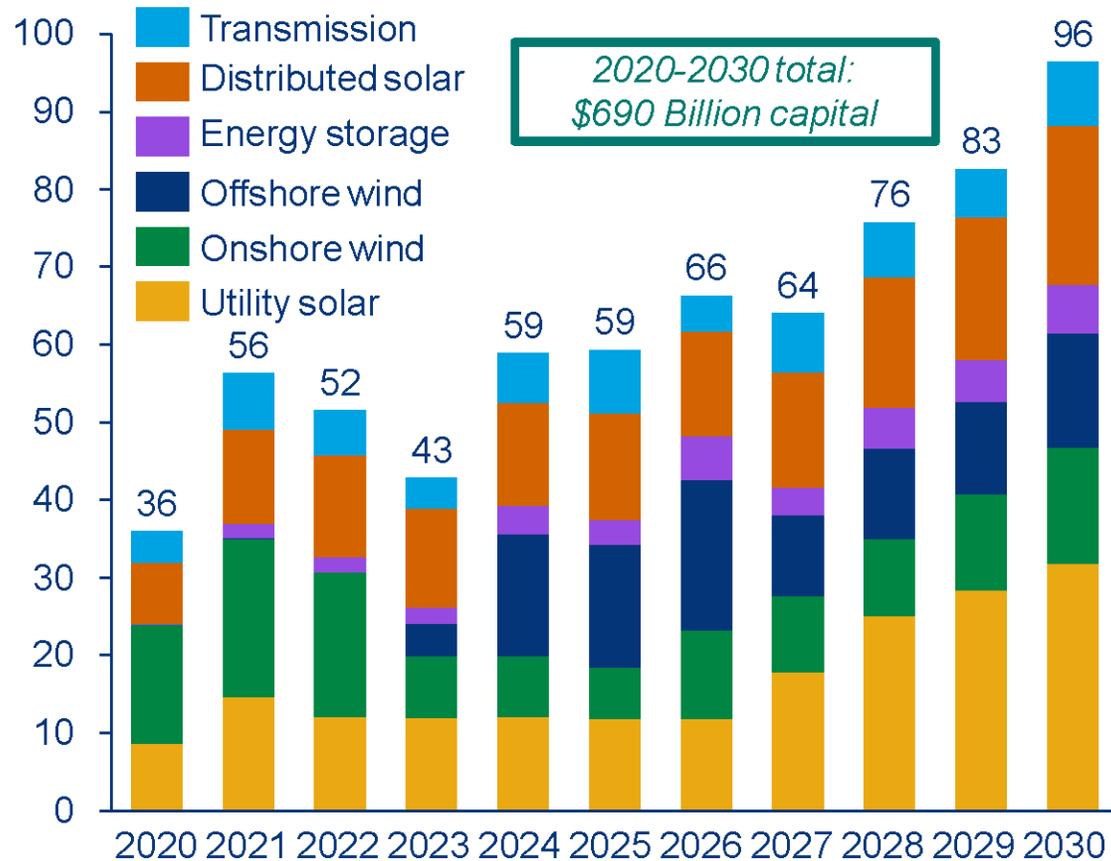


Source: American Clean Power, "2021 Clean Labor Supply"

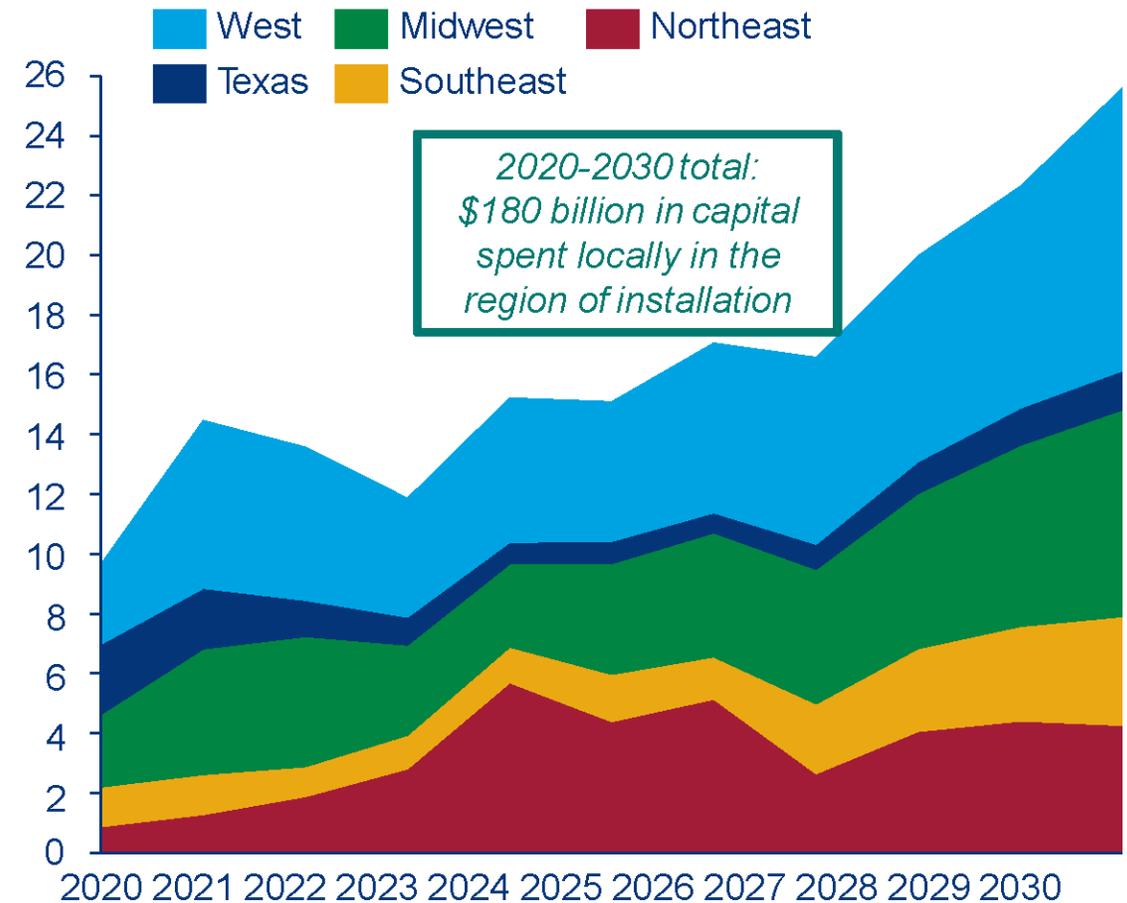


# Capital Investment: Renewable Energy & Transmission (through 2030)

Total capital investment, USD Billions – Scenario 1



Estimated local region capital investment – Scenario 1



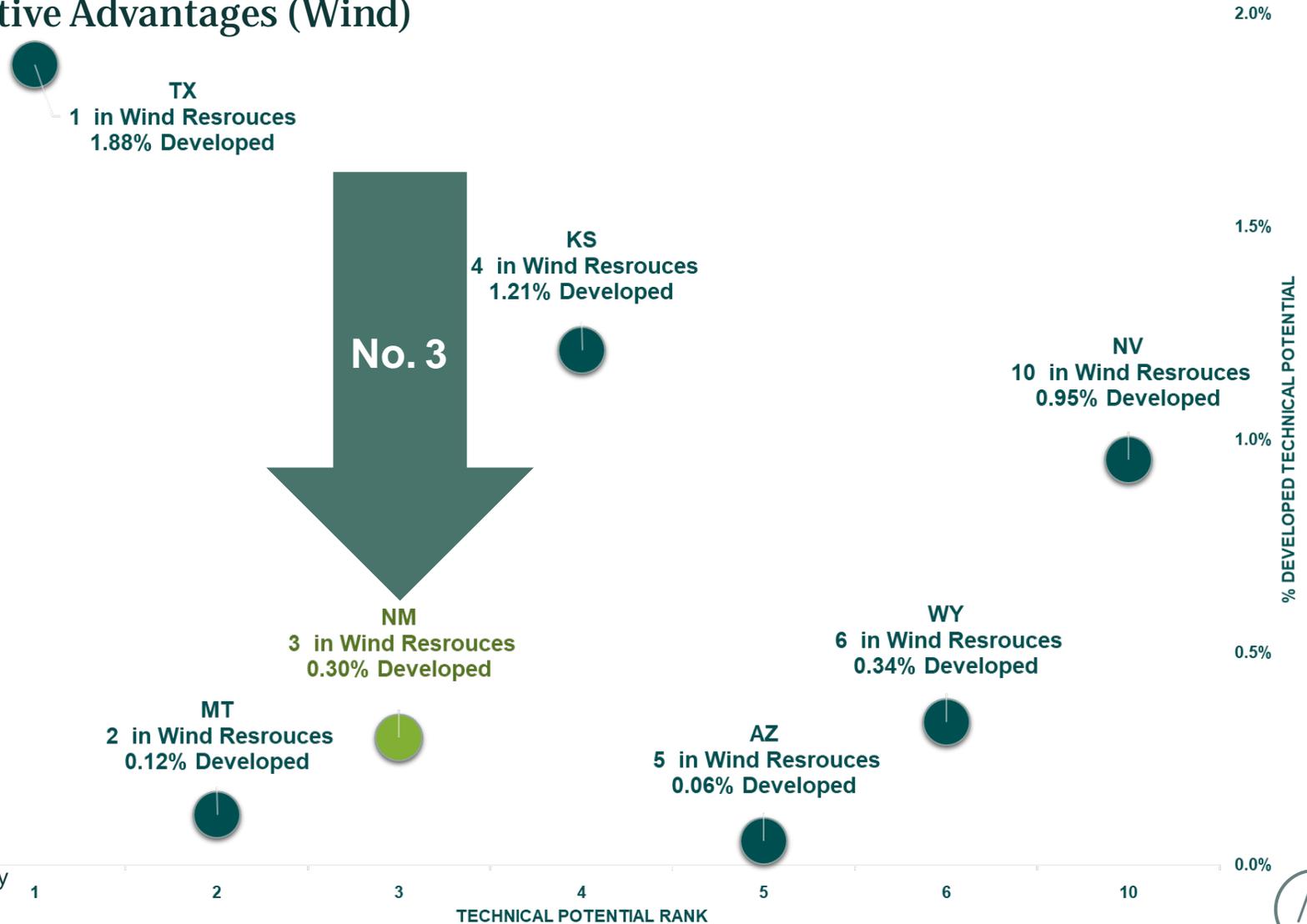
Source: Wood Mackenzie, "Renewable Energy and Infrastructure Policy Scenario Analysis," American Clean Power, December 2020.



# Renewable Energy Opportunities:

## Structure of NM's current Competitive Advantages (Wind)

- ❖ New Mexico is ranked No. 3 in Wind Energy Technical Potential – 3<sup>rd</sup> to Texas and Montana
- ❖ Wind resources developed in New Mexico total just **0.3%** of its Technical Potential



- Source: B. Cook and R. Godby, "Estimating the Impact of State Taxation Policies on the Cost of Wind Development in the West," Center for Energy Economics and Public Policy, University of Wyoming, March 2019.



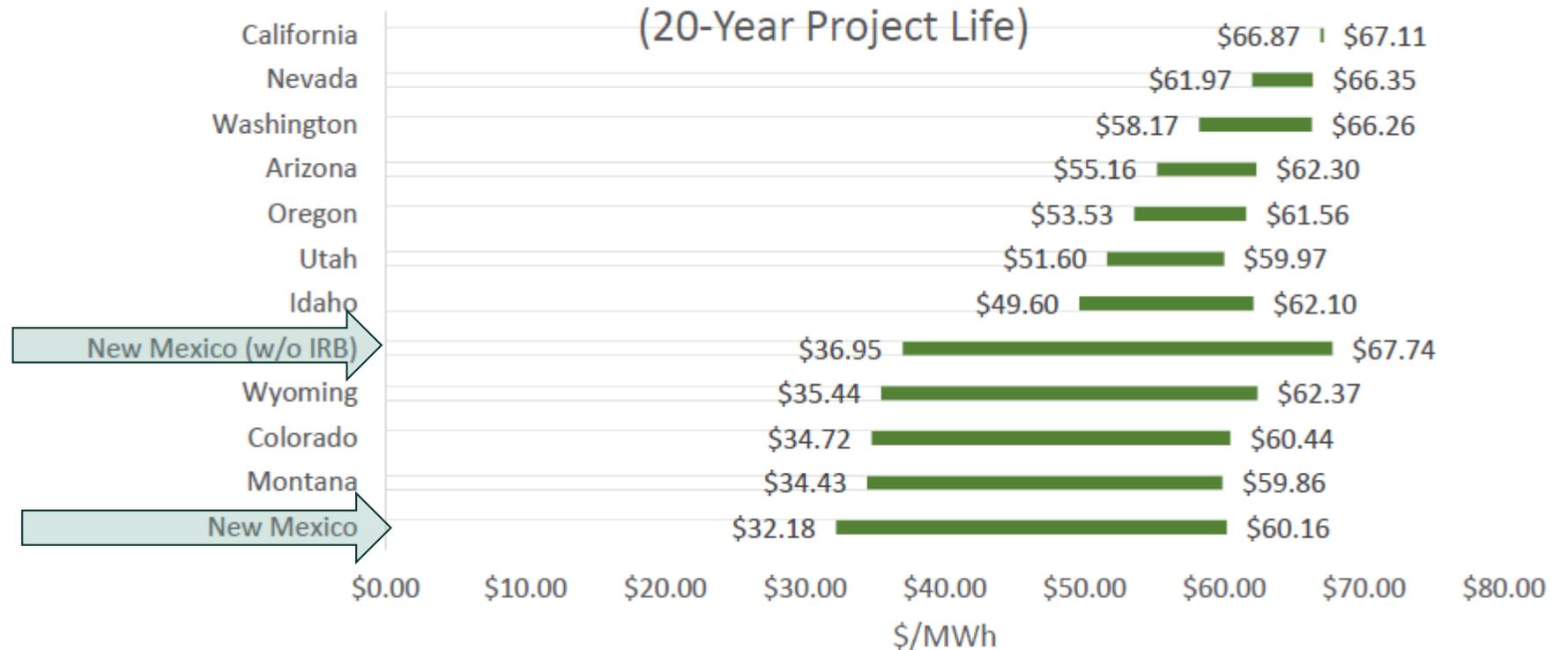
# Renewable Energy Opportunities:

## Structure of NM's Current Competitive Advantages

### Estimated Average Cost of Energy Ranges, by WECC State

#### State Wind Cost of Energy with Current Taxes

(20-Year Project Life)



New Mexico is #1 for low cost of wind energy development on a \$/MWh basis with current IRB options

- Source: B. Cook and R. Godby, "Estimating the Impact of State Taxation Policies on the Cost of Wind Development in the West," Center for Energy Economics and Public Policy, University of Wyoming, March 2019.

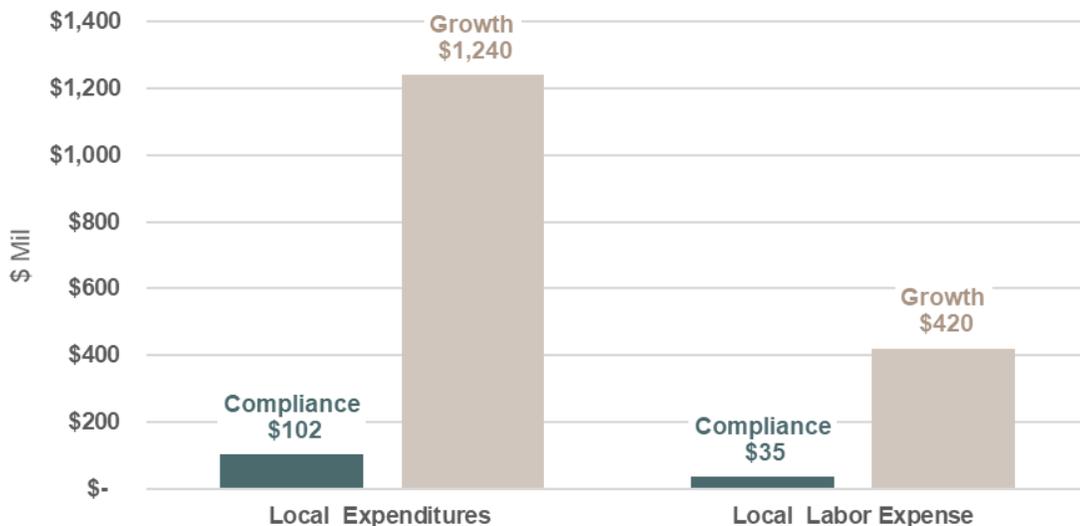


# Comparison of Economic & Fiscal Impacts of NM Policy Change

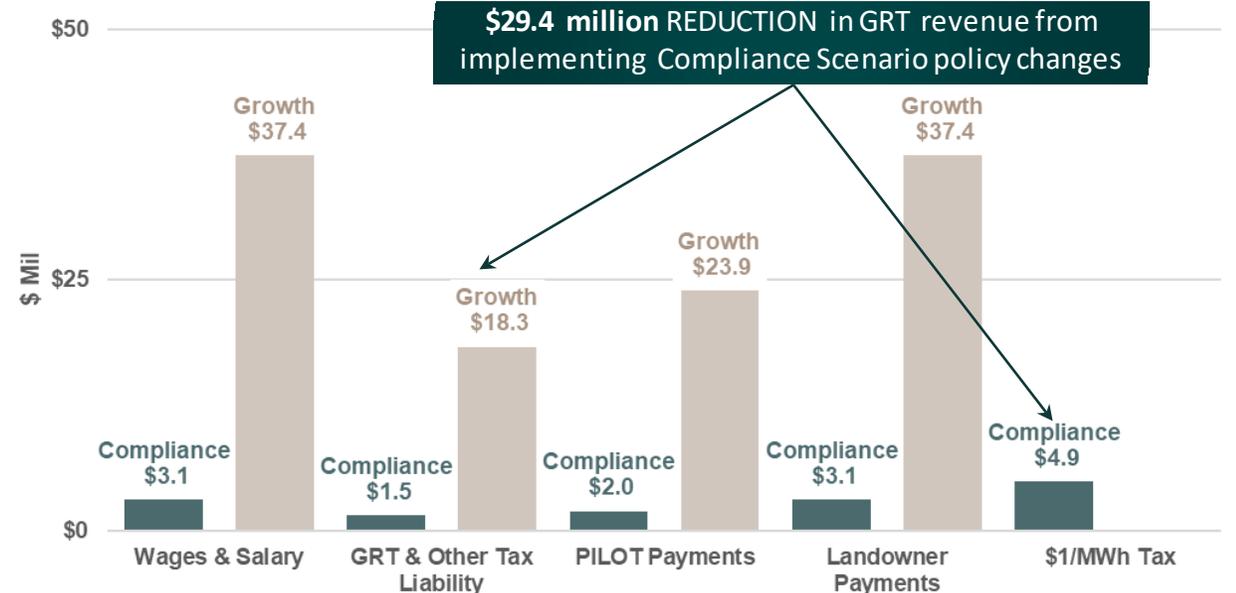
**Growth Scenario:** New Mexico's current Industrial Revenue Bond benefits are maintained, and NO Production Tax is implemented; Assumes forecast of 1 GW of new renewable generation developed each year

**Compliance Scenario:** New Mexico changes Renewable Development Policy, imposing \$1/MWh Production Tax and discontinues IRB benefits; Assumes ONLY 83.7 MW new capacity developed to meet 2030 NM RPS goal

**Total Direct Impacts from Wind Farm Construction From 2021-2030**



**Impacts from O&M Growth vs. Compliance 2022-2030**



**\$1.13 billion in Local Construction Expenditures lost under Compliance Scenario**

**Locally Hired Employment:**

- Construction Period: 3,160 job-years lost under Compliance Scenario, with Wage & Salary Income reduced by \$385.8 million
- Operational Period: 448 job-years lost under Compliance Scenario, with Wage & Salary income reduced by \$34.3 million



# Net Economic Impact of a “Wind & Sun Tax”

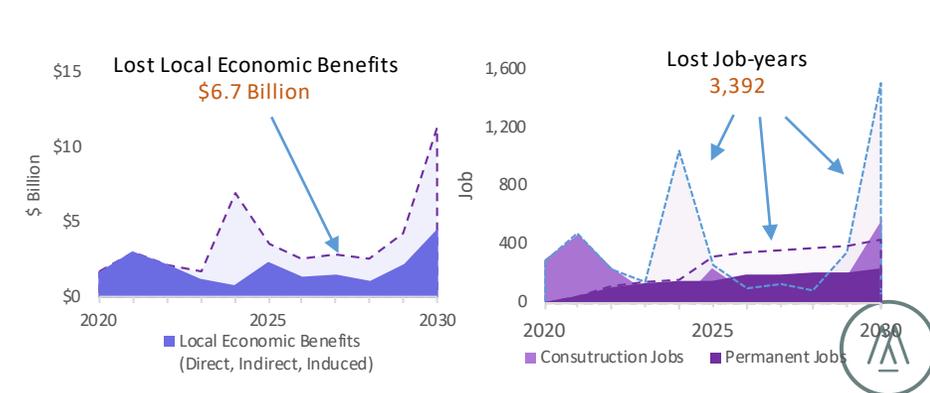
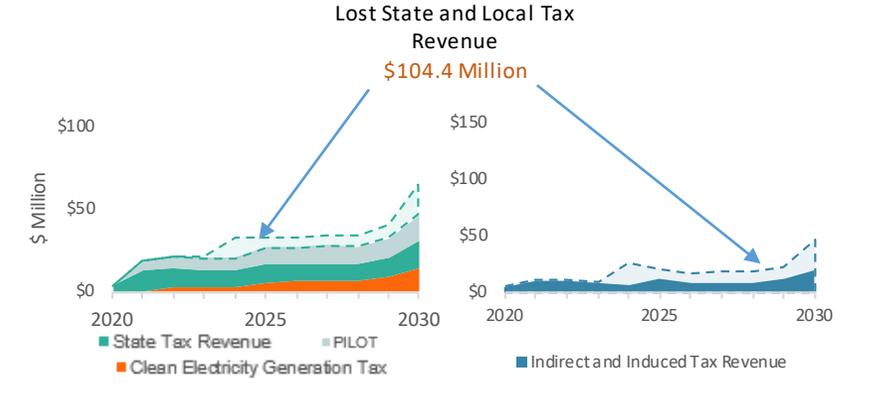
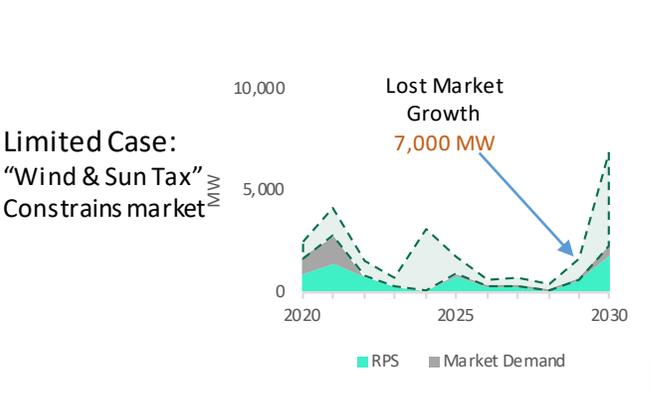
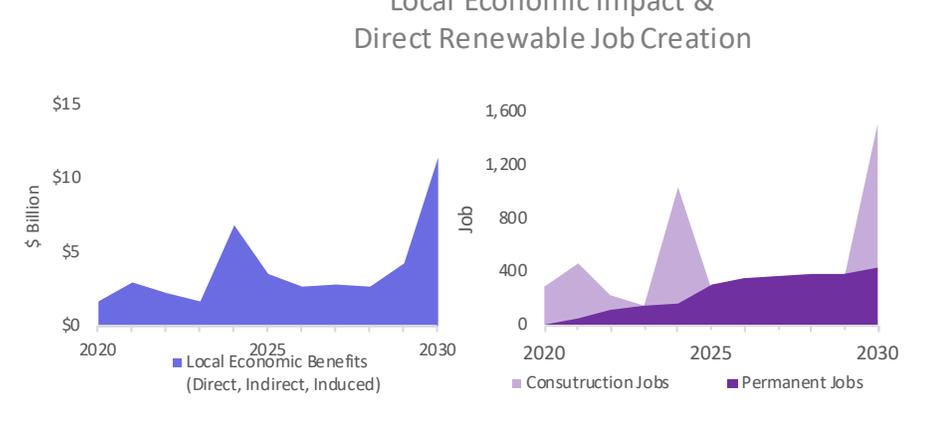
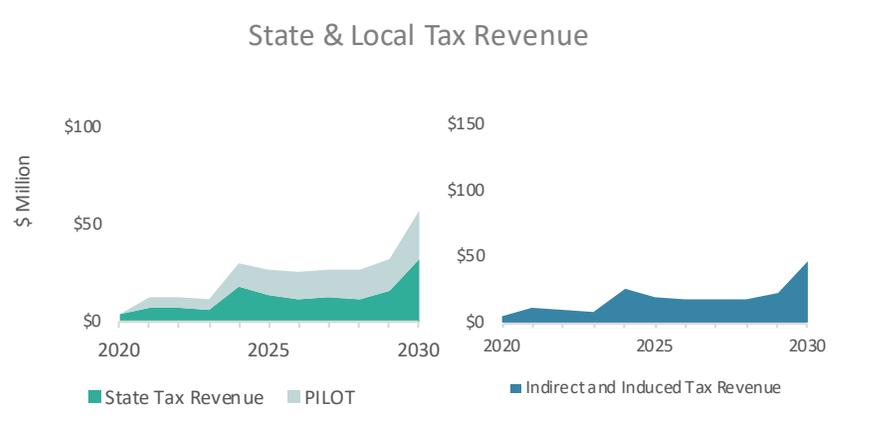
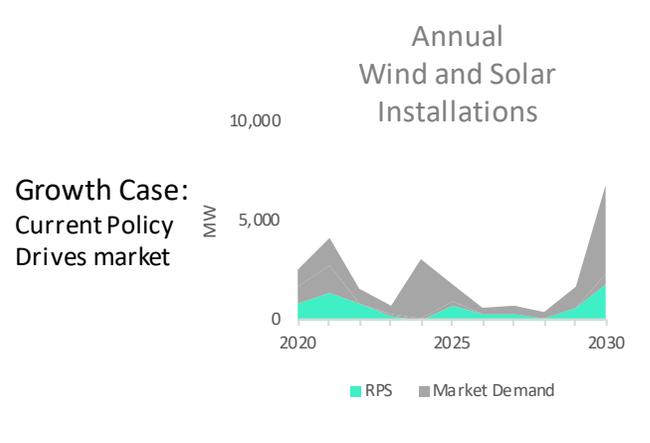
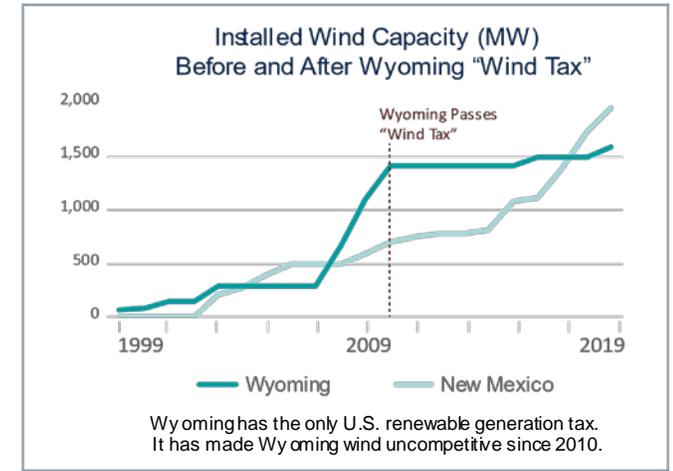
*New Mexico Projection 2020 - 2030*

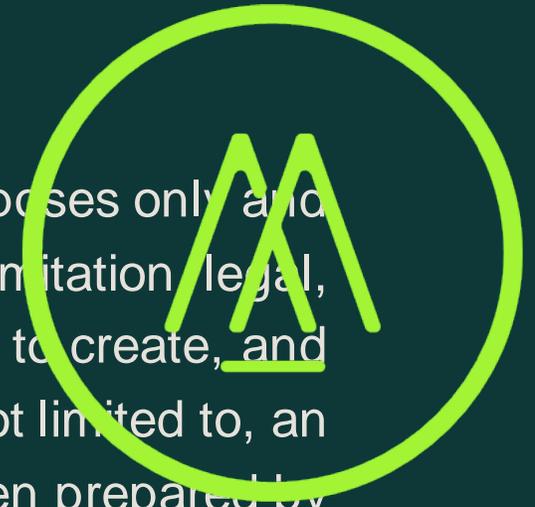
- Gross Receipts Tax (GRT): **\$65.4 Million** ↓
- Rural Economic Benefits: **\$6.7 Billion** ↓
- “Wind & Sun Tax” State Revenue: **\$55.6 Million** ↑
- Employment and Labor: **3,392 Job-Years** ↓

A New Mexico tax on air and sunlight used for electricity generation would have a net negative impact on state revenue.

Under current policy, wind and solar energy projects are competitive throughout the Western U.S. as Renewable Portfolio Standards drive demand in 2025 and 2030.

Far fewer projects with a “Wind & Sun Tax” would be competitive enough to win a power purchase contract required for construction. As construction is constrained, the state loses GRT revenue, economic development and jobs.





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