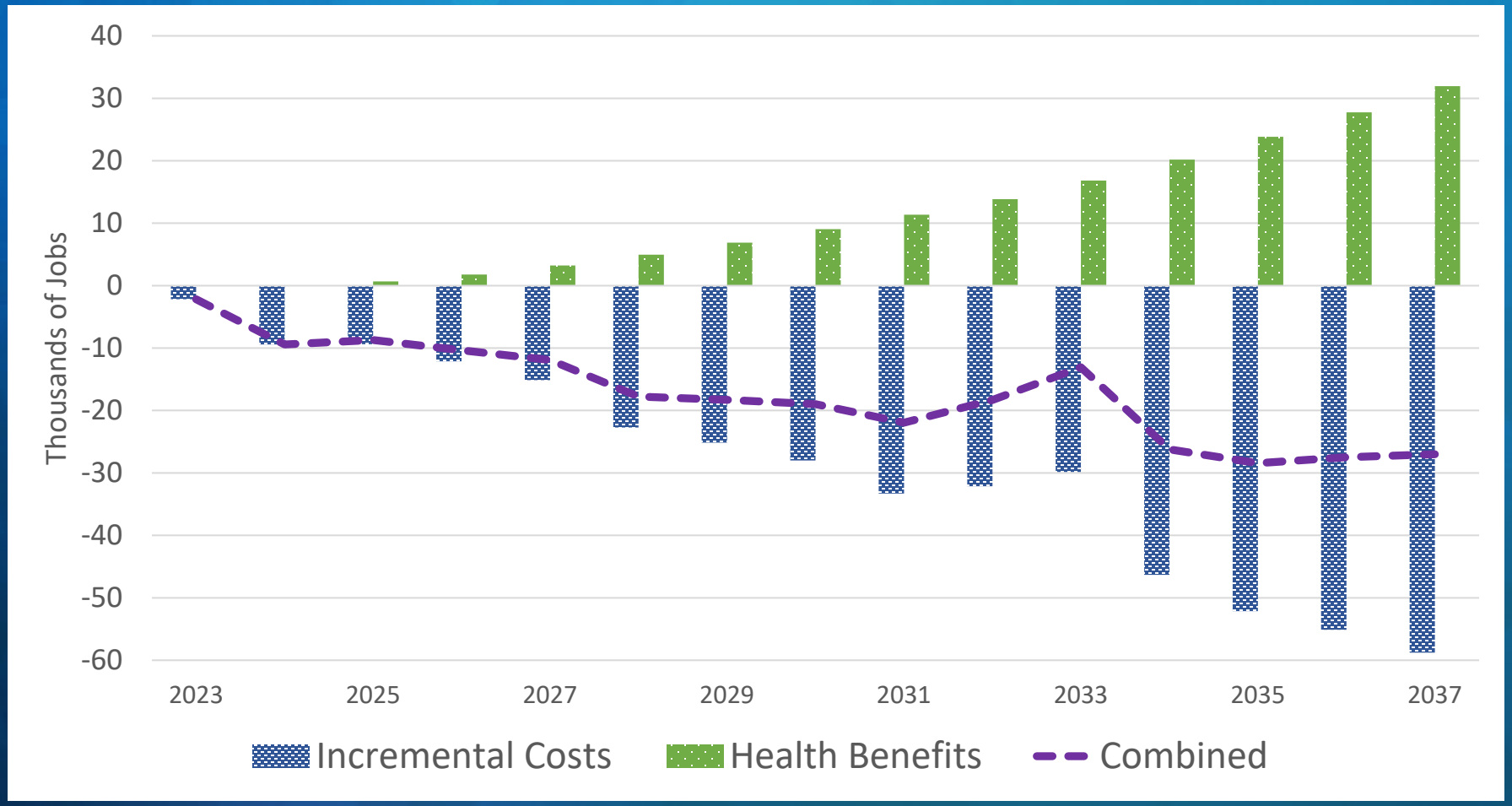
Draft Socioeconomic Report for the Revised Draft 2022 AQMP

Job Impacts

South Coast Air Quality Management District

October 5, 2022

Summary of Projected Job Impacts



Job impacts of benefits and costs combined

- ***0.27%*** annualized job growth *v.s.* baseline growth of 0.44% between 2023-37
- An annual average of ***17,000 jobs*** foregone in an economy with over 10 million jobs

Model for Impacts Simulation

REMI

- The Regional Economic Models, Inc. (**REMI**) Model is a regional economic forecasting model that has been continually operated since 1980.

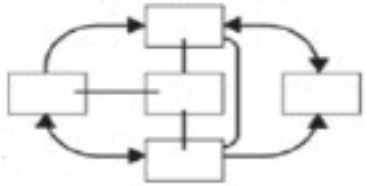
  It is built for the region using available government data:
  - **Type:** Population, employment, wages, tax rates, GDP
  - **Sources:** Bureau of Labor Statistics, Bureau of Economic Analysis, US Census Bureau
- REMI takes this historical data and creates a **baseline** or **control forecast** out to 2080.
- REMI can then run an **alternative** forecast or **"What if?" simulation** on top of the control to simulate a change in the regional economy.
  - These data are then compared to baseline data, giving a difference (as a level or %) that shows the **economic impact of the given policy**.

Forecast

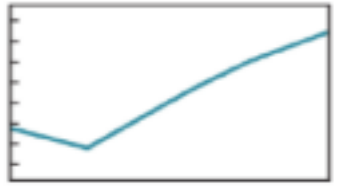
What effect would Measure X have?

Change in policy variables associated with Measure X

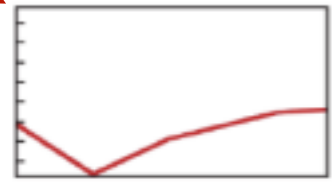
The REMI Model



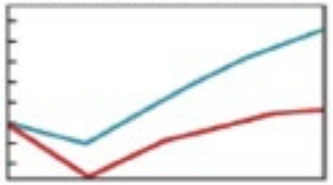
Alternative Forecast



Control Forecast

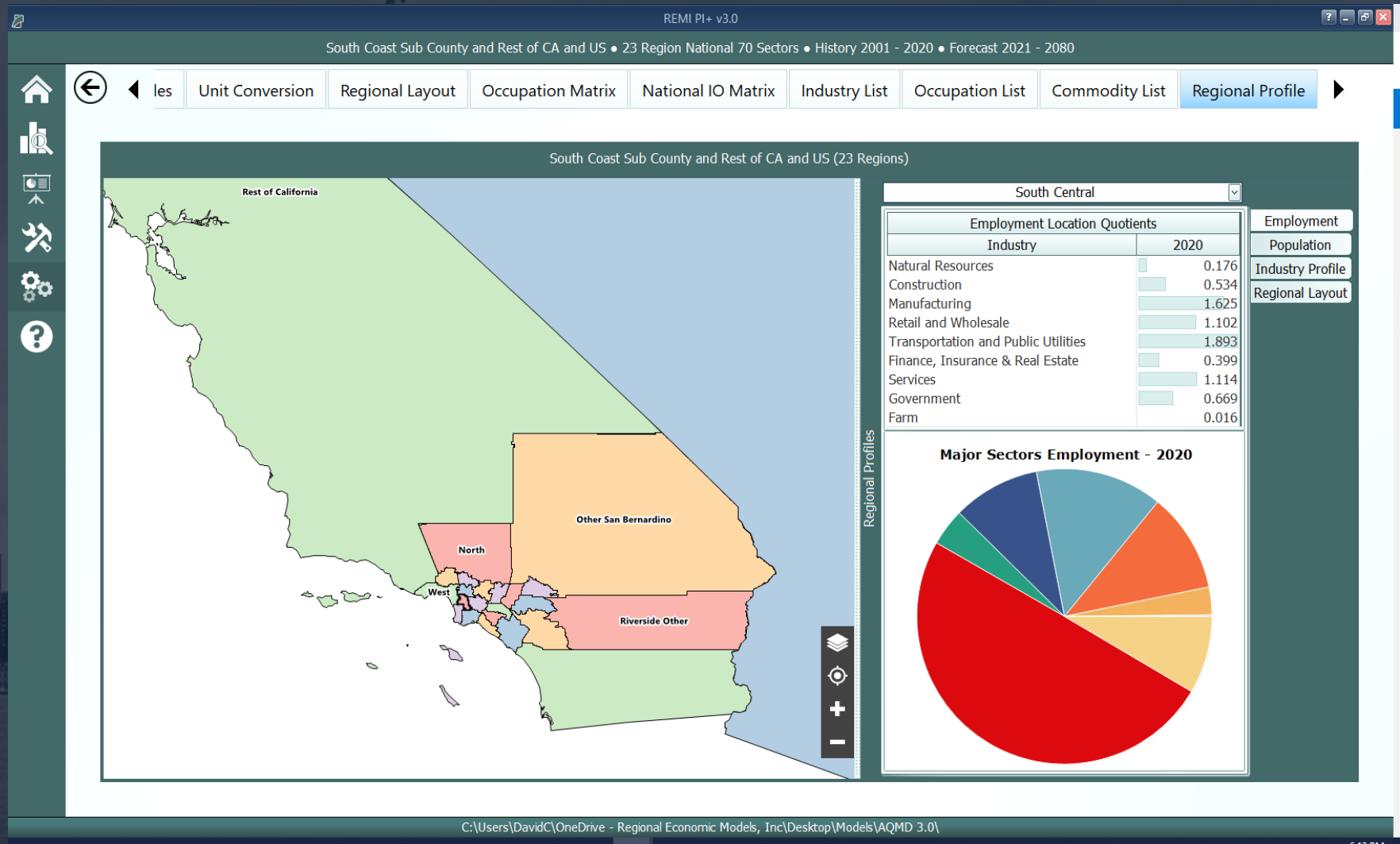


Compare Forecasts



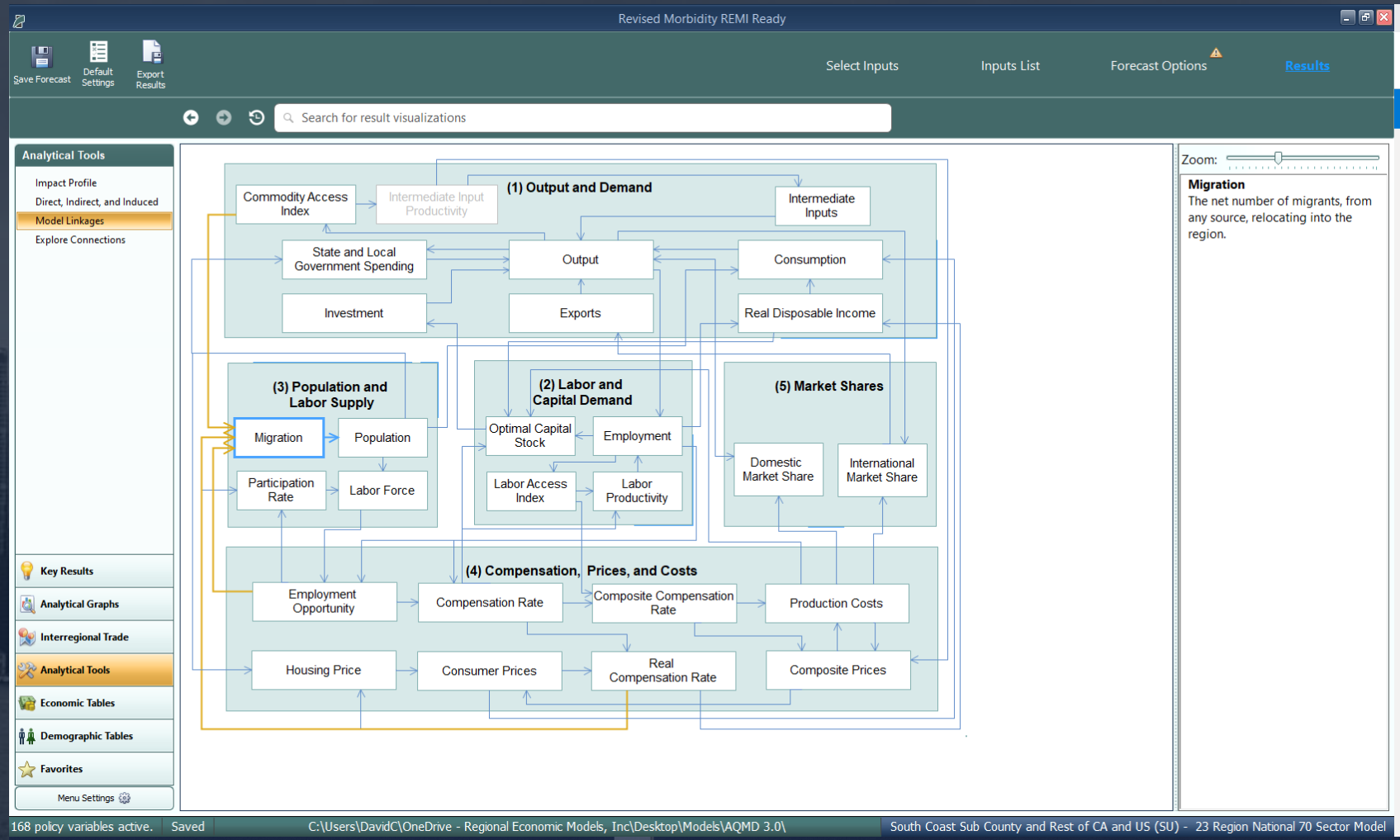
Model Layout

- The model's underling principles of **economic geography** reflect spatial constraints and positions of the regions
- Each region is assigned values corresponding to input data, and may interact with one another via migration, competition, and trade



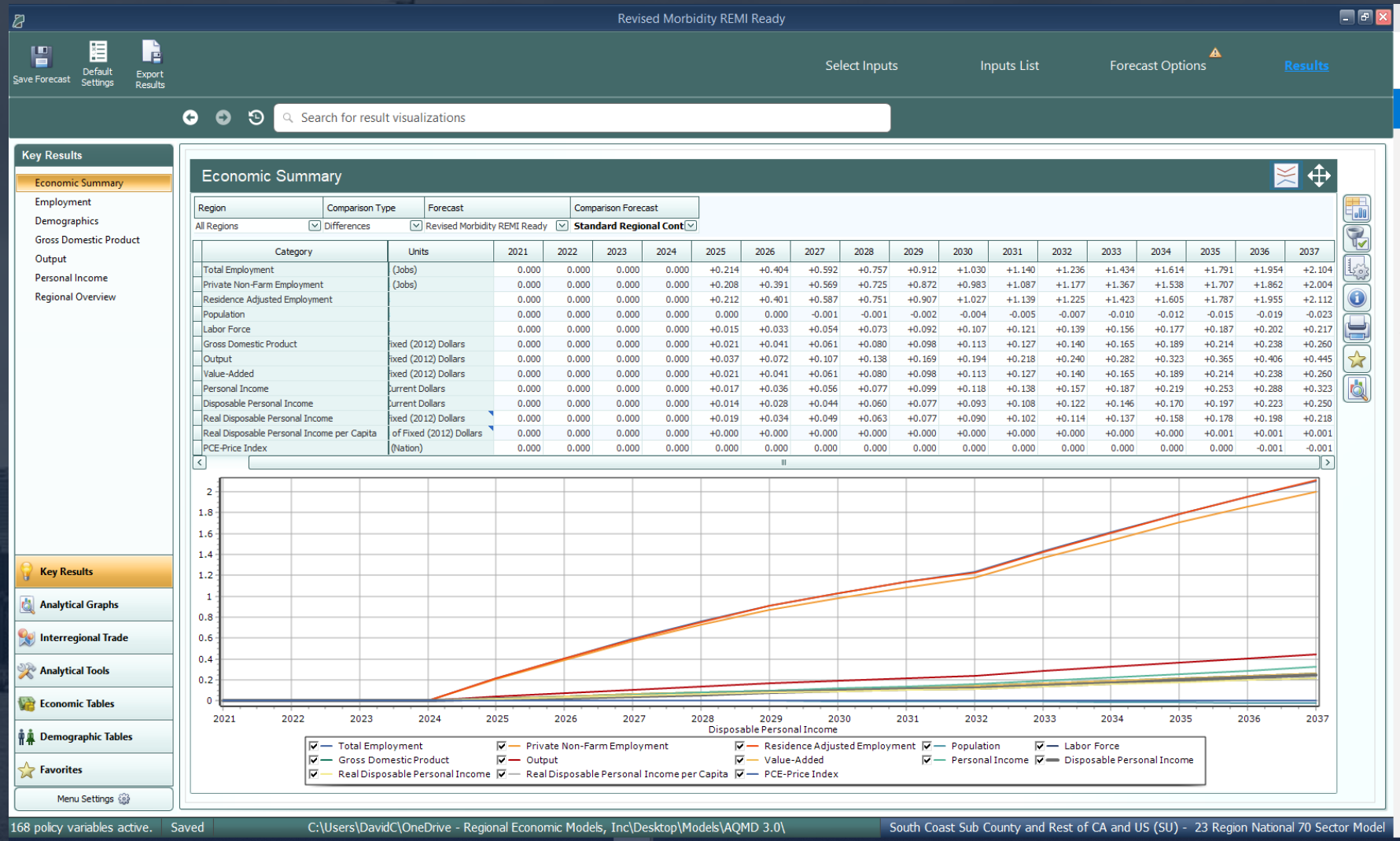
Model Structure

- Components of the economy interact with one another by way of:
  - **Econometrics** express building blocks of an economy, shown here
  - **Input-output modeling** shows how firms and industries consume and produce for one another
- The model also follows principles of **economic equilibrium** to model market behavior in areas such as investment



REMI Results

- **Direct**, **indirect**, and **induced** impacts may finally be analyzed and visualized.



Modeling Discussion

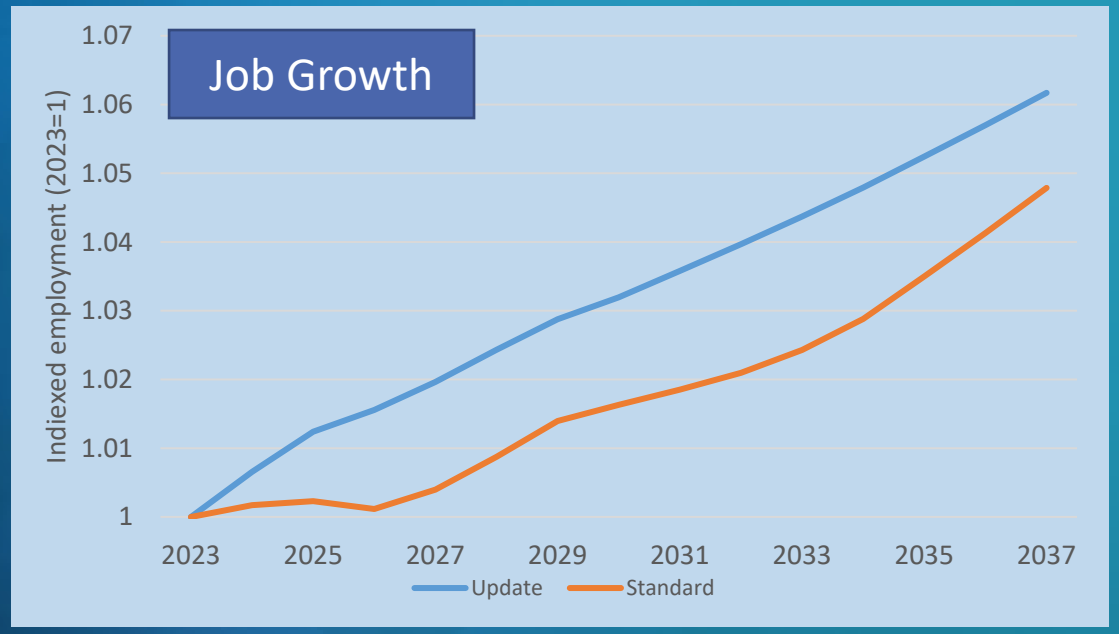
Custom-Built Model for South Coast AQMD

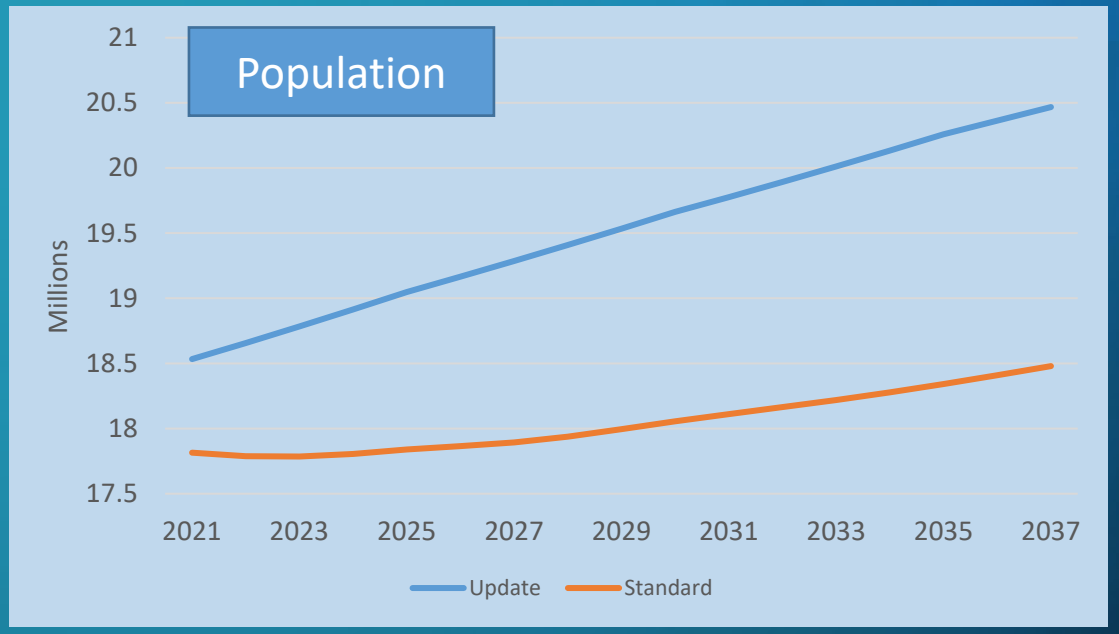
- REMI Policy Insight Plus (PI+) Version 3.0.0
- 23-region model
  - 21 sub-counties within South Coast AQMD jurisdiction (see map)
  - Rest of California
  - Rest of U.S.

Note: For readability, this map does not show the entire subregions of North (of the Los Angeles County), Other San Bernardino, Riverside Southwest, and Riverside Other.

Baseline Adjustments

- REMI baseline adjusted based on the 2020 Growth Forecast by Southern California Association of Governments (SCAG)
  - California Health and Safety Code requirements for AQMP
  - Consistency throughout AQMP





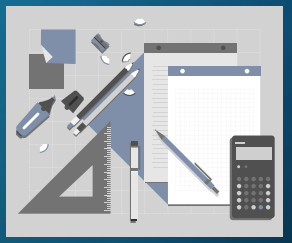
Update = Adjusted REMI; Standard = Default REMI

Modeling of Incremental Costs

- Direct impacts from increased spending on clean air controls & technologies:

Private Industries	Consumer & Households	State and Local Governments
• Increased cost of doing business (or "production cost")	• Less in the budget to spend on other goods and services (or "budget reallocation")	• Less in the budget to provide public services (assuming no increase in tax and other revenues)

- Direct impacts from increased demand for clean air controls & technologies:
  - More research, development, and output from businesses and industries supporting the clean air economy ("exogenous final demand")
  - Encourages job creation but opportunities not necessarily in the region

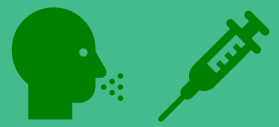


Modeling of Health Benefits

Avoided Premature Deaths

- Monetized health benefits based on individual's willingness-to-pay for reduced mortality risk
- Used 25% of estimated benefits as increased "regional amenity" in REMI
  - Reflecting REMI modeling rationale
  - Unresolved uncertainty based on the 2014 Abt Associates review
  - Sensitivity tests with 50% and 100%

Avoided Morbidity Incidence



- More in the budget to spend on other goods and services
  - Less spending on healthcare products and services
- Higher worker productivity
  - Avoided work absences due to own or dependents' illness and symptoms

Staff Contacts

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