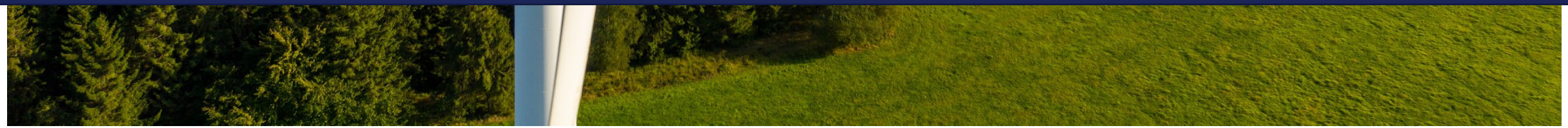
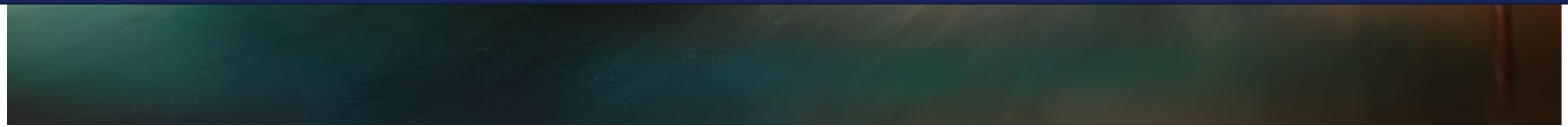
Modeling the Inflation Reduction Act

ENERGY INNOVATION
POLICY & TECHNOLOGY LLC

Robbie Orvis



Background and Method



The Energy Policy Simulator

- **Based on Energy Information Administration Annual Energy Outlook 2022 – Low Economic Growth**
- **Technology costs from NREL Annual Technology Baseline – Mid**
- **Includes IIJA, AIM Act, EPA GHG Tailpipe standards, all other fed + state policy**
- **Electricity dispatch, new capacity and vehicle sales are determined in the model based on costs and constraints**
- **Updates moved 2030 BAU 3% lower (from 21% below 2005 to 24% below 2005)**
- **Policies layered on top**
- **Key outputs:**
  - *GHG emissions*
  - *Health impacts*
  - *Jobs*
  - *GDP/consumer savings*

Selected Major Provisions

Electricity

- *Clean energy tax credits and funding programs*
- *Nuclear electricity production tax credit*

Industry

- *Methane Emissions Reduction Program*
- *Advanced Industrial Facilities Program*
- *Carbon capture and sequestration tax credits*
- *Clean manufacturing tax credits*
- *Requirements for increased oil and gas lease sales*
- *Environmental product disclosure and green procurement government programs*

Transportation

- *Clean vehicle tax credits and funding programs*
- *Charging funding and incentives*

Buildings

- *Building efficiency and electrification tax credits and funding programs*

Land and Agriculture

- *Forestry and agricultural emissions reduction funding programs*

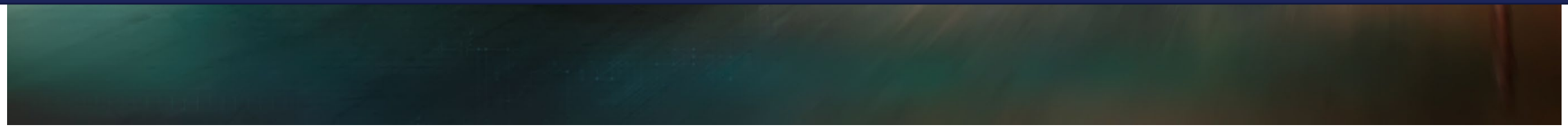
Other

- *Greenhouse Gas Reduction Fund*

Modeled oil and gas leasing and demand

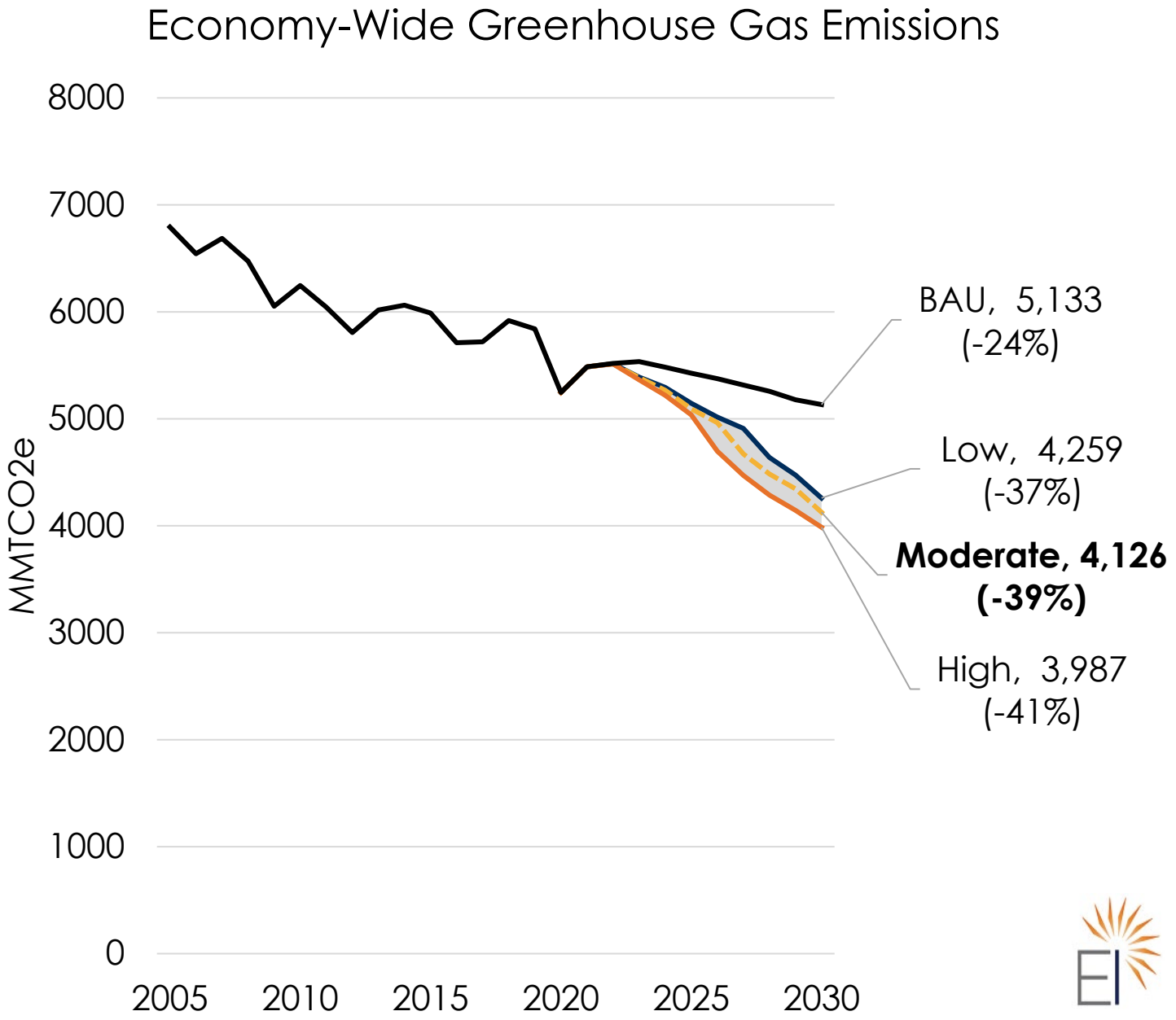
- **Accounted for additional emissions impact of onshore and offshore required leasing**
  - *Reinstated 2022 leases*
  - *Offshore leasing requirement 60 million acres offered for sale annually*
  - *Onshore leasing requirement 2 million acres sold annually*
  - *Of acres offered, 2% of offshore typically sold, even less drilled*
- **Assumed increased demand associated with new drilling**
  - *75% of incremental oil and gas assumed to be exported*
  - *25% assumed to drive additional demand*
- **Adds approximately 50 MMTs CO2e to "High" Scenario**
  - *Actually results in fewer emissions in "Low" and "Moderate" scenario*
  - *Power sector changes result in coal-to-gas switching*

Results



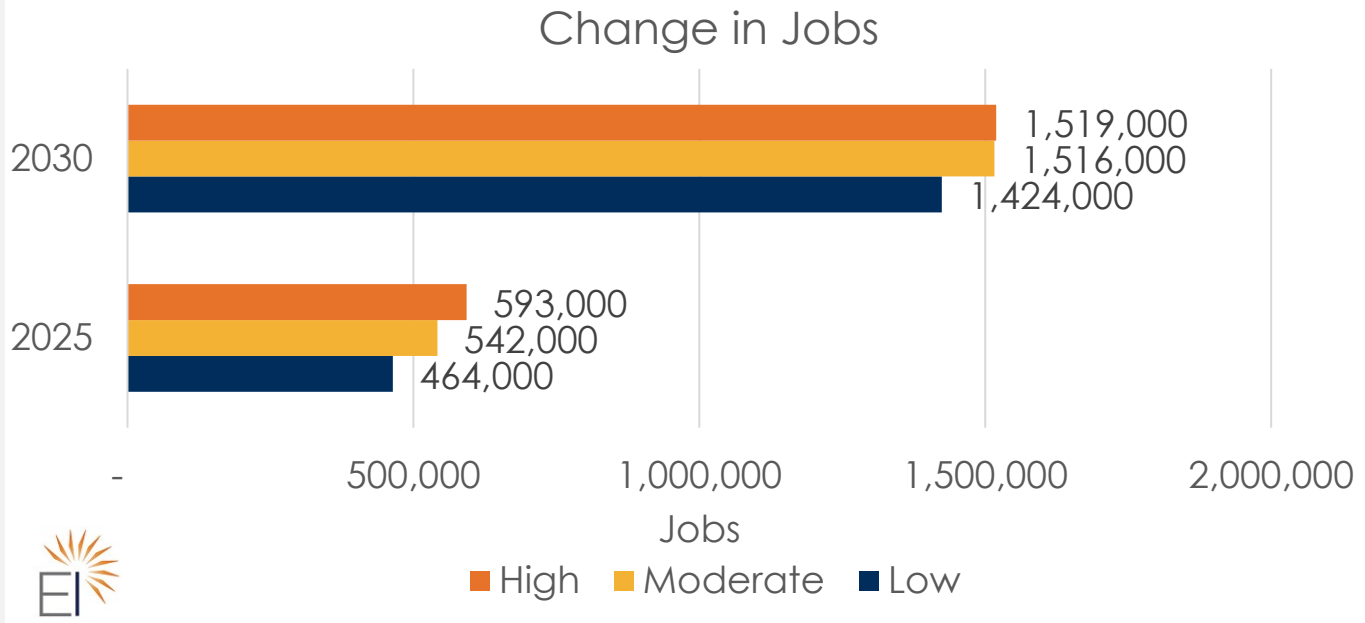
GHG Emissions

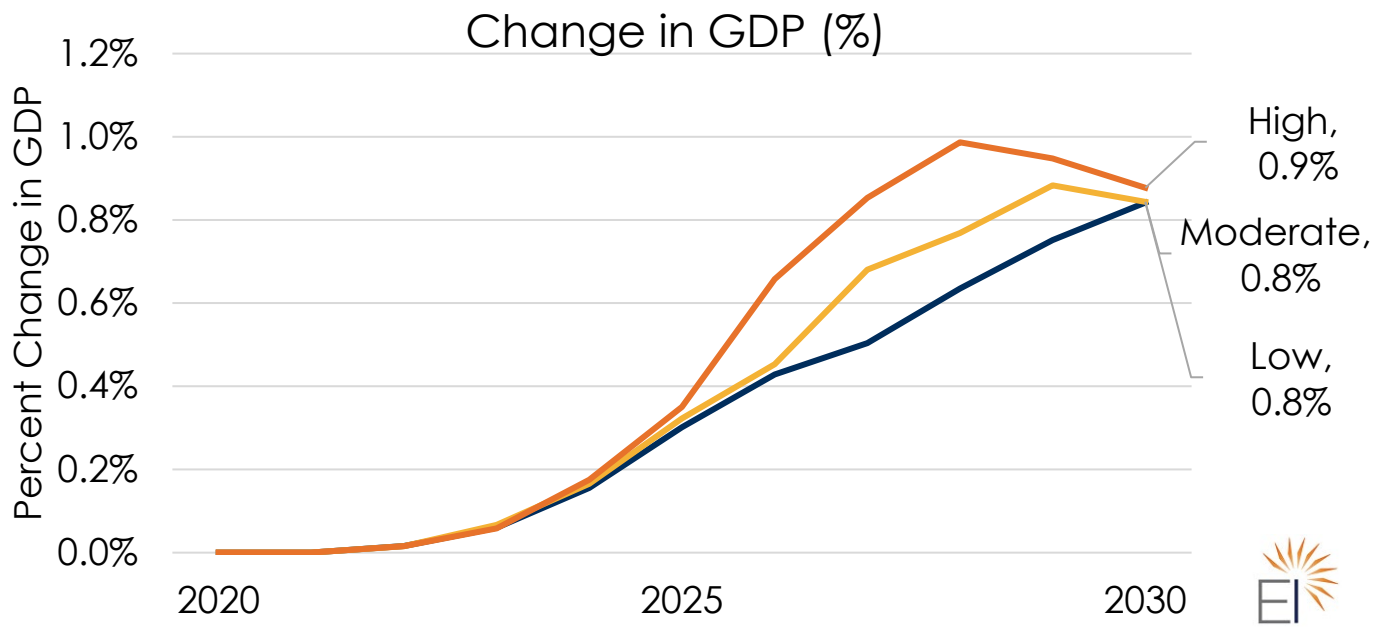
- BAU 2030: 24% below 2005
- IRA 2030: 37-41% below 2005
- Includes emissions contribution from additional oil and gas drilling
- Ranges reflect:
  - *Base & bonus credits*
  - *Public/private leverage*
  - *Oil and gas impacts*
- For every 1 MMT increase in emissions from oil and gas measures, >24 MMTs reduced from all the other measures



Economic Benefits

- **1.4-1.5 million new jobs in 2030**
- **0.8-0.9% increase in GDP in 2030**

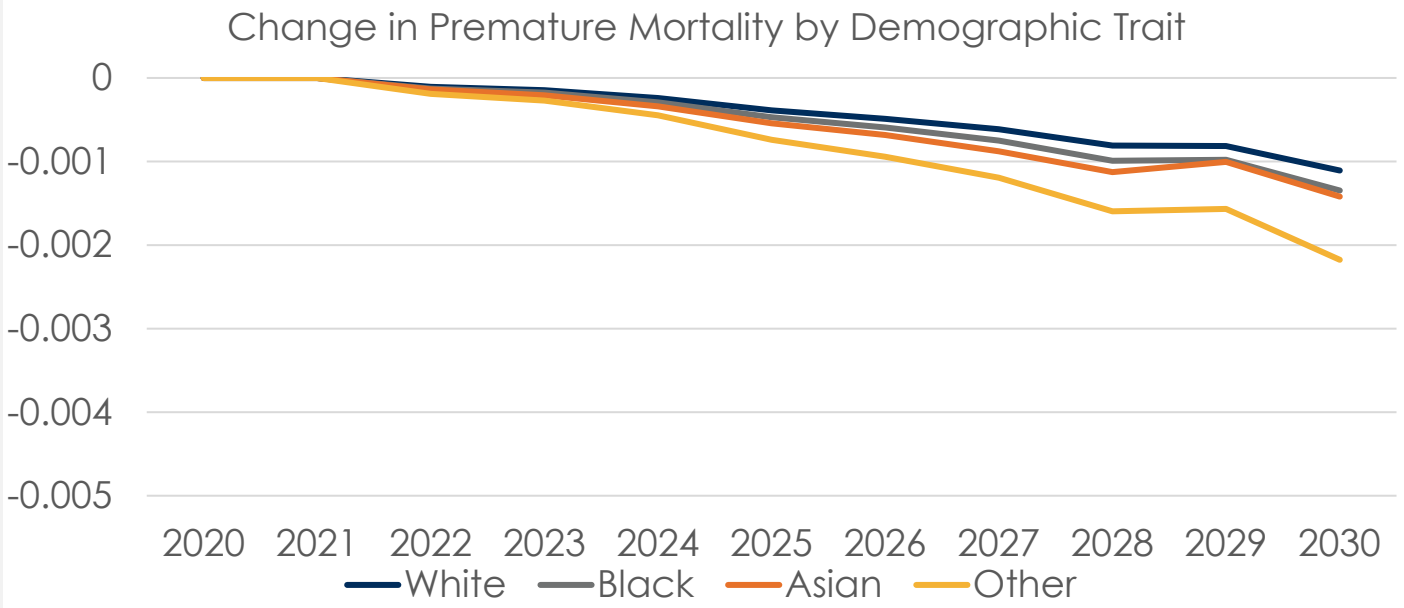


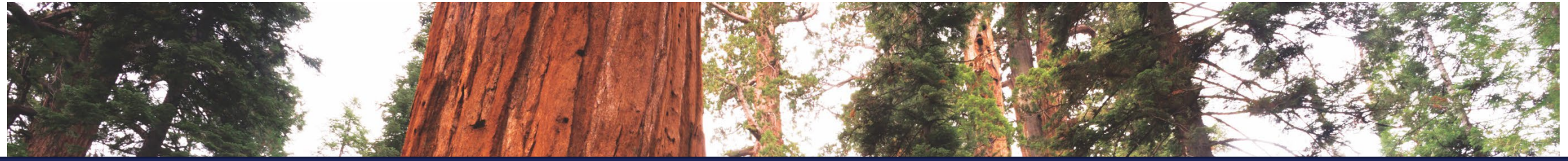


Health Benefits

- **Improved health outcomes due to avoided pollution**
- **Benefits concentrated in communities of color**

Scenario	Avoided Asthma Attacks in Year 2030	Avoided Lost Work Days in Year 2030	Avoided Premature Mortalities in Year 2030
Low	99,110	405,450	3,731
Moderate	96,533	395,061	3,682
High	102,048	417,747	3,894





Thank you

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