BIDEN ENERGY-ENVIRONMENT POLICY: THE REGIONAL ECONOMIC DIMENSION

what does REMI say? sm

Presented by Regional Economic Models, Inc.

The Agenda

- Overview of Biden energy-environmental plans
- REMI Analysis of Biden Policy
  - State-level implications of gas and oil regulations
  - Energy efficiency: case study of tax deduction for buildings (179D)
  - REMI E3+: estimating the carbon footprint of economic policies

Biden Policy: Energy/Environment/Economy

- Willingness to Prioritize Environmental Goals
- Environmental Concerns at the Local, Regional, National and Global Level
- Optimistic Scenario: achieving environmental goals will be a net positive for the economy

Policies for Political Jurisdictions

- Allow states to have policies more stringent than U.S. (e.g. California)

- More rigorous national policies

- Emphasis on Carbon Emissions with coordinated state, Federal and global action.

Economic Implications

- Shift away from fossil fuels; potential economic trade-off
- Potential new jobs in renewables and emerging technologies
- Significant regional economic differences

How does analysis fit in?

- We can move from assertion and spin to evaluation
- To illustrate the dynamics of various policies in a quantified modelling framework

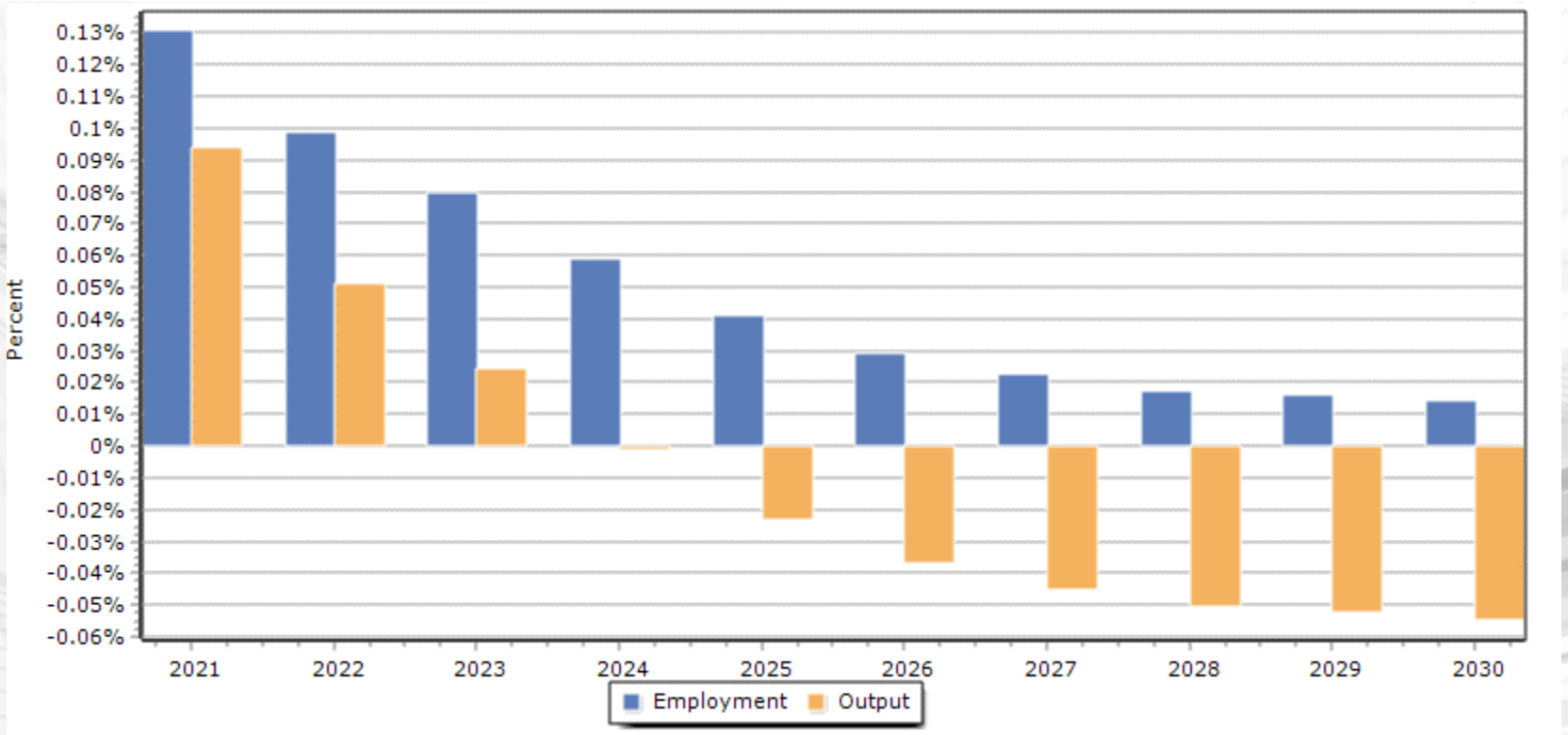
Biden Elimination of Oil and Gas "Subsidies"

- Increase in production cost for oil and gas by 20 billion
- Increase in transfers by 20 billion
- --Revenue neutral
- --Biden-type policy

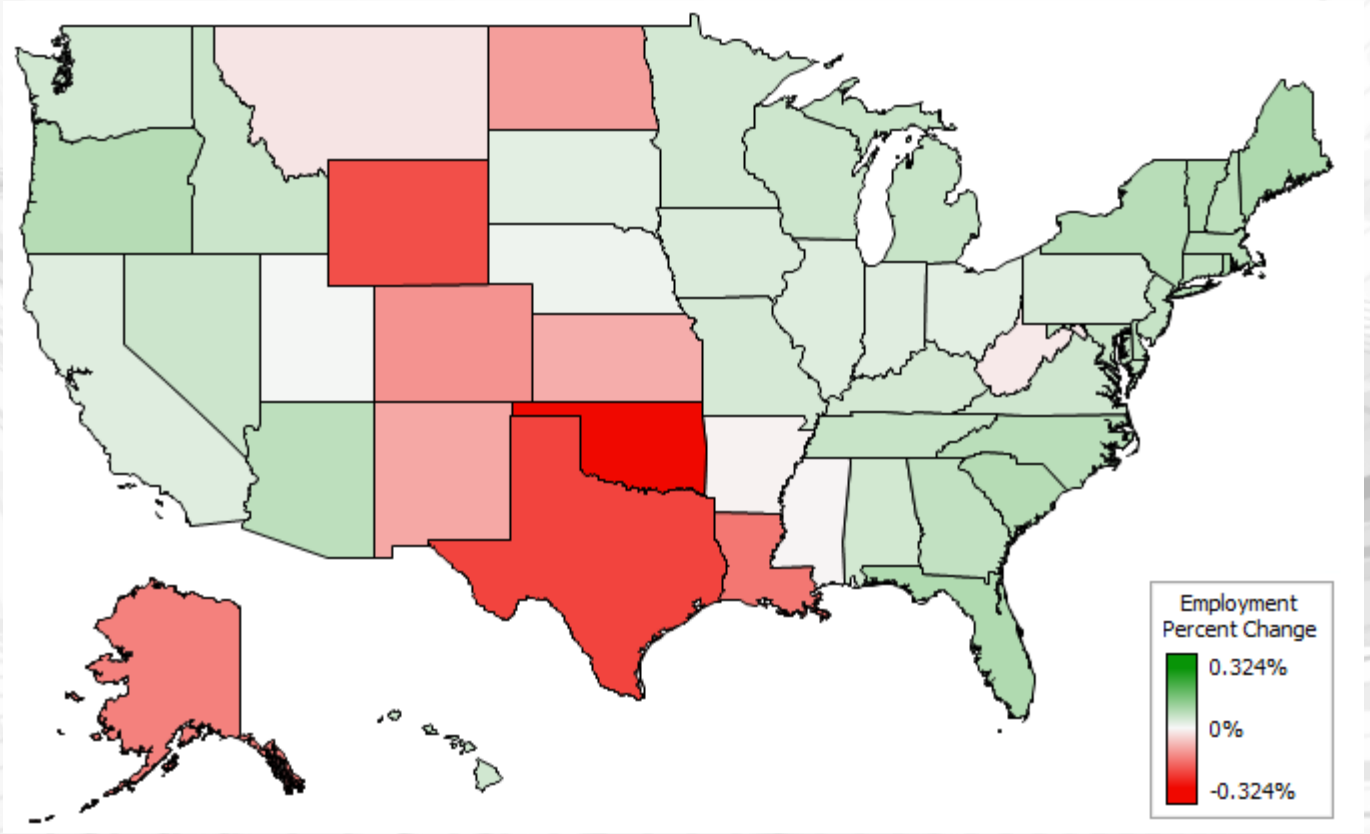
Transfer Payment Categories

- Social Security benefits
- Other retirement and disability insurance benefits
- Medicare benefits
- Public assistance medical care benefits
- Military medical insurance benefits
- Supplemental security income (SSI) benefits
- Earned Income Tax Credit (EITC)
- Supplemental Nutrition Assistance Program (SNAP)
- Other income maintenance benefits
- State unemployment insurance compensation
- Other unemployment insurance compensation
- Veterans benefits
- Education and training assistance
- Other transfer receipts of individuals from governments
- Current transfer receipts of nonprofit institutions
- Current transfer receipts of individuals from businesses

National Change in Total Employment and Output



Employment - 2030



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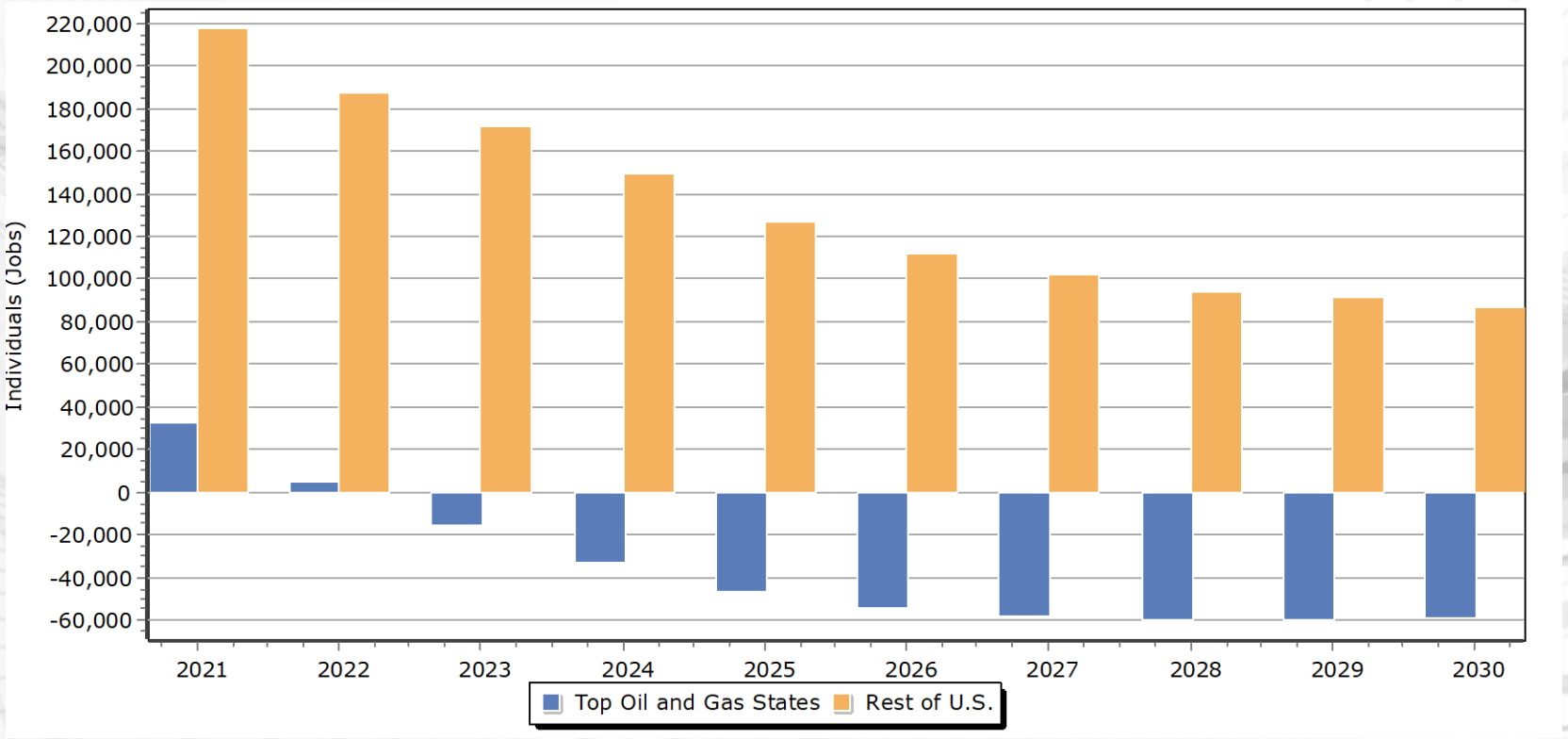
Total Employment Change for Top Oil and Gas States vs Rest of U.S.



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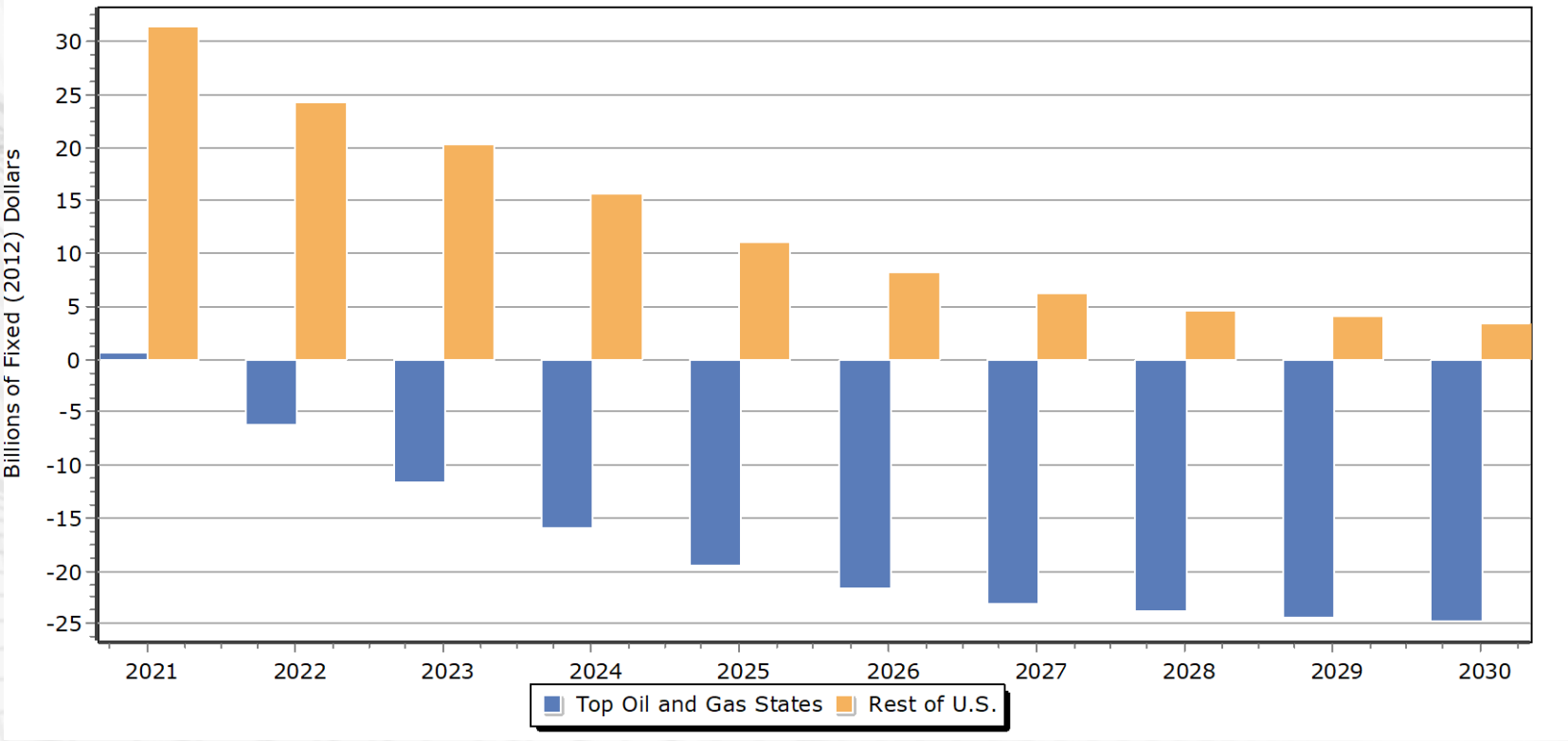
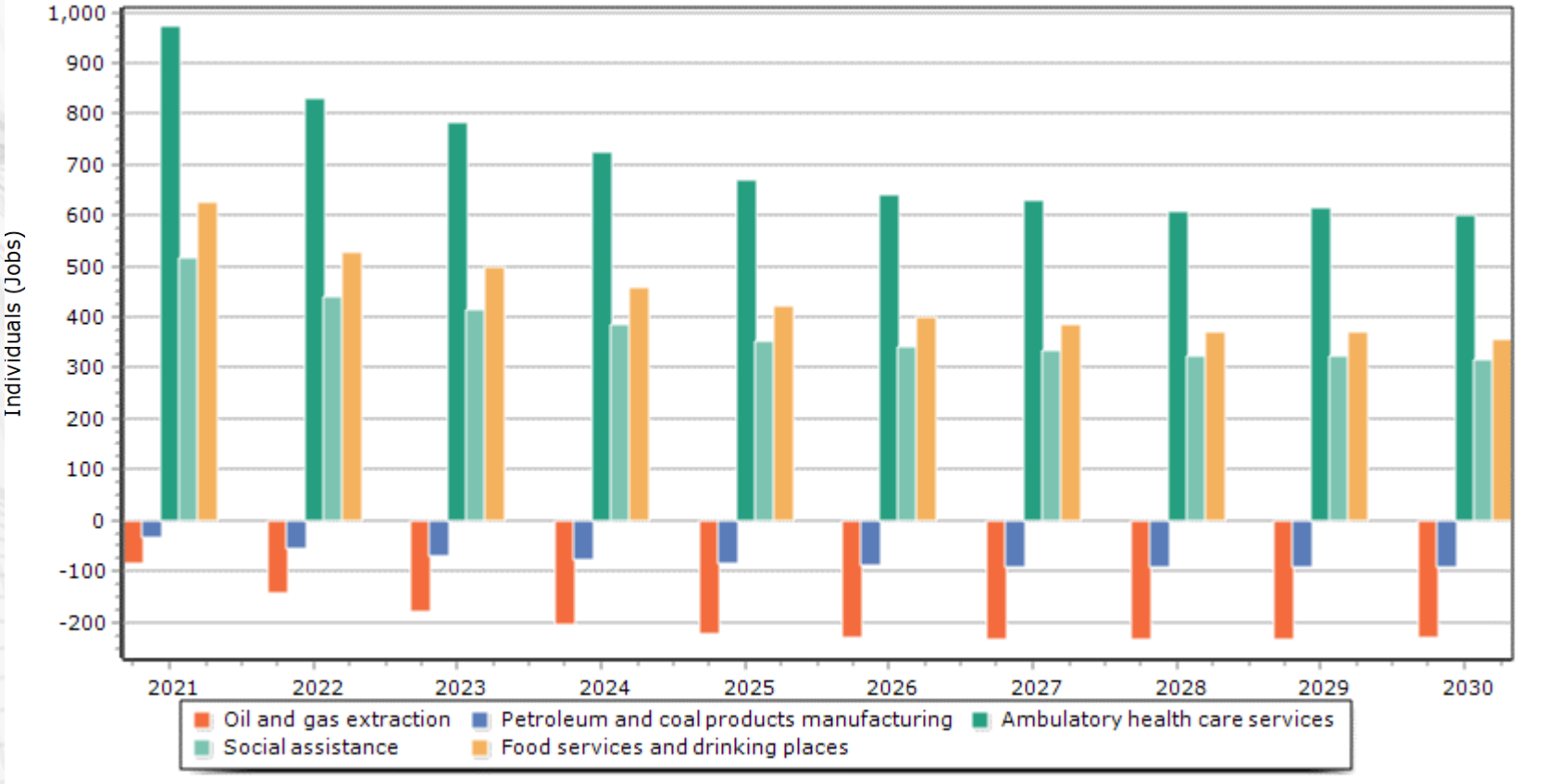
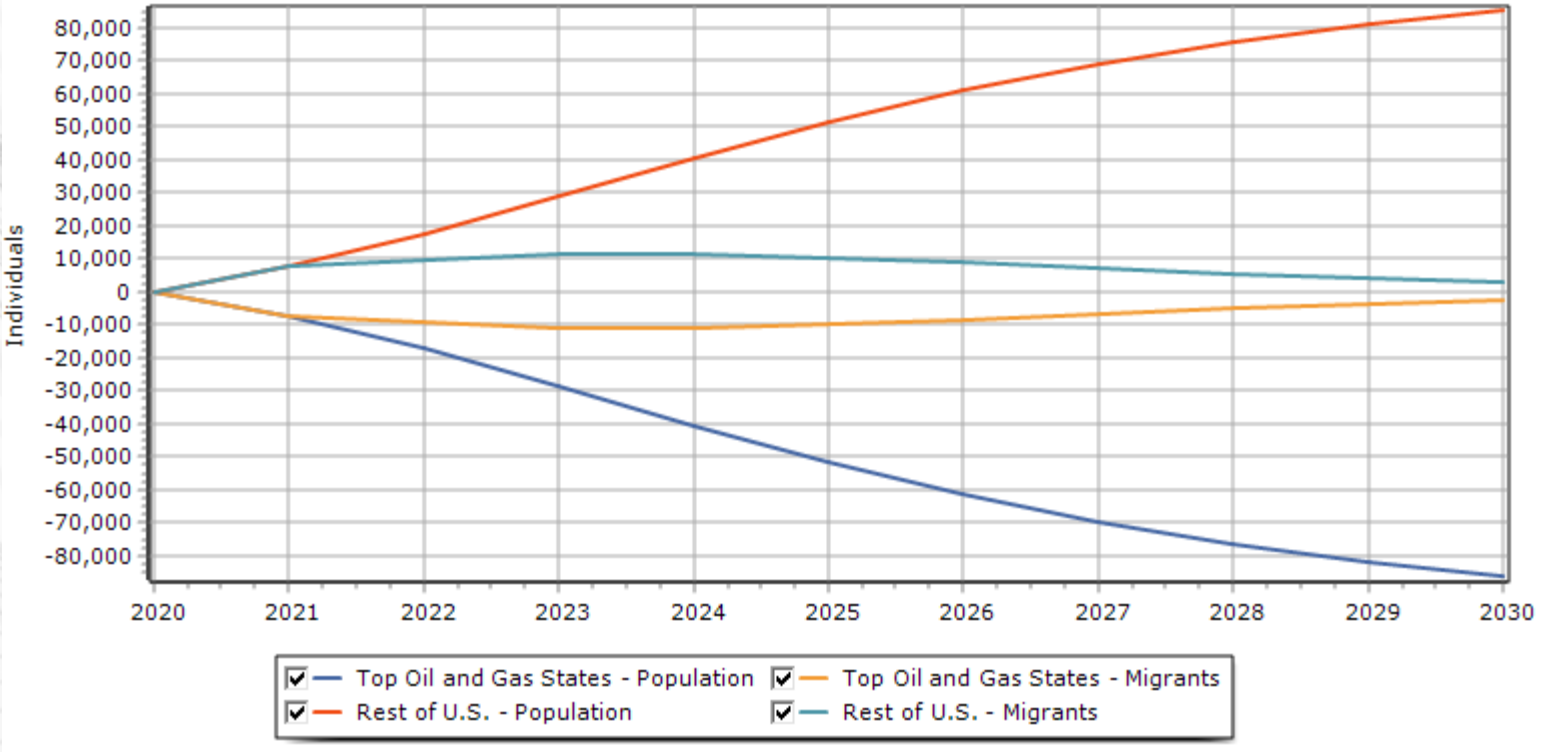


Employment Change by Industry in Pennsylvania



Migration from Top Oil and Gas States to the Rest of U.S.



Energy Efficiency and Renewables

- The Optimistic Scenario (energy efficiency and renewables will lead to an increase in jobs and GDP)
- The Pessimistic Scenario (energy efficiency and renewables will lead to few jobs and lower GDP)
- Case Study: Section 179D Tax Credit for Energy Efficient Buildings

Environmental Policy: The Biden "Optimistic" Scenario

- Less use of fossil fuels is a benefit to the economy
- New jobs in renewables, emerging technologies (example: hydrogen vehicles; more efficient solar power)
- Scale economies will reduce cost of renewables and energy-efficient technologies
- Parallel to transition from horse and buggy to automobile

The Pessimistic Scenario

- Emerging technologies might not see fruition
- Potentially high transition costs
- Workforce displacement potential: skills and regions
- Clear need of analysis to assess benefits and tradeoffs

Case Study

Analysis of Proposals to Enhance and Extend the Section 179D Energy Efficient Commercial Buildings Tax Deduction

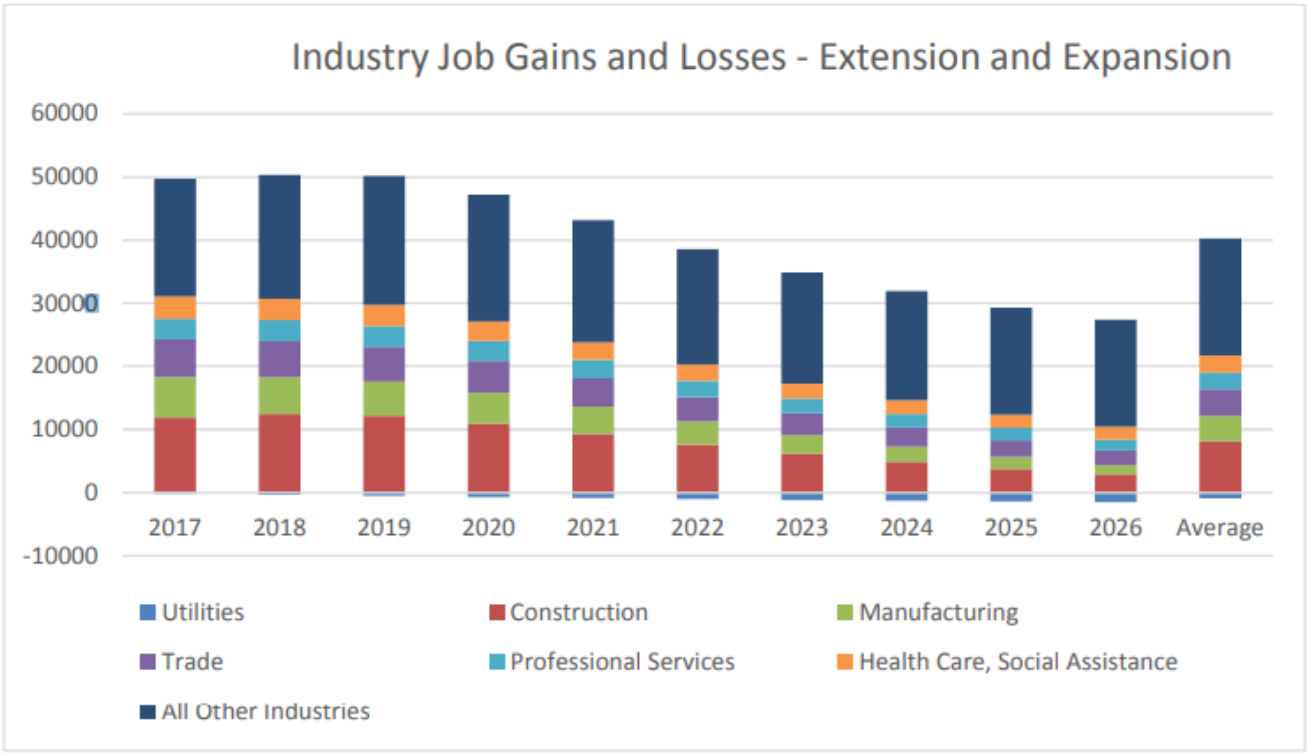
REMI Study for the Coalition for Energy Efficient Jobs and Investment

Widely distributed to Members of Congress
179D tax deduction was extended

- Increase tax deduction for energy efficient buildings
- Higher up-front costs; long-term savings
- Increased spending on energy efficiency (e.g. insulation, design, retrofitting)
- Long-term cost savings

Economic Impact Analysis: Extension and Expansion of Section 179D

Figure 8. Extension and Expansion: Industry Jobs

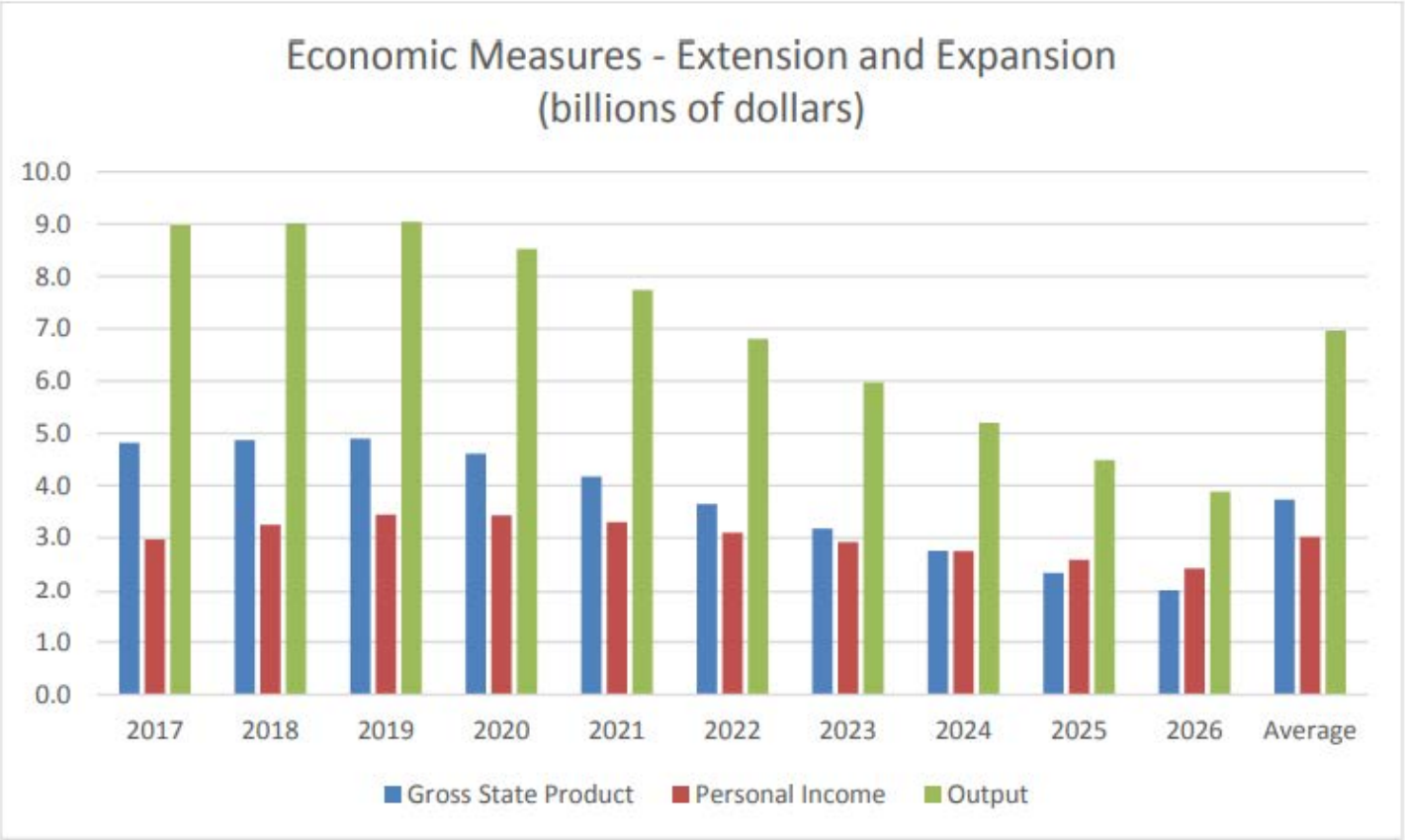


Energy Savings

Table 14. Energy Savings of Section 179D Tax Deduction: Extension and Expansion

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Energy Savings (millions of 2016 dollars)	$167	$320	$469	$616	$760	$903	$1,043	$1,182	$1,320	$1,457
Private Sector	$33	$64	$94	$123	$152	$181	$209	$236	$264	$291
Government Sector	$133	$256	$375	$493	$608	$722	$835	$946	$1,056	$1,166

Figure 9. Extension and Expansion: Economic Measures



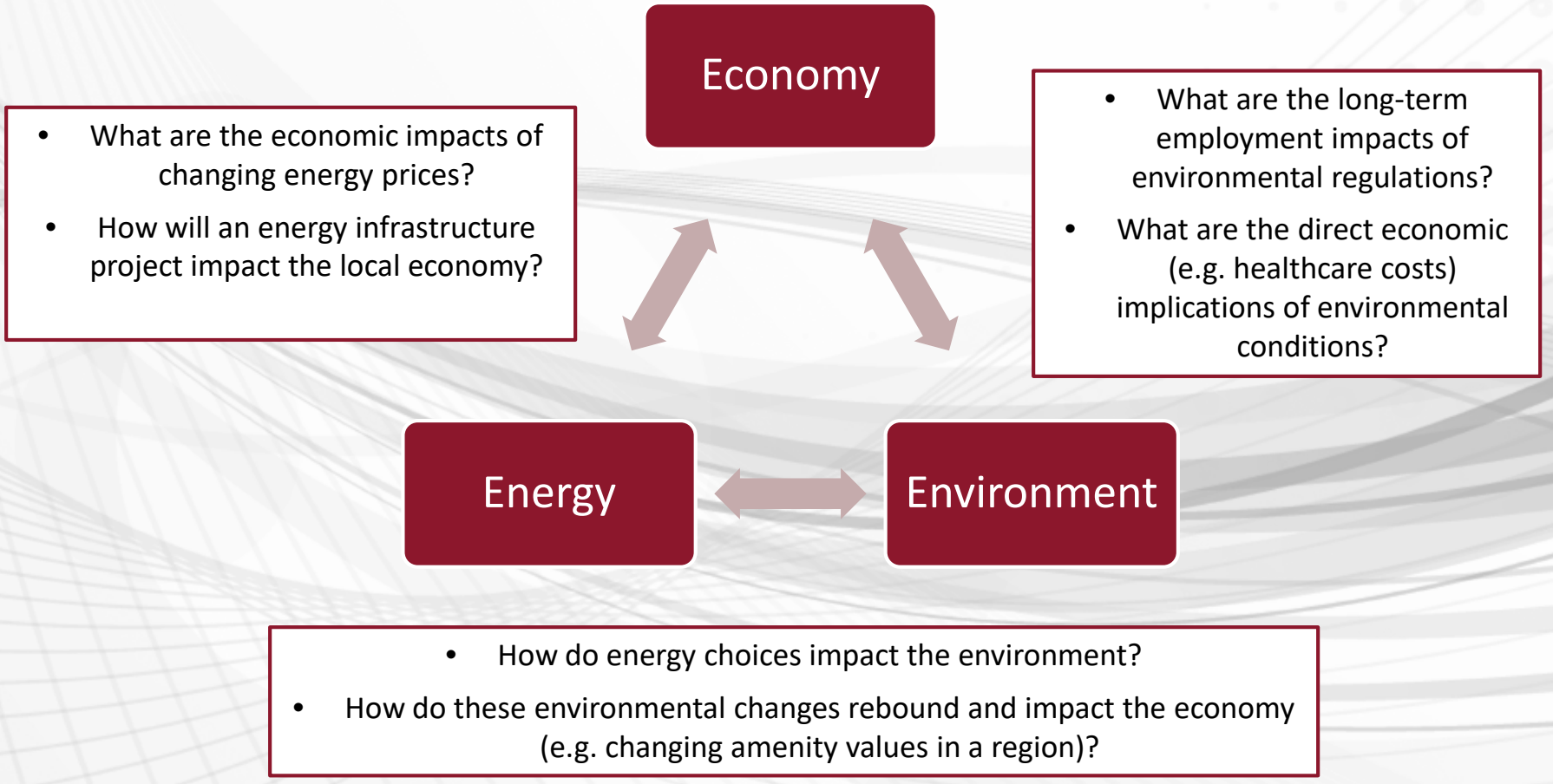
Study Summary

- The results of this analysis show that in addition to advancing the goal of energy efficiency, Section 179D is an engine of economic and employment growth.
- The study finds that enhancements to Section 179D would support up to 76,529 jobs annually and contribute annually almost $7.4 billion to national gross domestic product (“GDP”), as well as over $5.7 billion towards national personal income.

REMI E3+

- Overview
- Analysis of carbon footprint
- Live demo

Energy, Environment & Economic Linkages



E3+ Carbon Emissions

- Important to consider the environmental impacts of policies/investments aimed at creating jobs
  - Different industry sectors have different carbon intensities
- Scenario: If a policy were to add 25,000 jobs nationally, what carbon emission differences occur if the jobs are in the manufacturing sector vs the information sector?

E3+ MODEL DEMO

Conclusion

- Biden policies place a higher priority on environmental considerations
- Economic costs and benefits of more stringent environmental policies are distributed unequally: geography and industry
- Major policy challenge to address complex issues and interrelationships between energy-environment-economy
- REMI modeling approaches help to inform decisions.

Q & A

- Questions
- REMI continues the Election 2020 webinar series on November 24, Transportation & Infrastructure Policy
- Contact us about any specific policy analysis questions!