

Economic Impacts of Restricting Oil and Gas Development on Federal Lands



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Introduction



- ❧ Recent calls to restrict oil and gas development on federal lands
- ❧ 48% of the land area in Wyoming is federal and
 - ❧ 53.6% of oil production and
 - ❧ 78.6% of gas production come from these federal lands
- ❧ A leasing moratorium or a drilling ban reduces
 - ❧ Investment in new oil and gas wells, and
 - ❧ Results in lower future oil and gas production
- ❧ Lower investment & production reduces economic activity, employment, tax revenues
- ❧ Restricting federal oil and gas development forgoes significant economic opportunities
- ❧ This study estimates these opportunity costs
- ❧ **RESULTS PRESENTED TODAY ARE PRELIMINARY**

Policies & Scenarios

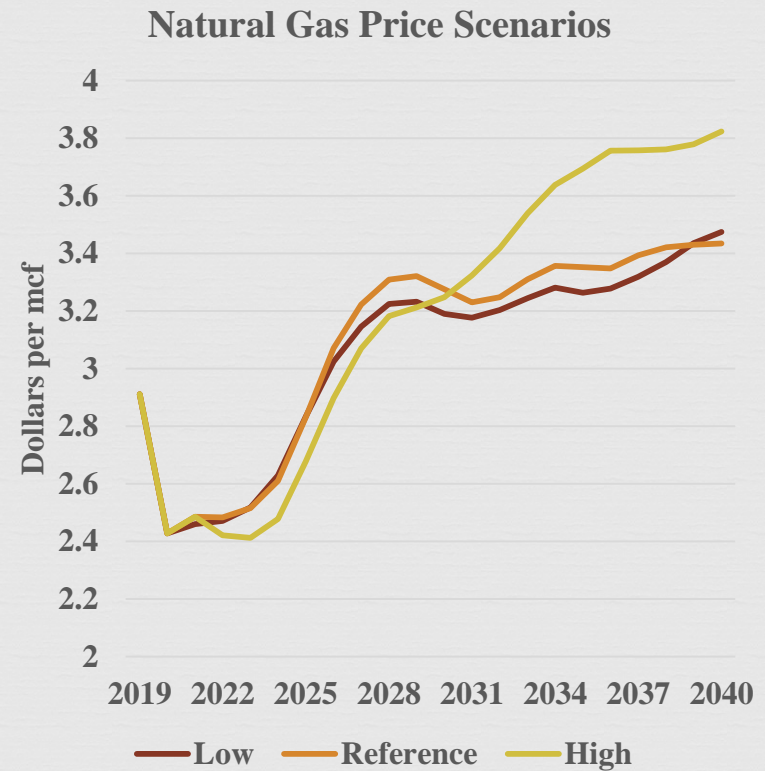
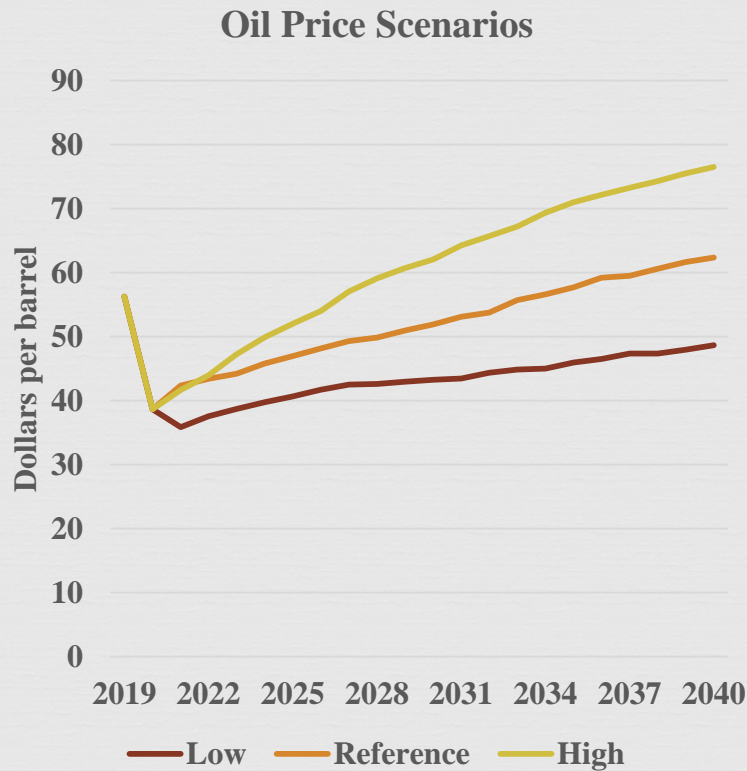


Policies & Scenarios



- ❧ Federal land policies affect or spillover to private & state lands due to
 - ❧ Federal, tribal, private, and state lands interspersed in a checkerboard pattern
 - ❧ Federal regulations could apply to private and state lands subject to a communitization agreement*
- ❧ Future development depends largely upon price
- ❧ This study examines three policies:
 - ❧ Leasing moratorium,
 - ❧ Drilling ban, and
 - ❧ Drilling ban with 10% spillover to private & state land
- ❧ Under three different scenarios for oil & gas prices and two different approaches for economic impact analysis

Price Scenarios



Forecasts

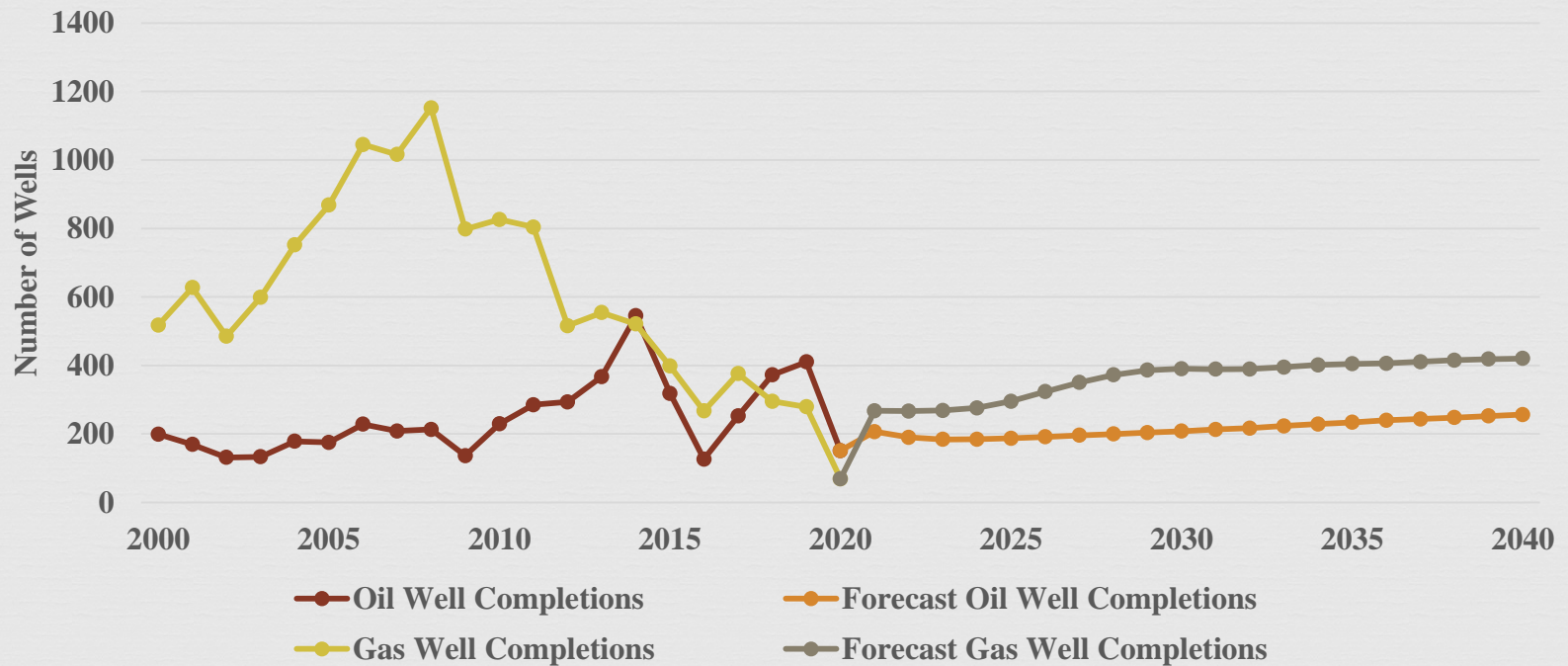


Future Drilling Activity & Production

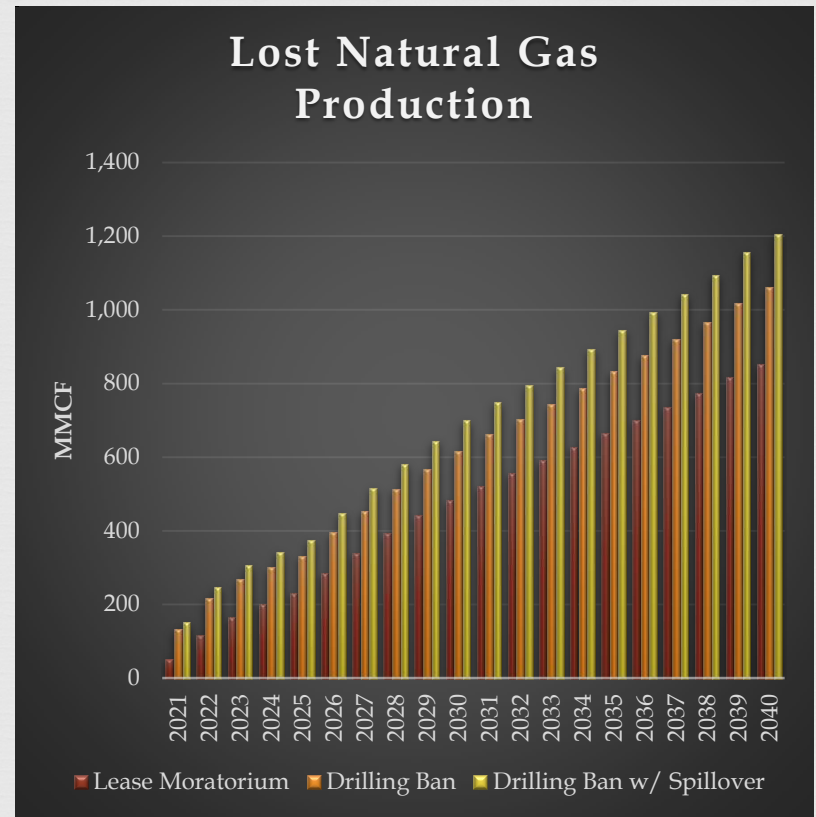
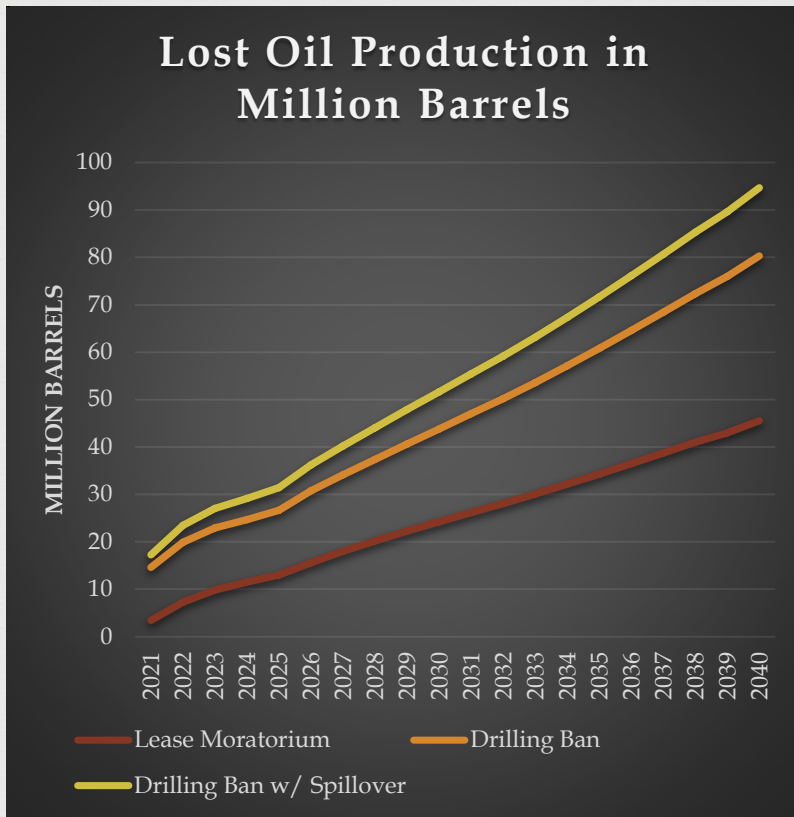
Drilling Forecasts



Observed Oil and Gas Well Completions in Wyoming from 2000 to 2019
and Forecast Well Completions, 2020 - 2040



Lost Oil & Gas Production



Economic Impacts

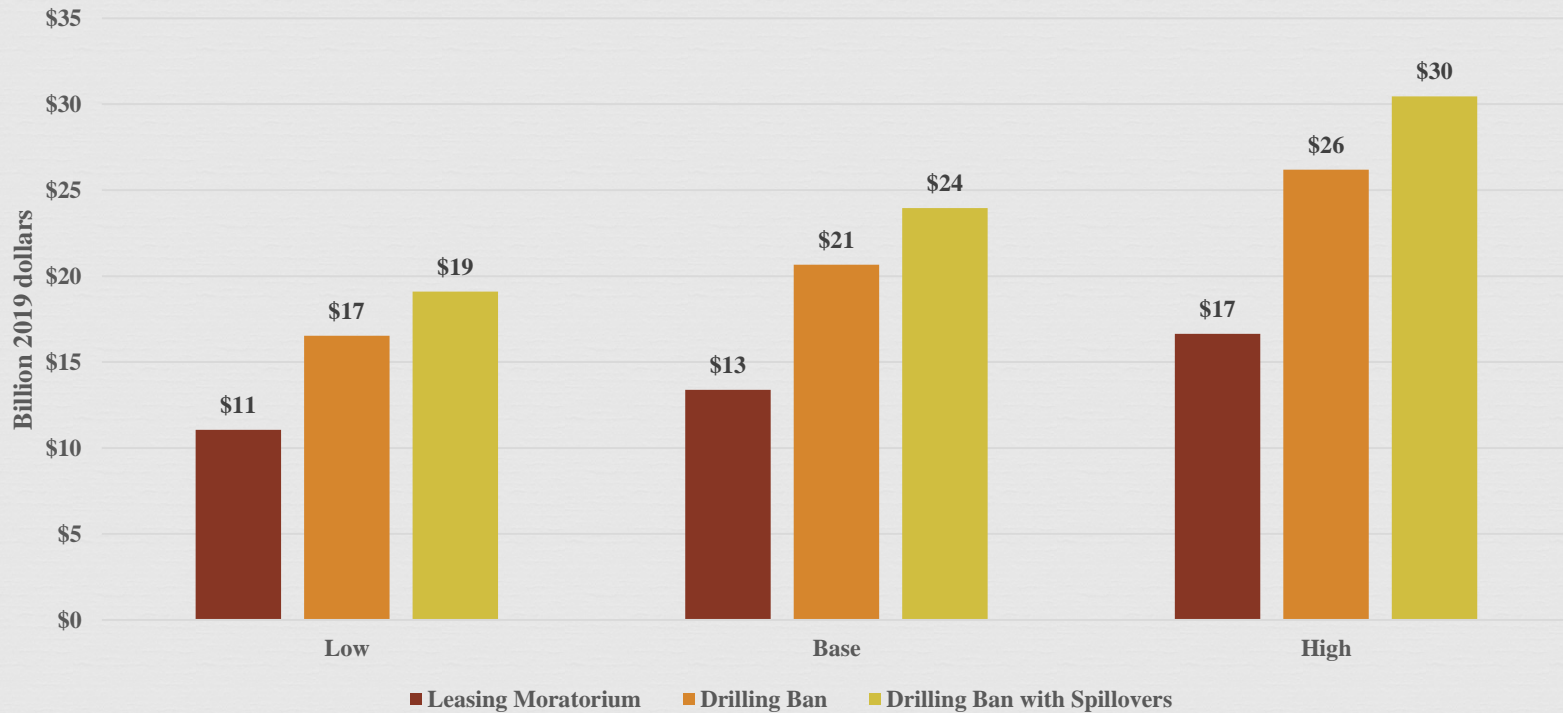


Tax Revenues, Personal Income, and Employment

Losses in Oil & Gas Tax Revenues



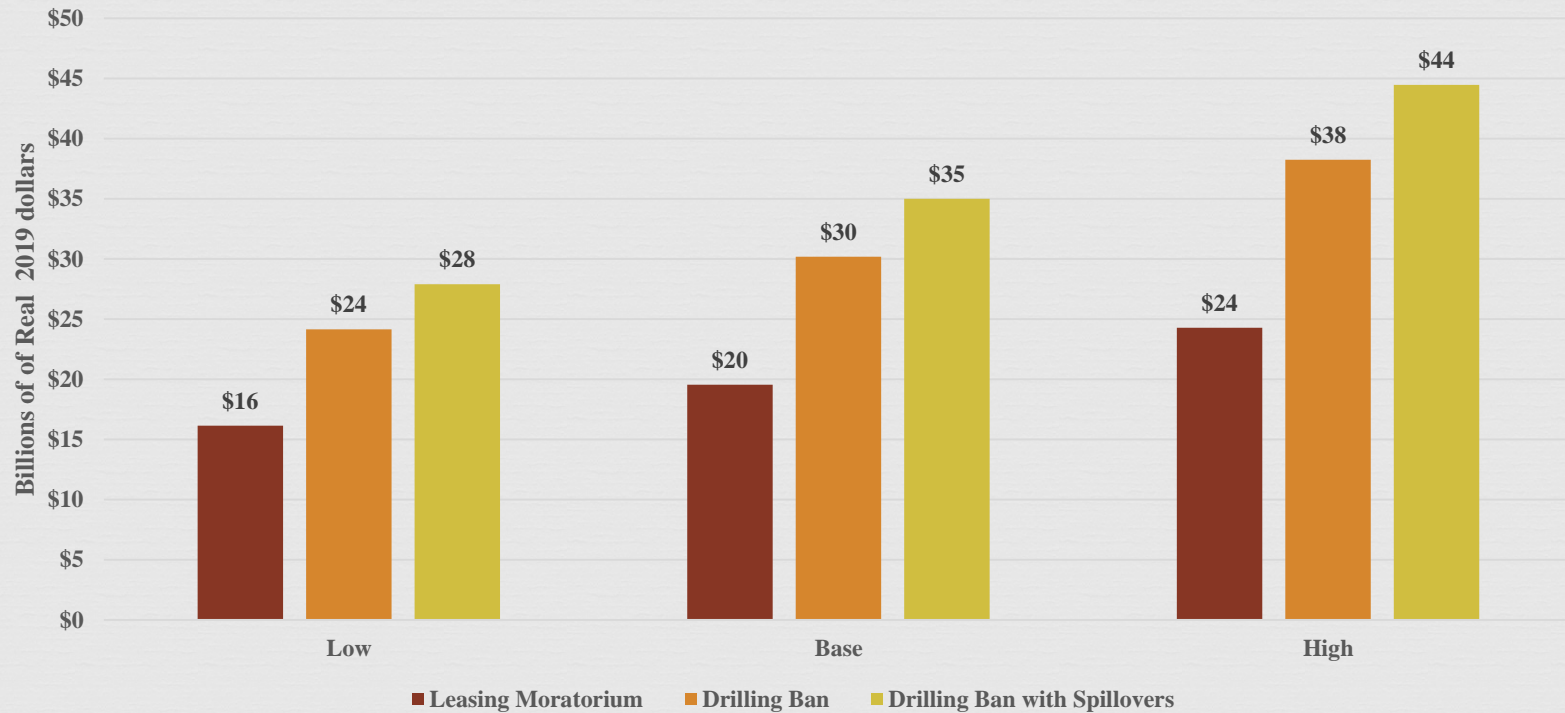
Total Losses in Wyoming Oil & Gas Tax Revenues, 2020 - 2040



Losses in Personal Income



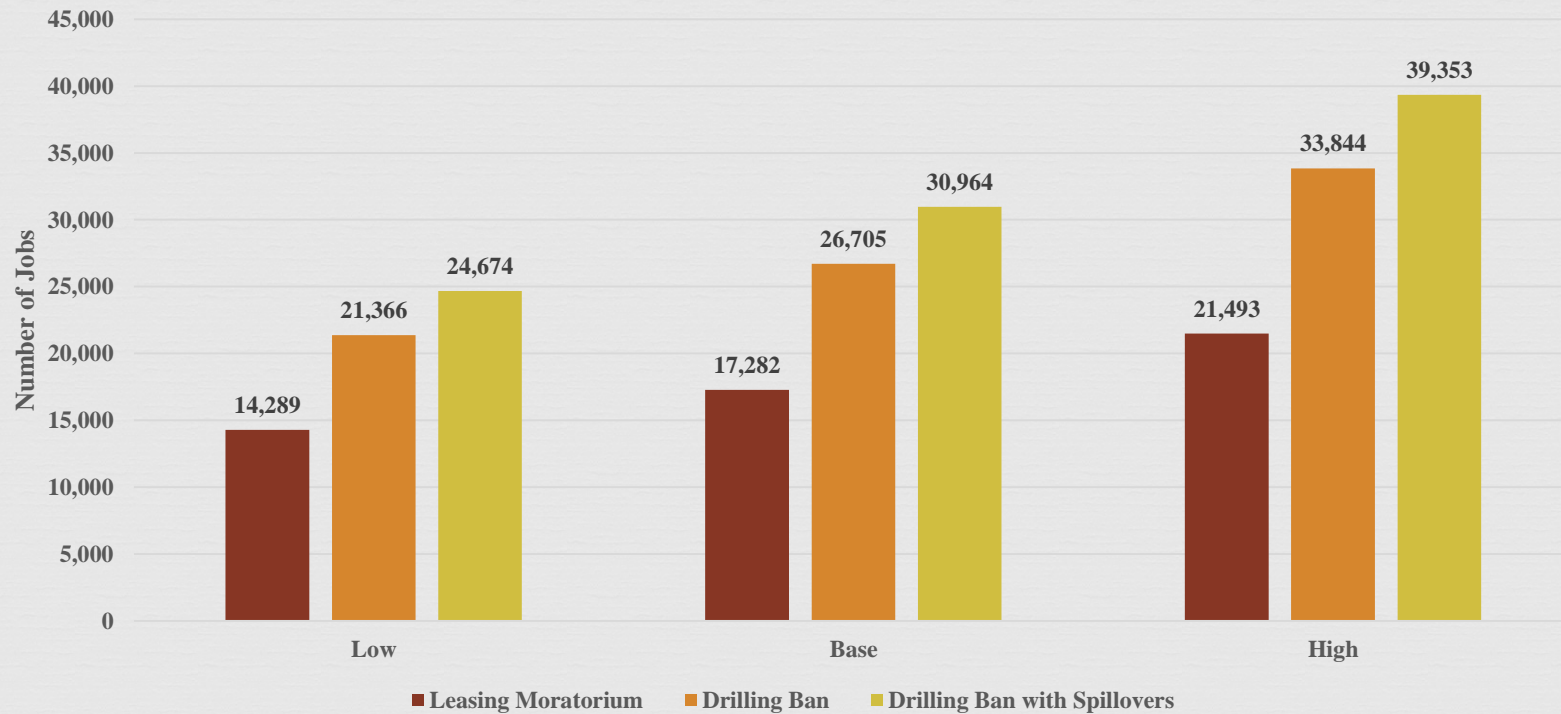
Total Losses in Real Personal Income, 2020 - 2040



Changes in Employment



Losses in Average Annual Employment, 2020 -2040



Sensitivity Analysis

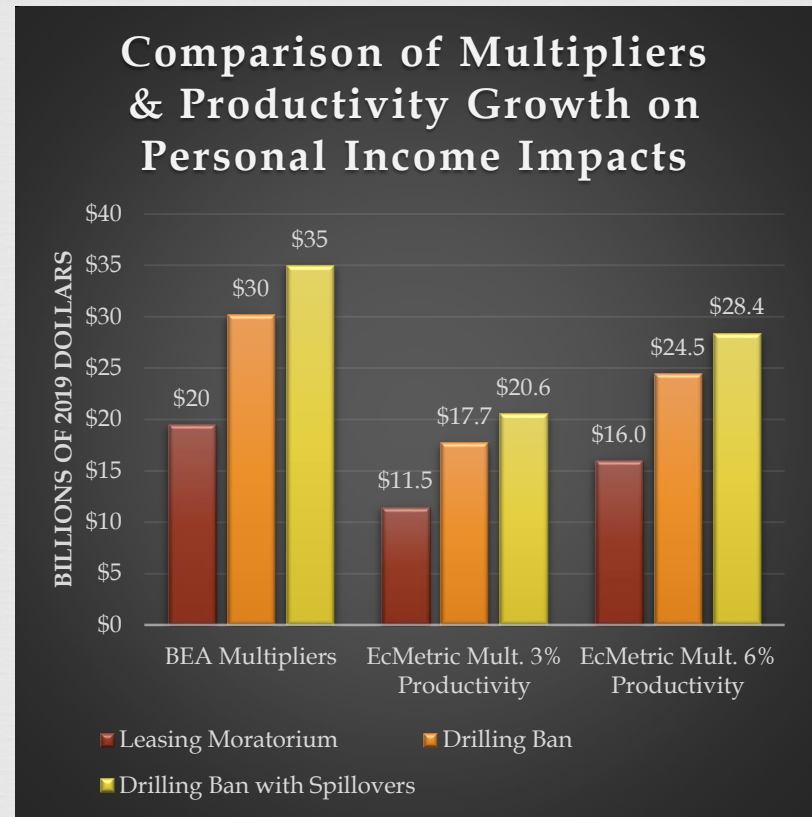


Cost of Using Federal Lands to Reduce Carbon Emissions

Estimating Economic Impacts



- ❧ Limitations of input-output(IO) analysis
 - ❧ Assumes fixed prices
 - ❧ No migration, adjustments
- ❧ New econometric approach
 - ❧ Uses historical panel data
 - ❧ Estimate regressions
- ❧ Differences are substantial
 - ❧ Figure on right is for base case scenario
 - ❧ Econometric multipliers much lower than IO multipliers
 - ❧ Not perfect but more widely accepted in economics
- ❧ Future productivity growth
 - ❧ Unknown, difficult to project
 - ❧ O&G industry innovative



Restricting Federal Oil & Gas Development is an Expensive Way to Cut Carbon Emissions



- ❧ The costs of these policies are real & significant
- ❧ Proponents argue that
 - ❧ These policies avoid carbon emissions
 - ❧ But emissions reductions don't exist if other regions offset Wyoming's lost oil and gas production
- ❧ Even if one believed that emission reductions were possible
 - ❧ Locking down oil and gas production on federal lands is an expensive way to reduce carbon emissions
 - ❧ In terms of lost value added, carbon abatement cost is \$50-\$100/ ton

The Road Ahead



Economic Impacts for Other States

Final Study



- ❧ Data collection complete for seven other states is underway for: NM, CO, UT, ND, MT, CA, and AK
- ❧ Additional econometric analysis has been completed:
 - ❧ Economic multipliers using recent formulations in peer reviewed literature
 - ❧ Estimate well completion & drilling functions using pooled data
- ❧ Running models now for other states
- ❧ Estimated completion of full study: December 1st