

# A CARBON PRICE POLICY IN VERMONT

# Study Author



Scott Nystrom, M.A.

- *Senior Economic Associate*
- (202) 716-1397
- <[scott.nystrom@remi.com](mailto:scott.nystrom@remi.com)>

# About REMI



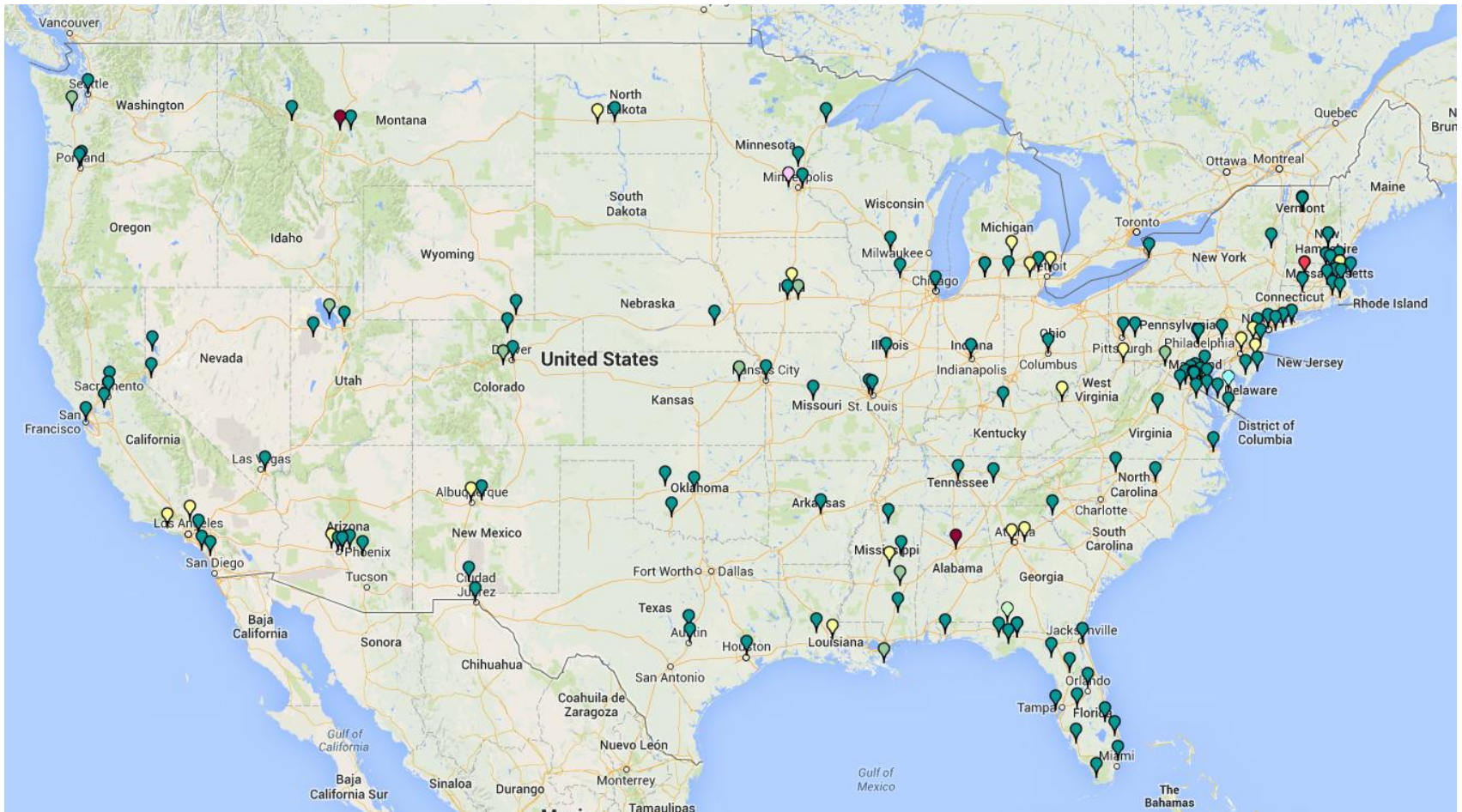
## Regional Modeling

- Founded as an offshoot of research performed at the University of Massachusetts-Amherst in the late 1970s
- Software, data, consulting services, and issue expertise involving regional economic and demographic analysis

## Clients and Research

- Public sector: 47/50 states, federal agencies, regional authorities, cities, universities, international groups
- Private sector: consultants, “Big 4” accounting firms, Fortune 500 companies, trade associations (AGA, NEA, NFIB, etc.)
- Recent projects on immigration reform and Medicaid expansion

# Client Base

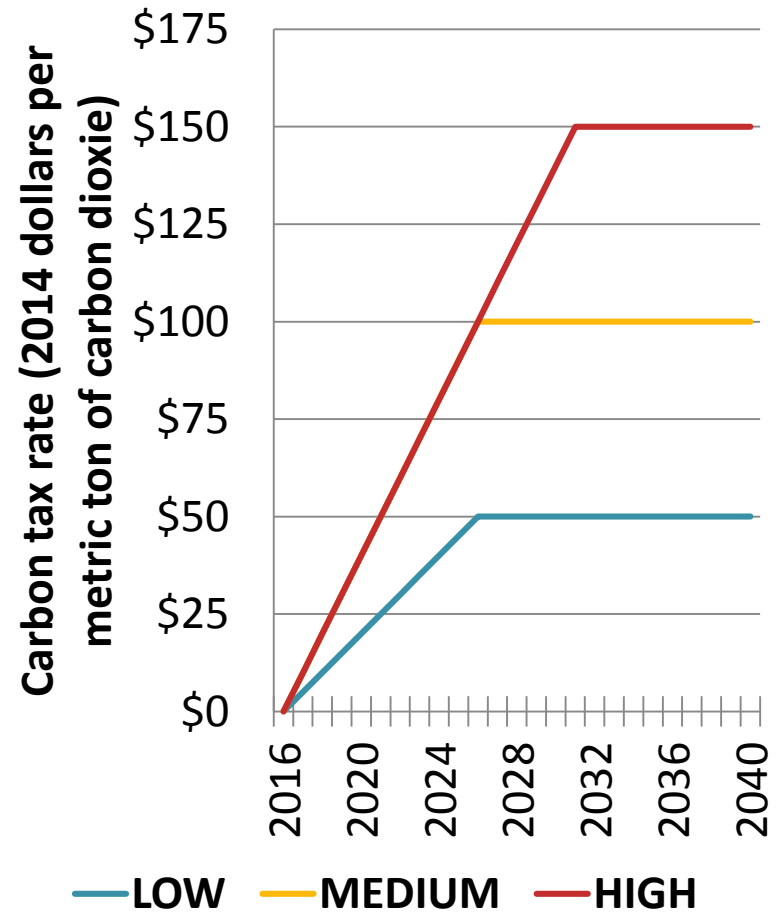


what does **REMI** say? <sup>sm</sup>

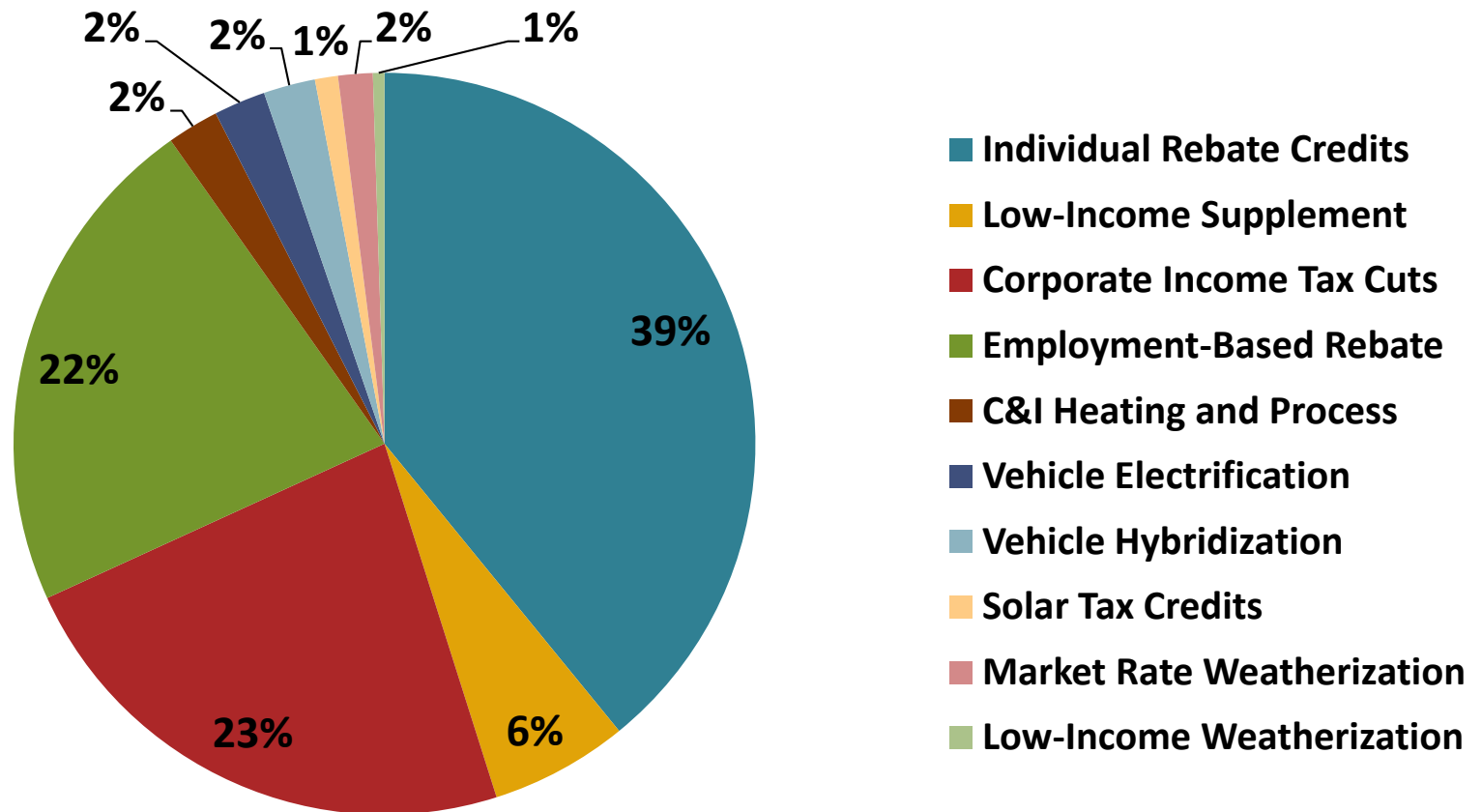
# Carbon Pricing



- Fee paid in Vermont for emitting carbon dioxide into the air
  - ▣ Covers liquid and gaseous fuels
    - Not electricity (already covered by RGGI)
- Revenue recycled
  - ▣ Similar to program in British Columbia



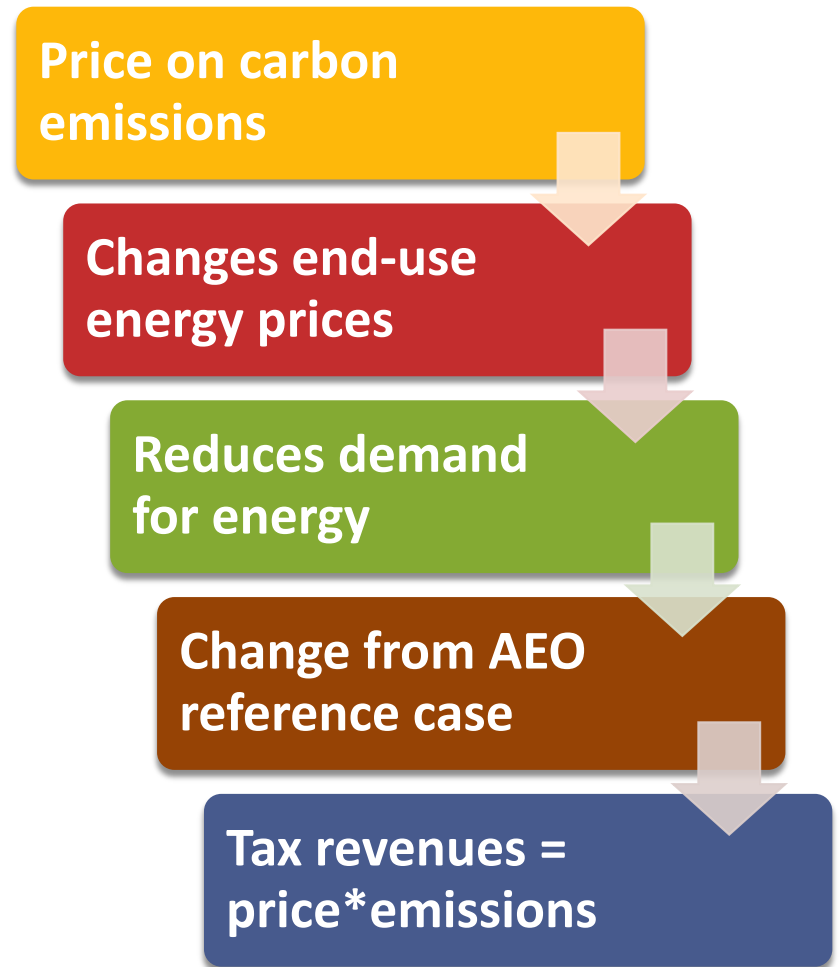
# Revenue Recycling



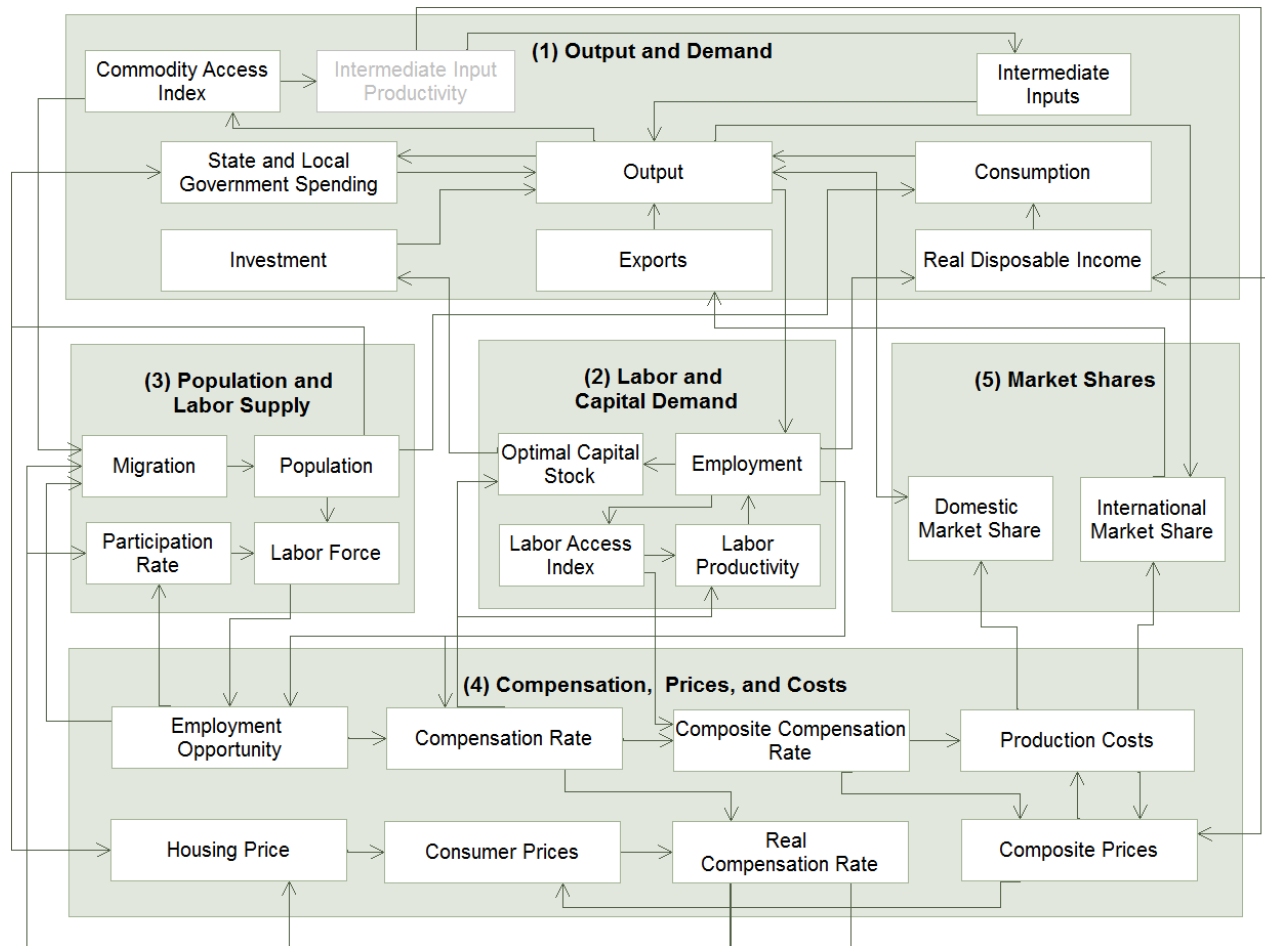
# CTAM Model



- **Carbon Tax (or Price) Analysis Model**
  - ▣ Keibun Mori
    - Open-sourced
  - ▣ Public data only from the U.S. DOE
  - ▣ Previous applications:
    - Massachusetts
    - Washington
    - King County, WA
    - California
    - Federal (9-regions)



# REMI PI<sup>+</sup>



what does **REMI** say? <sup>sm</sup>



# Integrated System



## CTAM Model

- Energy costs for petroleum-derived products, natural gas, and electricity
- Residential, commercial, and industrial sectors

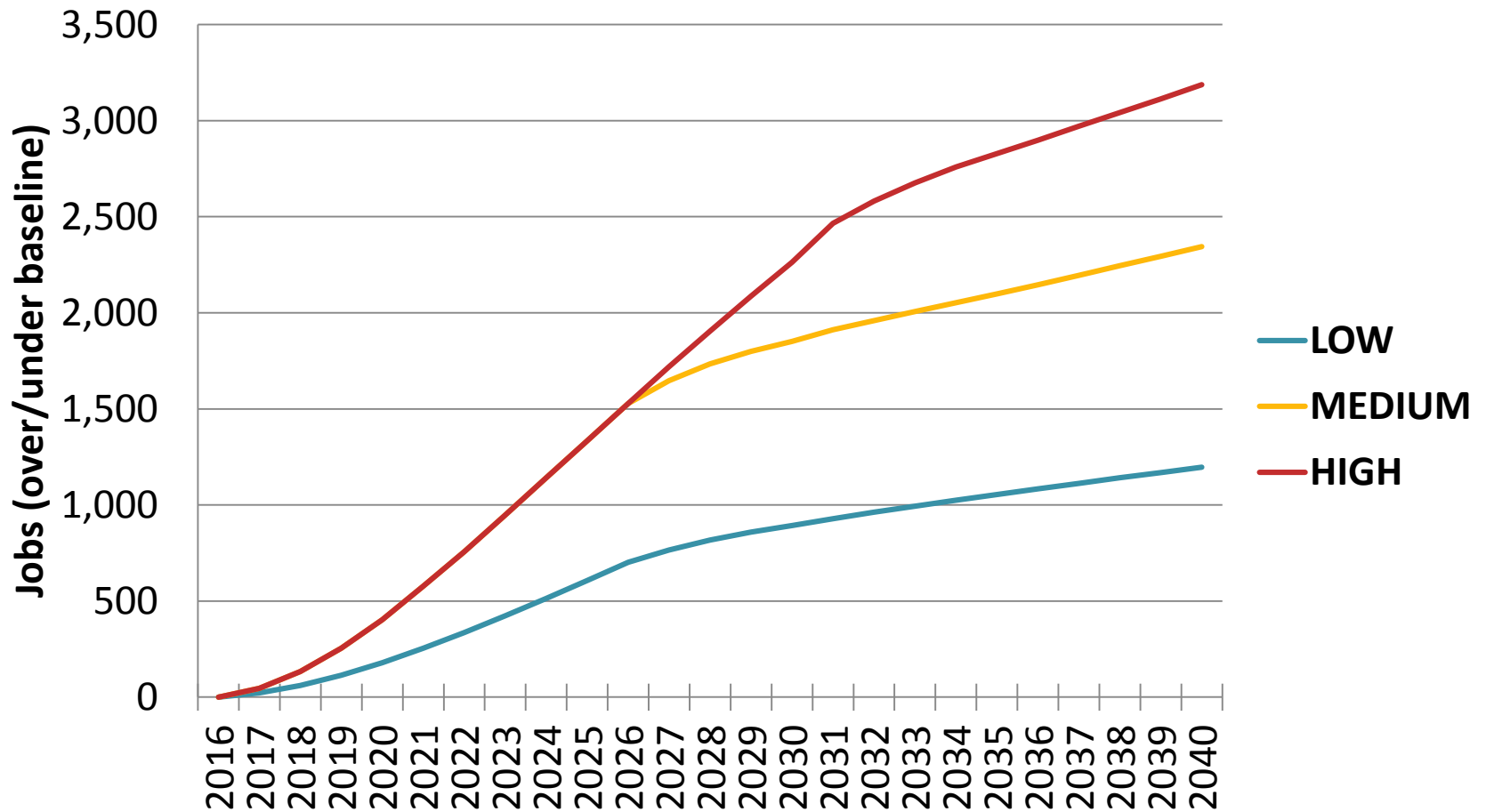
## PI+ Model

- Variables for energy-related costs of living and doing business in Vermont
- Revenue recycling measures
- GDP and population growth

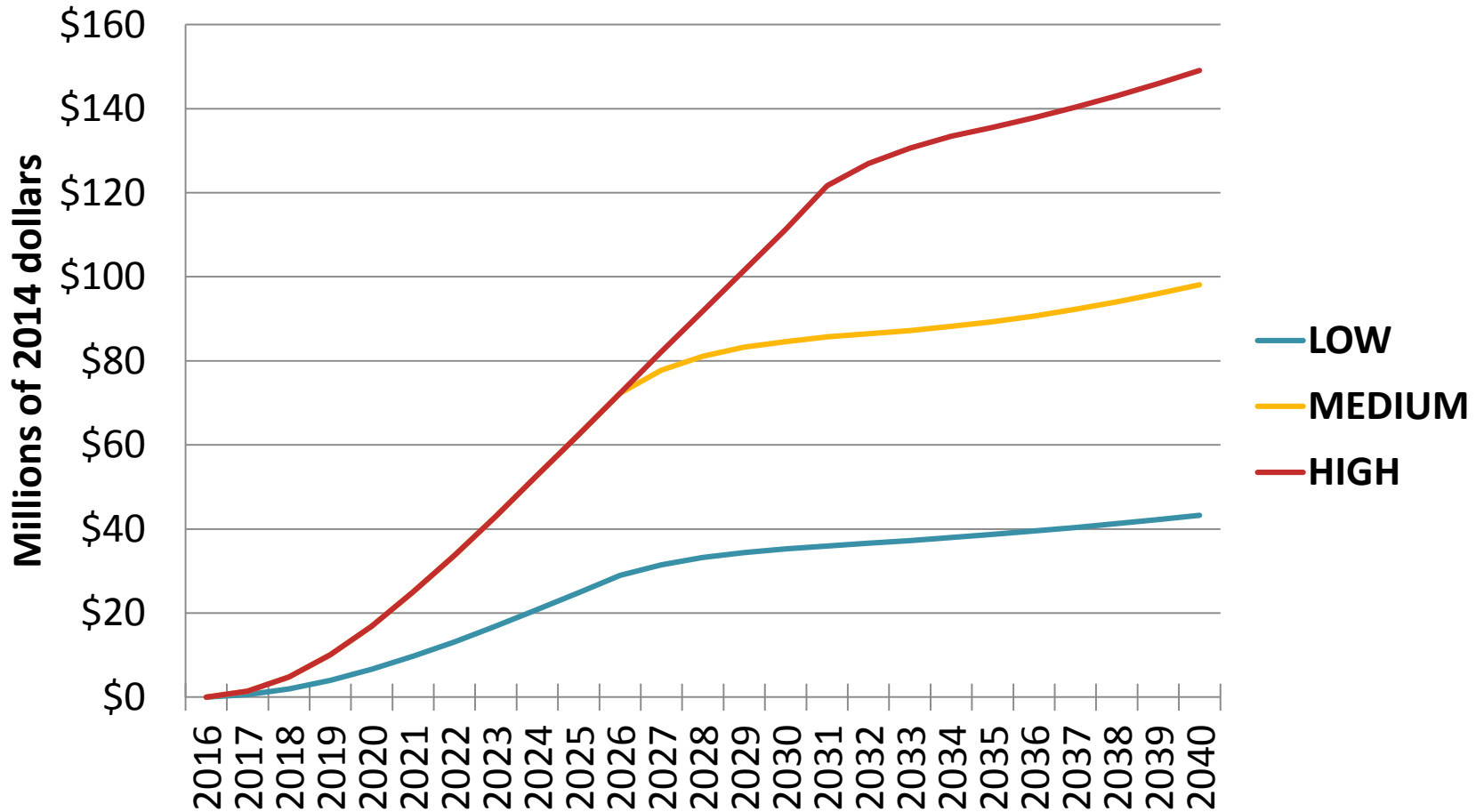
# Economics and Demographics

**REMI PI<sup>+</sup>**

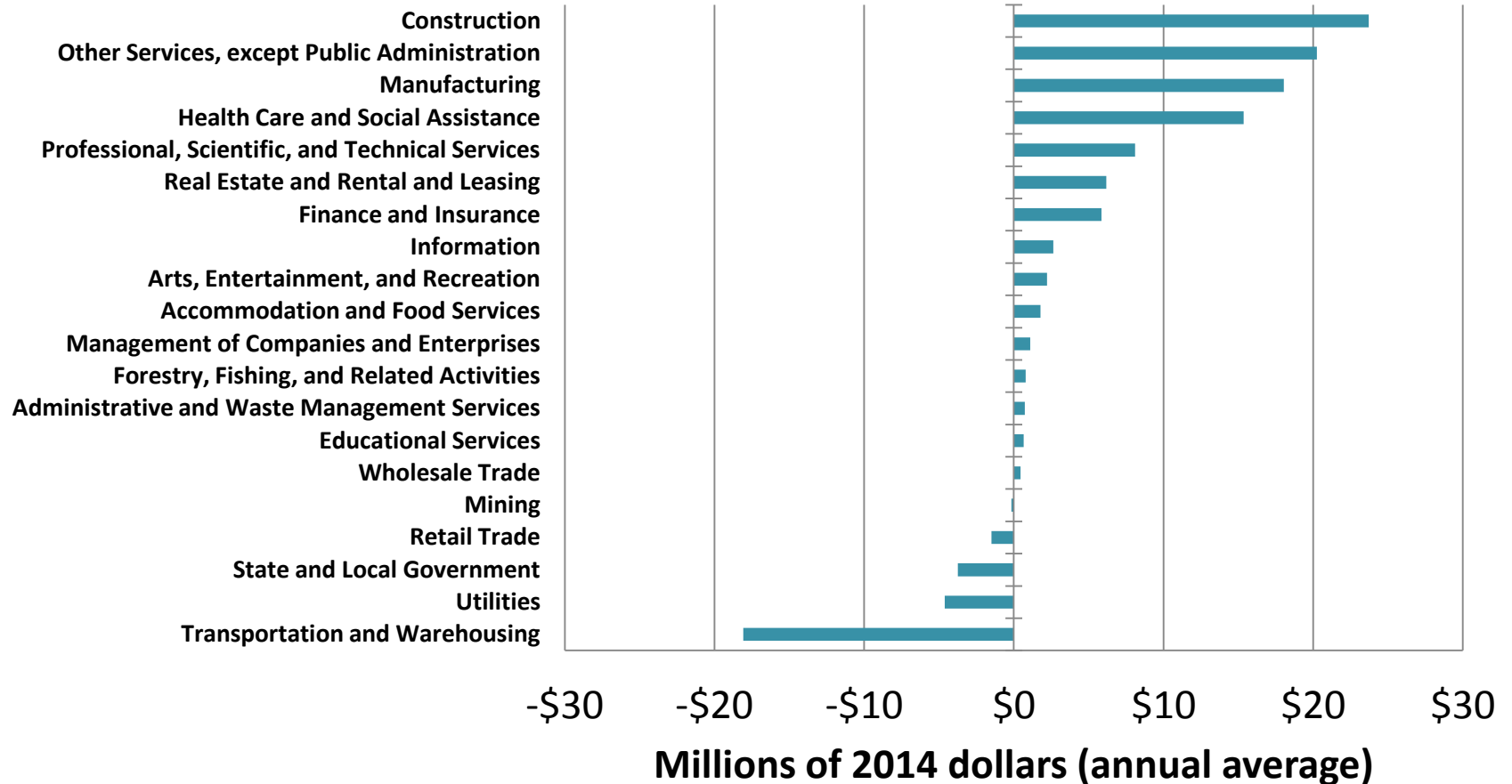
# Total Employment



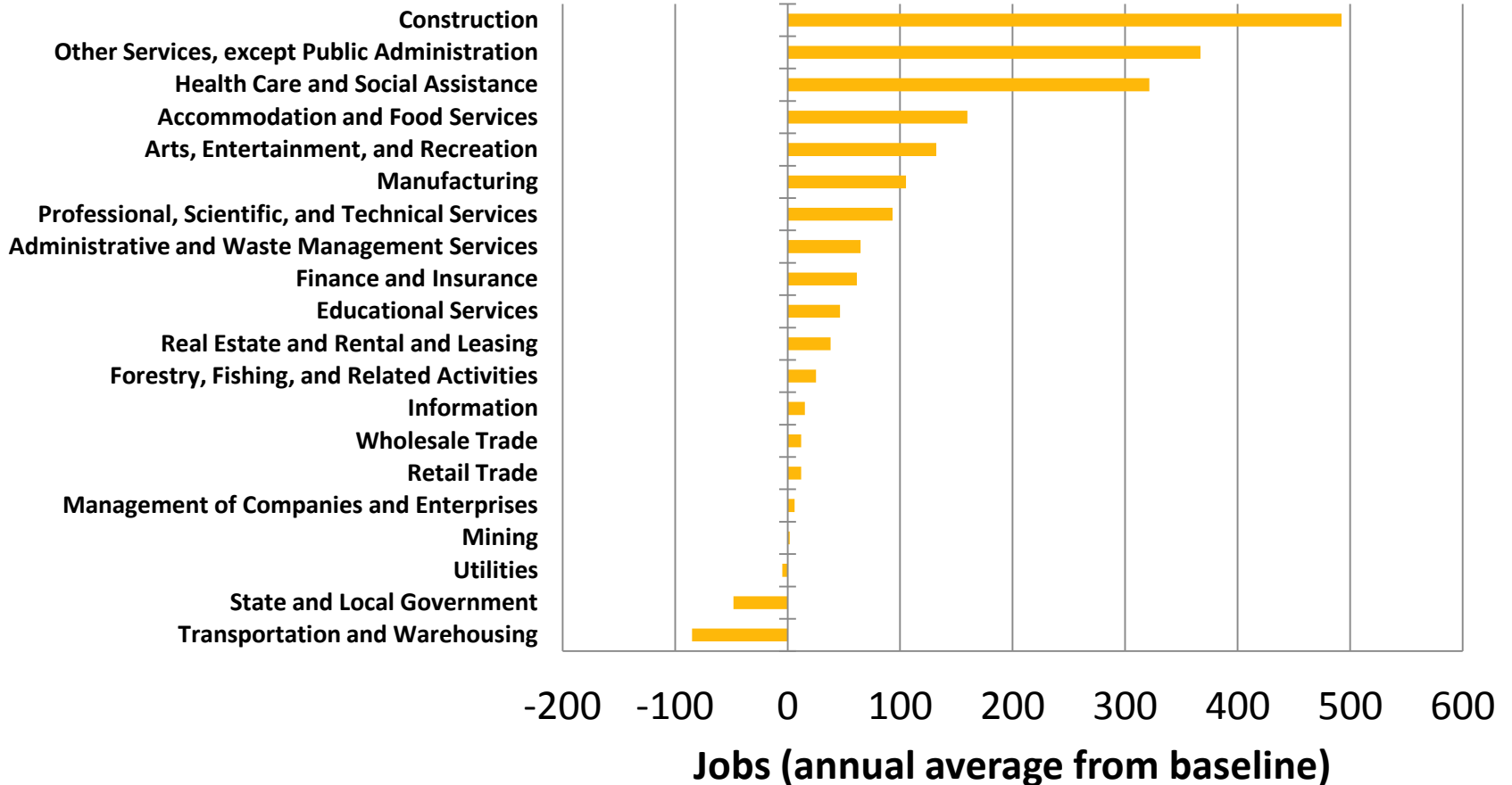
# Gross State Product



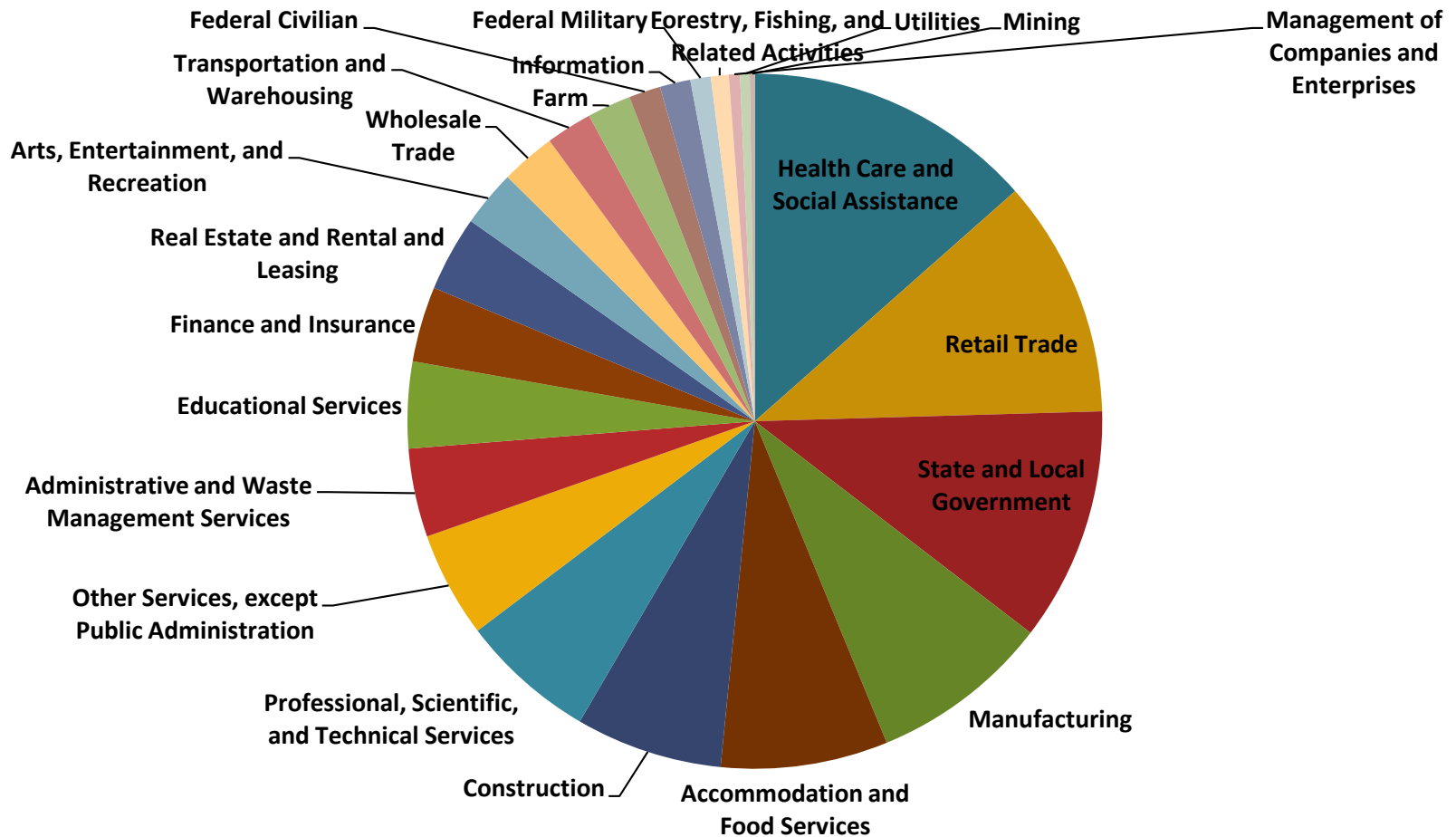
# GSP by Industry



# Jobs by Industry

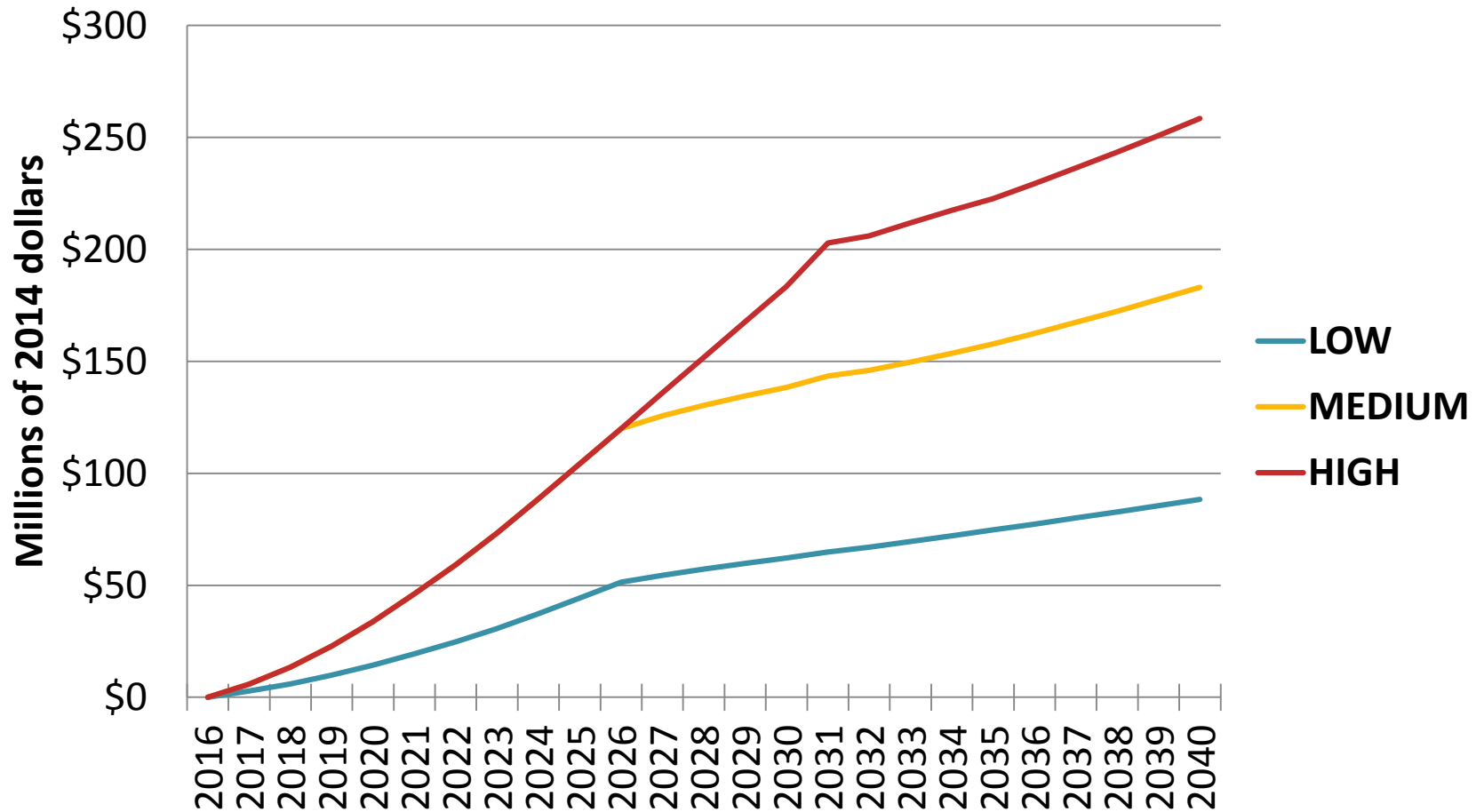


# Vermont Jobs (2013)



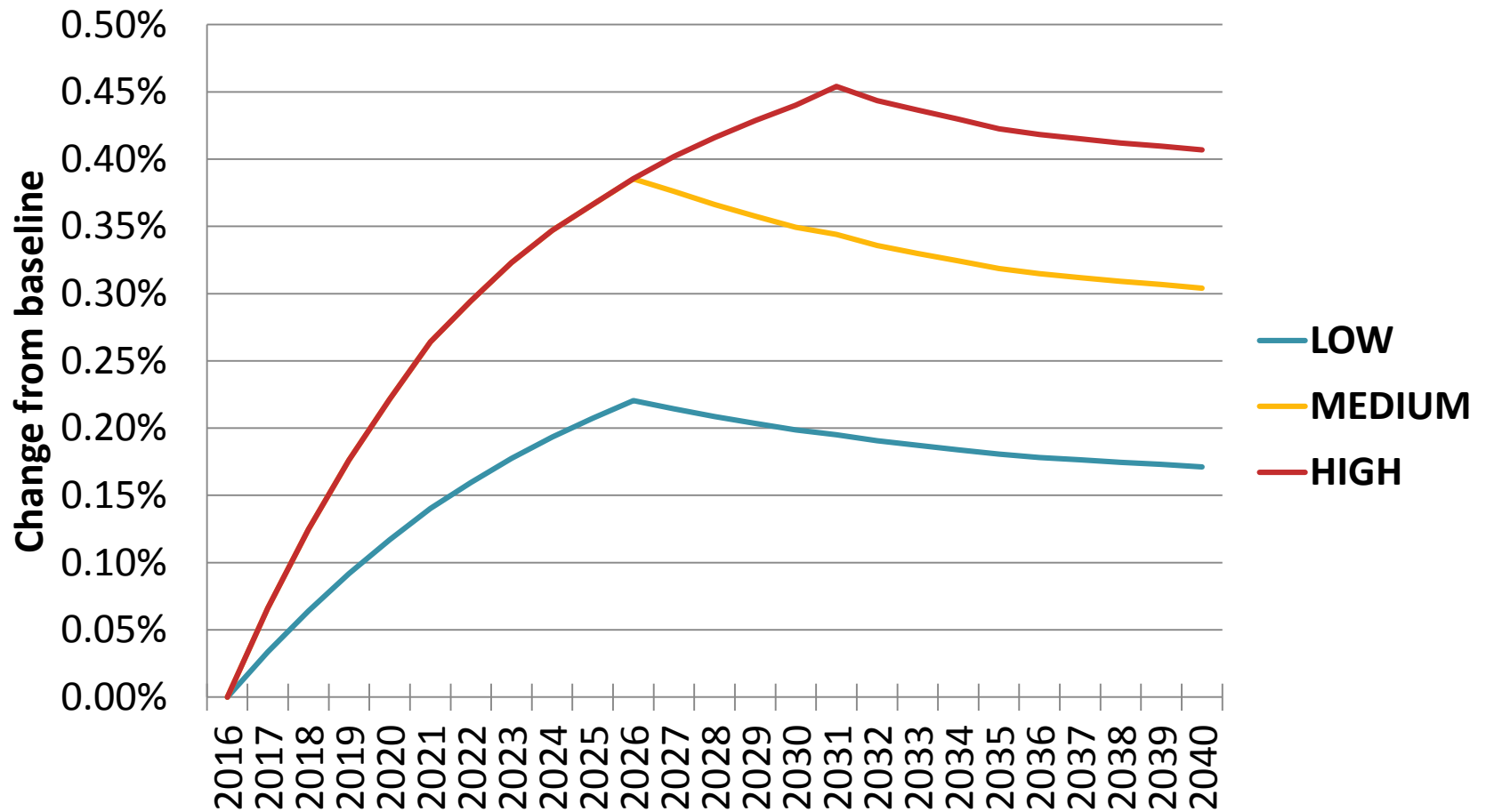
what does **REMI** say? <sup>sm</sup>

# Real Personal Income

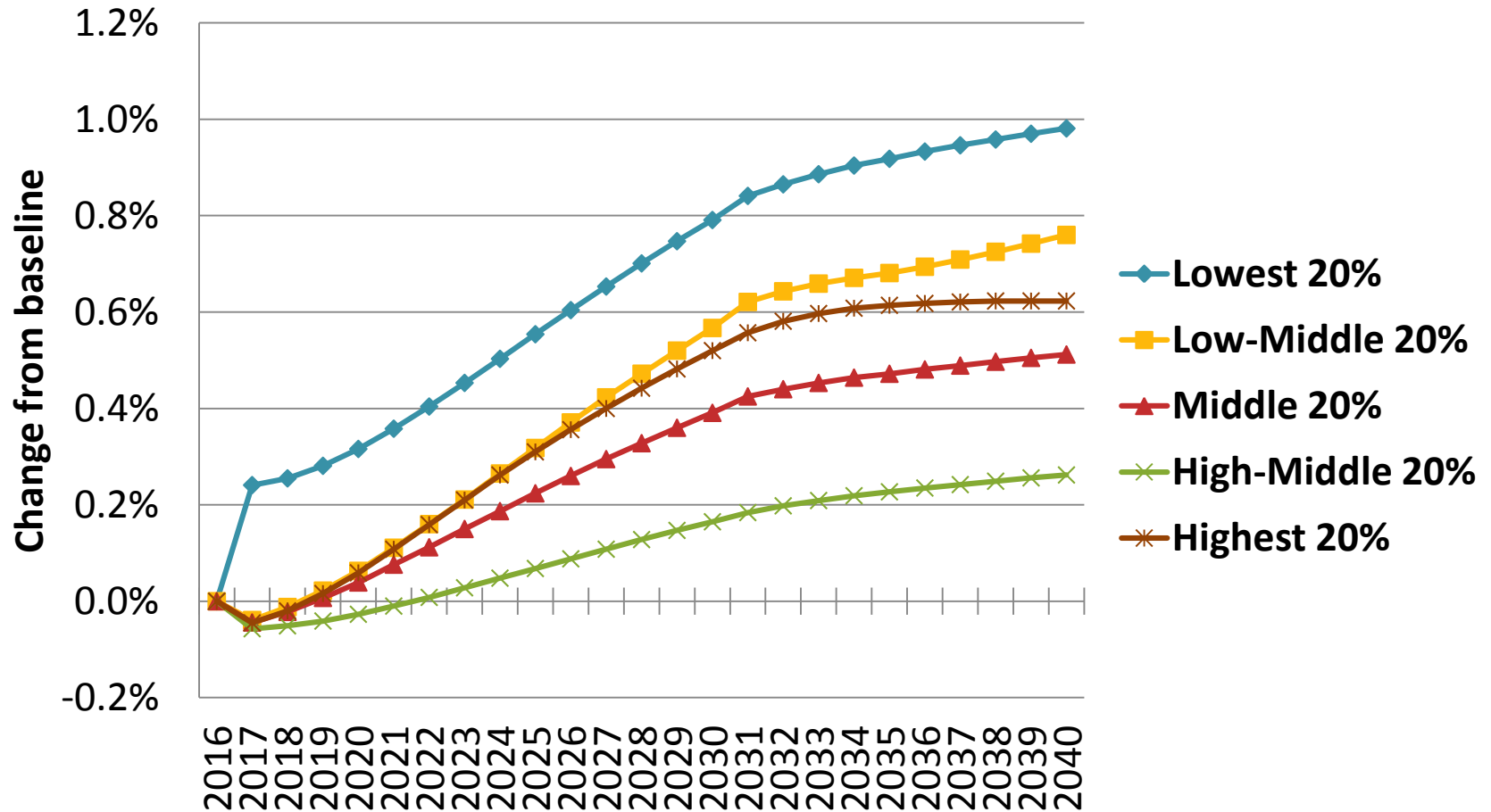




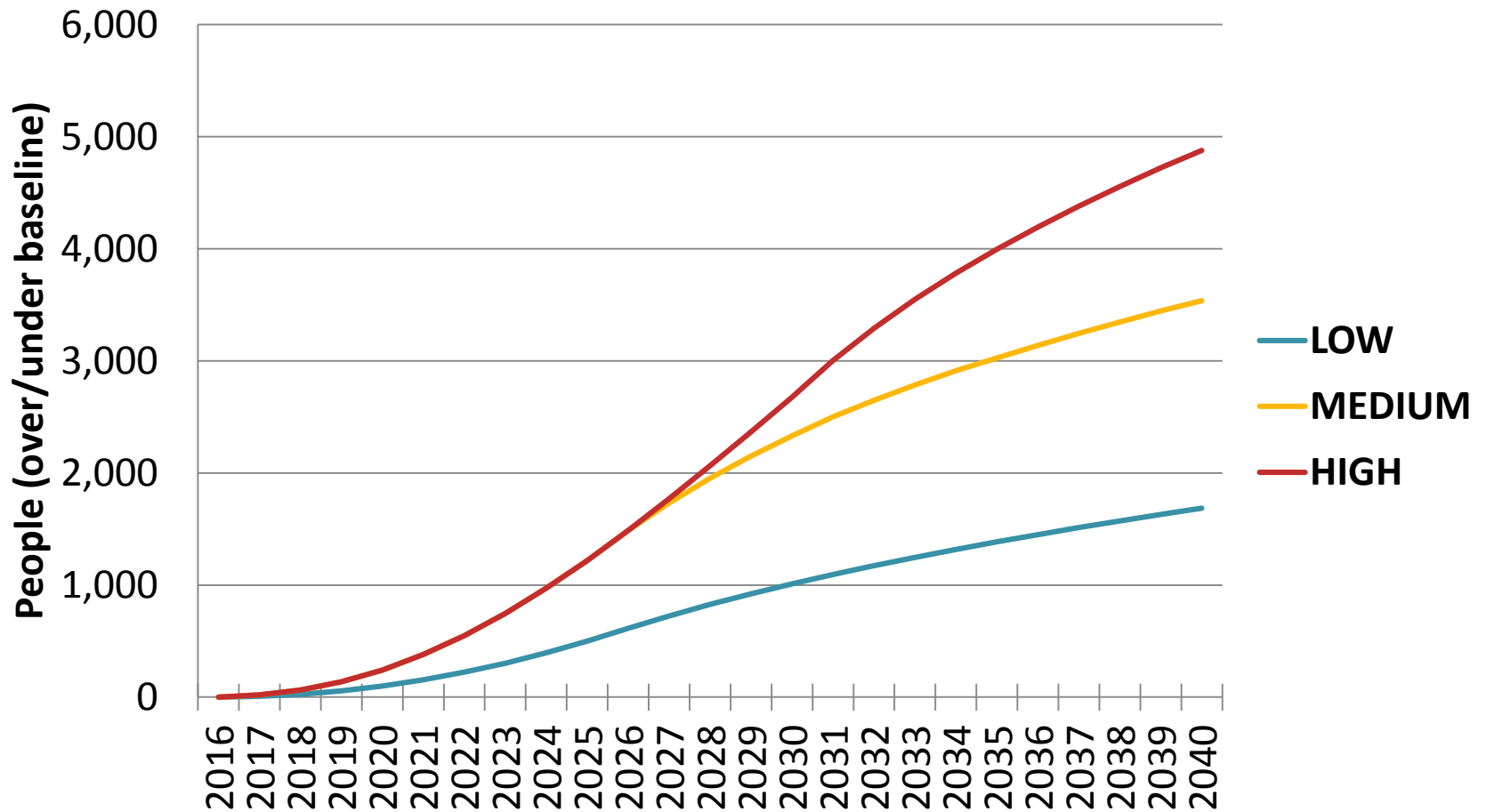
# Cost of Living Index



# Income by Quintile



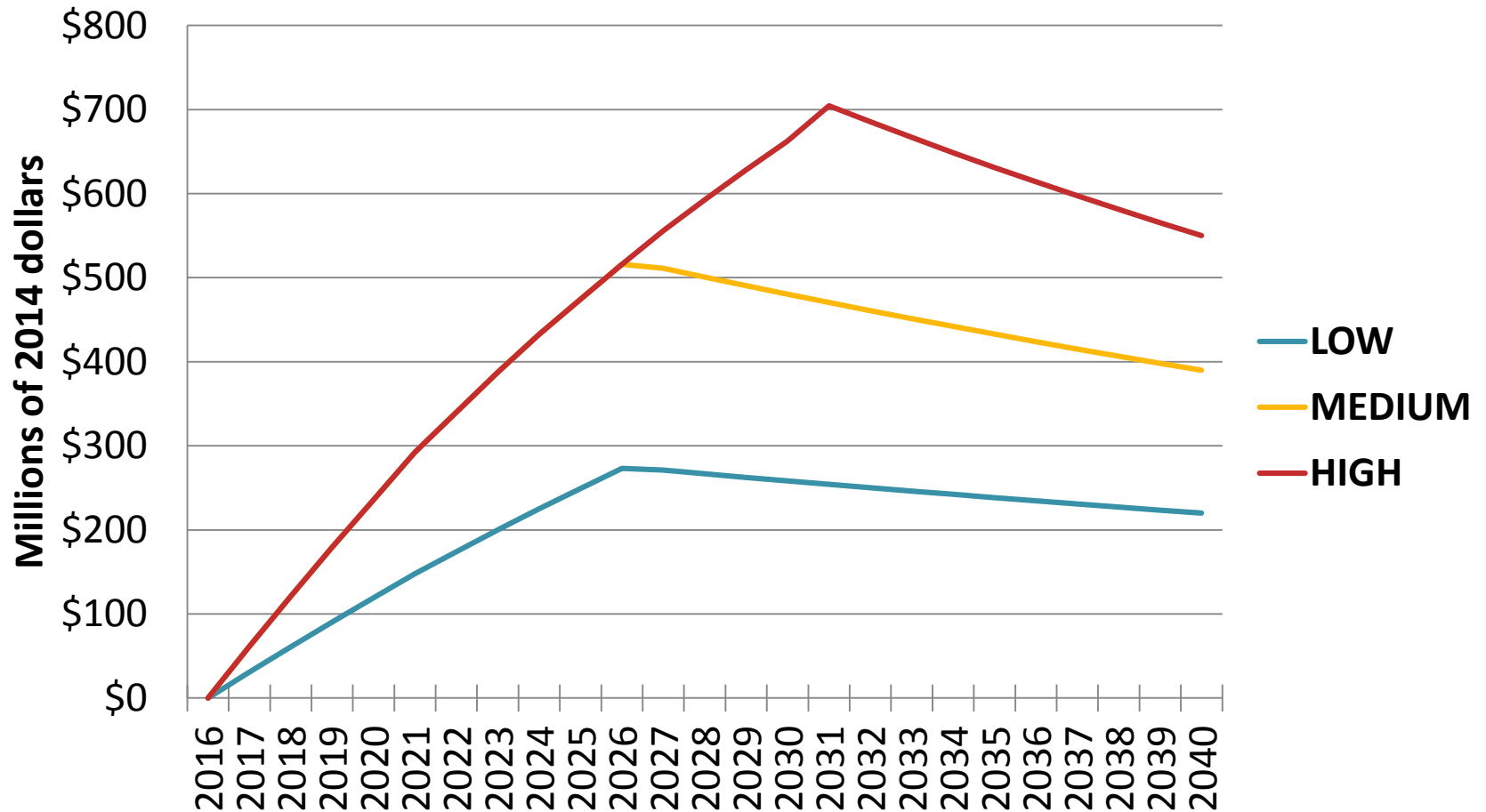
# Population



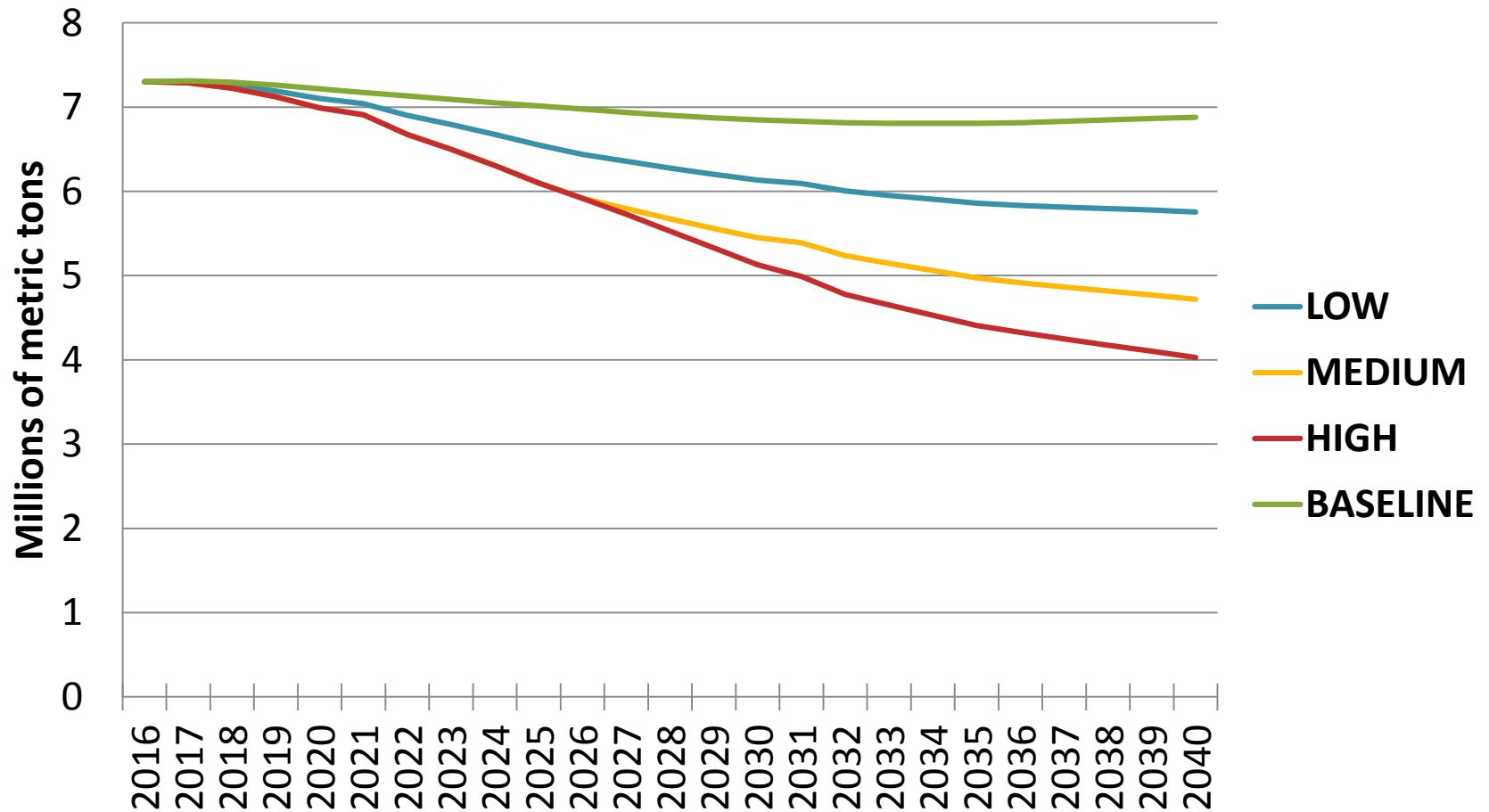
# Fiscal and Emissions

## Vermont CTAM (“VACTAM”)

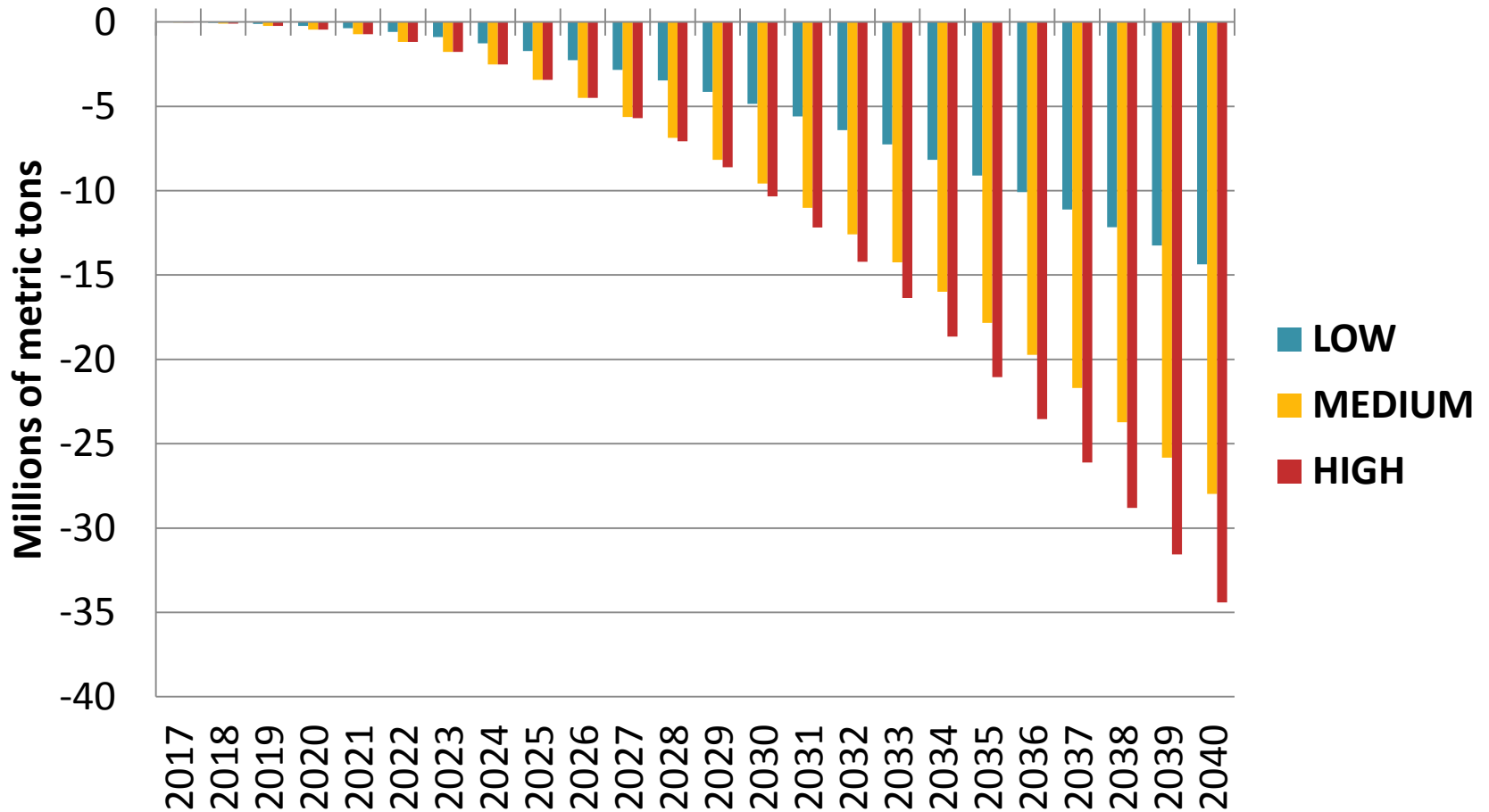
# Carbon Revenues



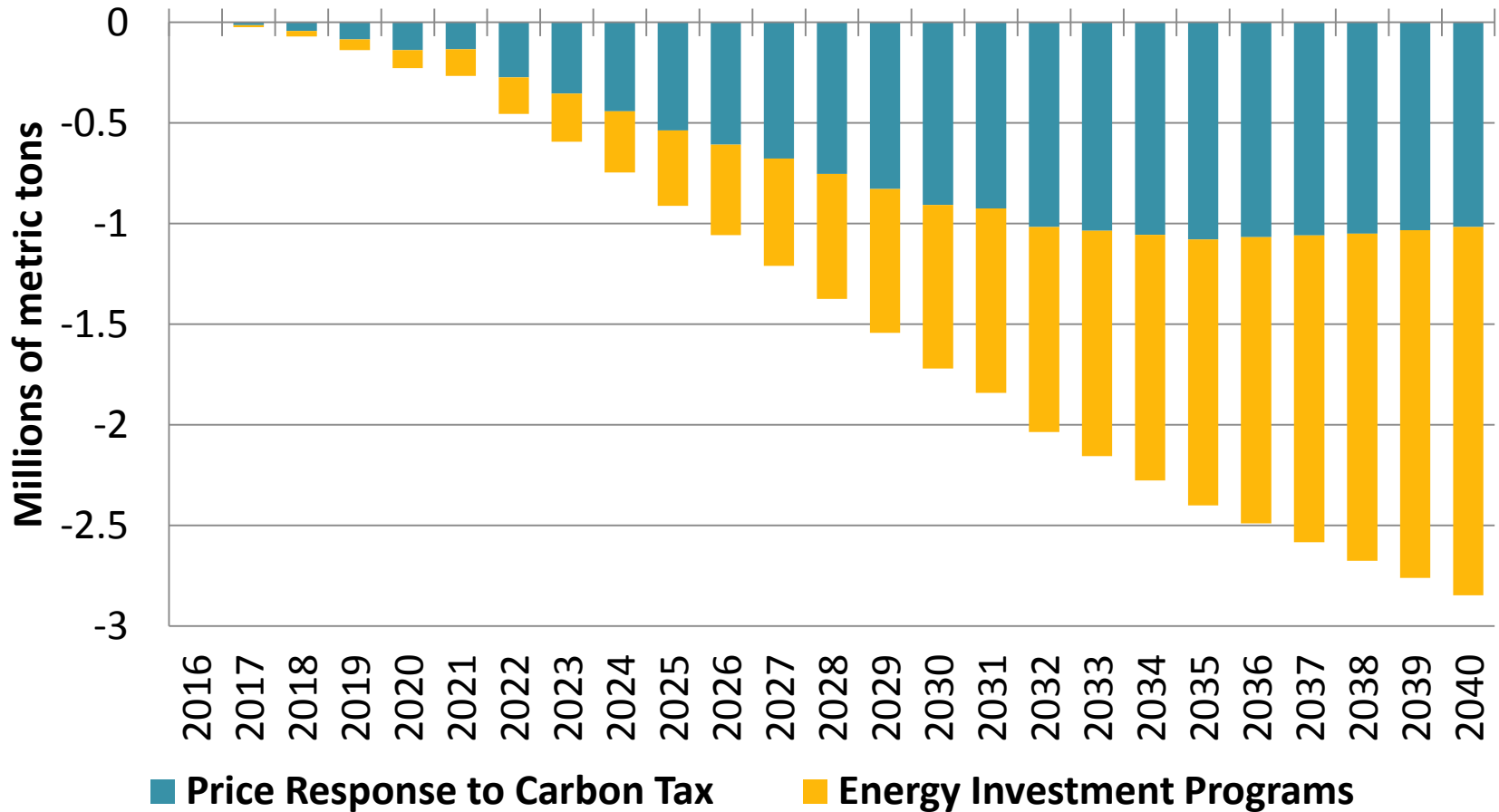
# Carbon Emissions



# Cumulative Savings



# Source of Savings





# Main Takeaways



## Economic

- 1,500 to 3,000 additional jobs
- Additional GSP and real personal income

## Fiscal

- \$500 million to \$700 million per year
- Declines with emissions in long-term

## Emissions

- Falls up to 40% from the baseline
- Split between price and efficiencies

## Demographic

- 2,000 to 4,000 more Vermonters
- Responding to stronger labor market



# Regional Economic Models, Inc.

**1717 K Street NW Suite 900**

**Washington, DC 20006**

**(202) 716-1397**