



2030 Target Scoping Plan Update-Economic Modeling Overview

January 15, 2016



Economic Analysis Overview

- ▣ Goal
- ▣ Relationship to Other Analyses
- ▣ Metrics
- ▣ Modeling Tools
- ▣ Sources of Assumptions and Data
- ▣ Questions and Comments

Goal

- Evaluate the economic impact of options for achieving the 2030 GHG target
 - Estimate the economic impact of various technology pathways and carbon pricing
 - Inform measure development
 - Assess the economic impact of options for achieving the 2030 GHG emission target on the California economy, California businesses, and individuals

Relationship to Other Analyses

- ▣ Economic Analysis
- ▣ Public Health Analysis
- ▣ California Environmental Quality Act (CEQA) Analysis
- ▣ Individual Regulatory Analyses

Economic Analysis Metrics

- ▣ Reference Scenario:
 - ▣ Economy, Population, Technology, Practices
 - ▣ Existing Policies and Programs
- ▣ Scoping Plan Scenarios:
 - ▣ Package of Measures to Achieve the 2030 GHG emissions Target
- ▣ Economic Impacts:
 - ▣ Differences Between the Scoping Plan Scenarios and the Reference Scenario

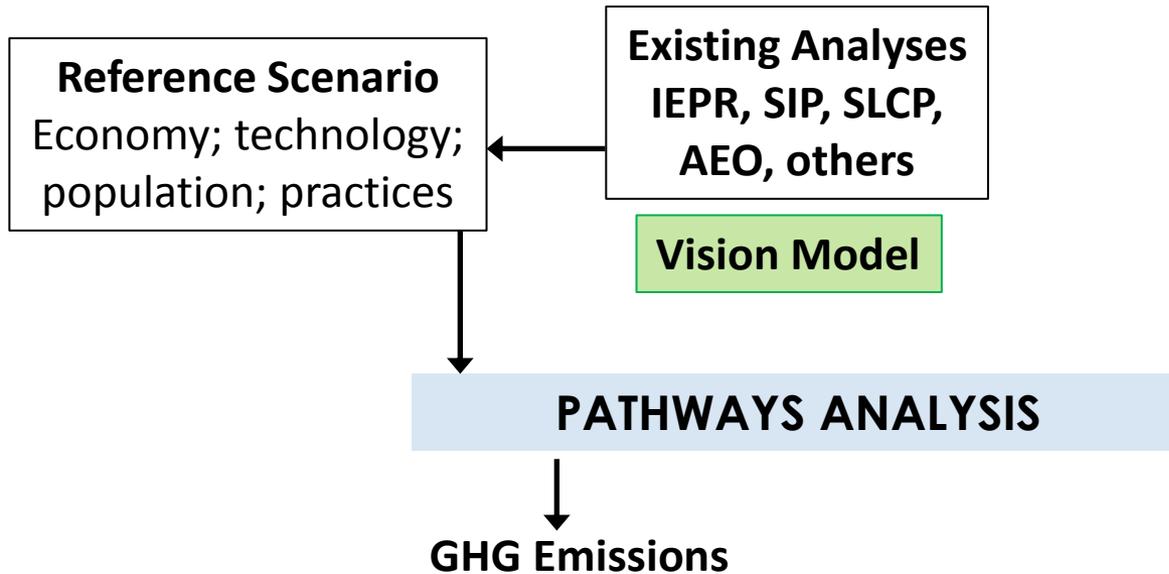
Economic Analysis Metrics (2)

- ▣ GHG Emissions by Sector and Total
- ▣ Costs/Savings by Sector and Households:
 - ▣ Capital Costs
 - ▣ Operating Costs, Including Fuel Costs
- ▣ Macroeconomic Impacts:
 - ▣ State Gross Domestic Product
 - ▣ Employment
 - ▣ Other

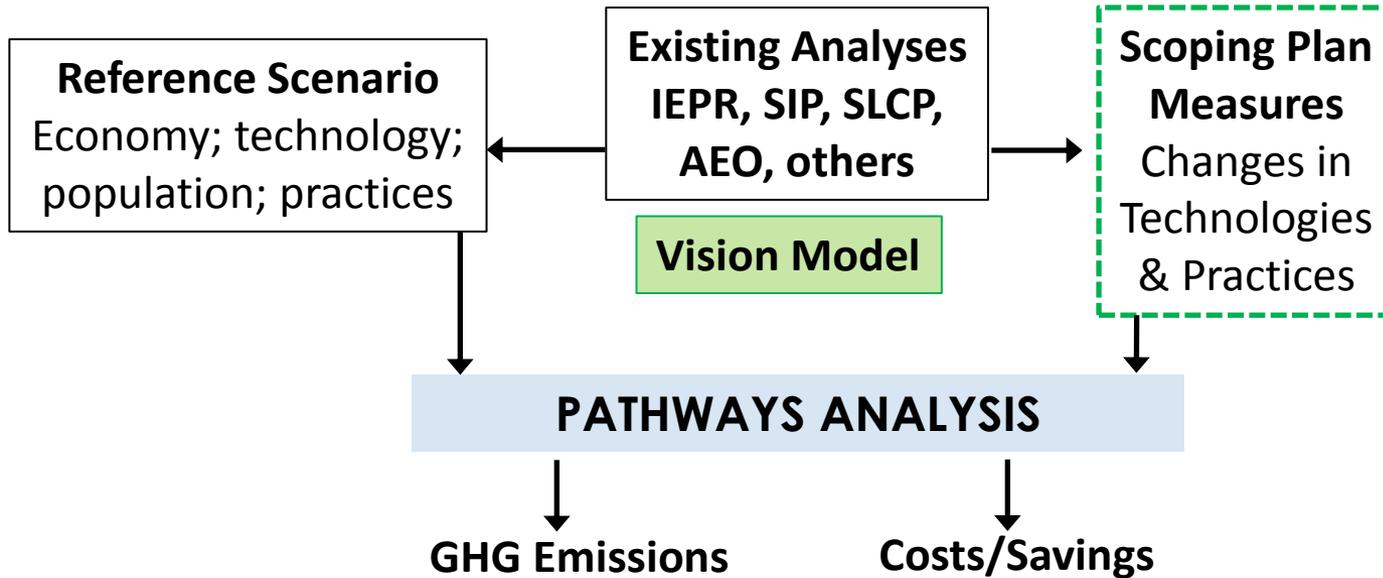
Modeling Tools

- ▣ California PATHWAYS
 - ▣ Physical accounting of energy flows within all sectors of the economy: Stock rollover
 - ▣ Physical representation of policies
 - ▣ Cost and GHG accounting
 - ▣ Estimate costs and savings
- ▣ Regional Economic Models, Inc, REMI PI+
 - ▣ Input-Output based dynamic general equilibrium model
 - ▣ Estimate macroeconomic impacts and macroeconomic adjustments

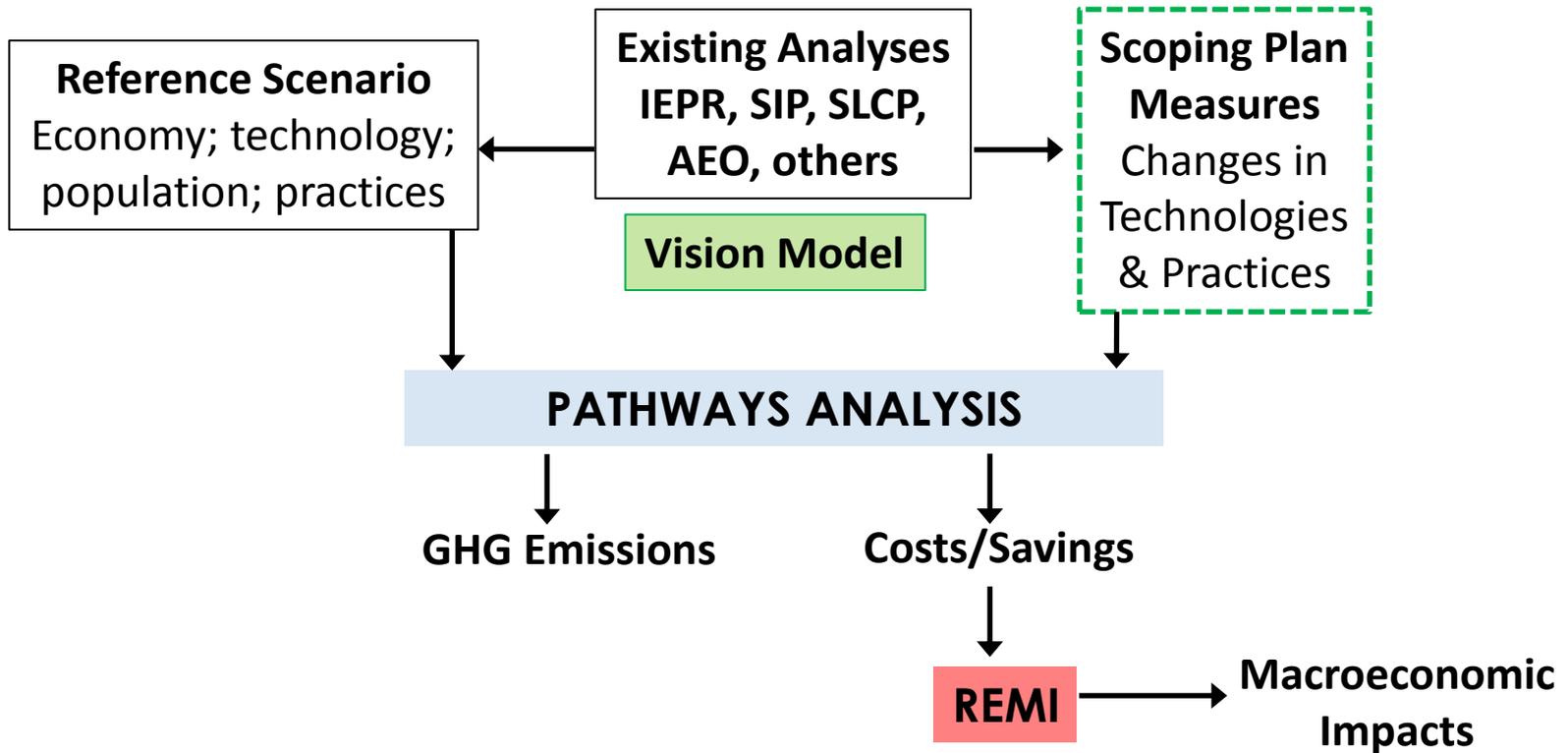
SCOPING PLAN ECONOMIC ANALYSIS



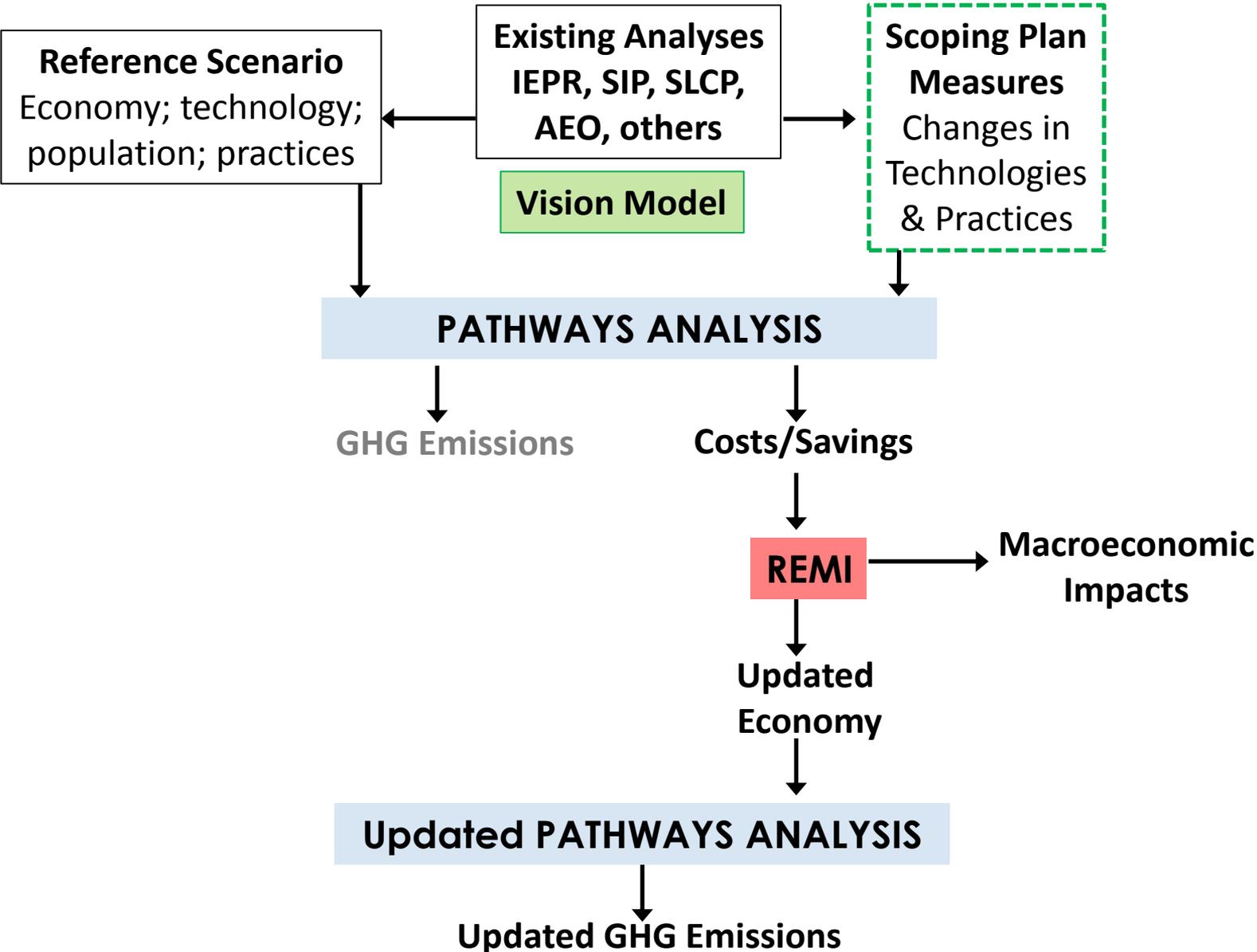
SCOPING PLAN ECONOMIC ANALYSIS



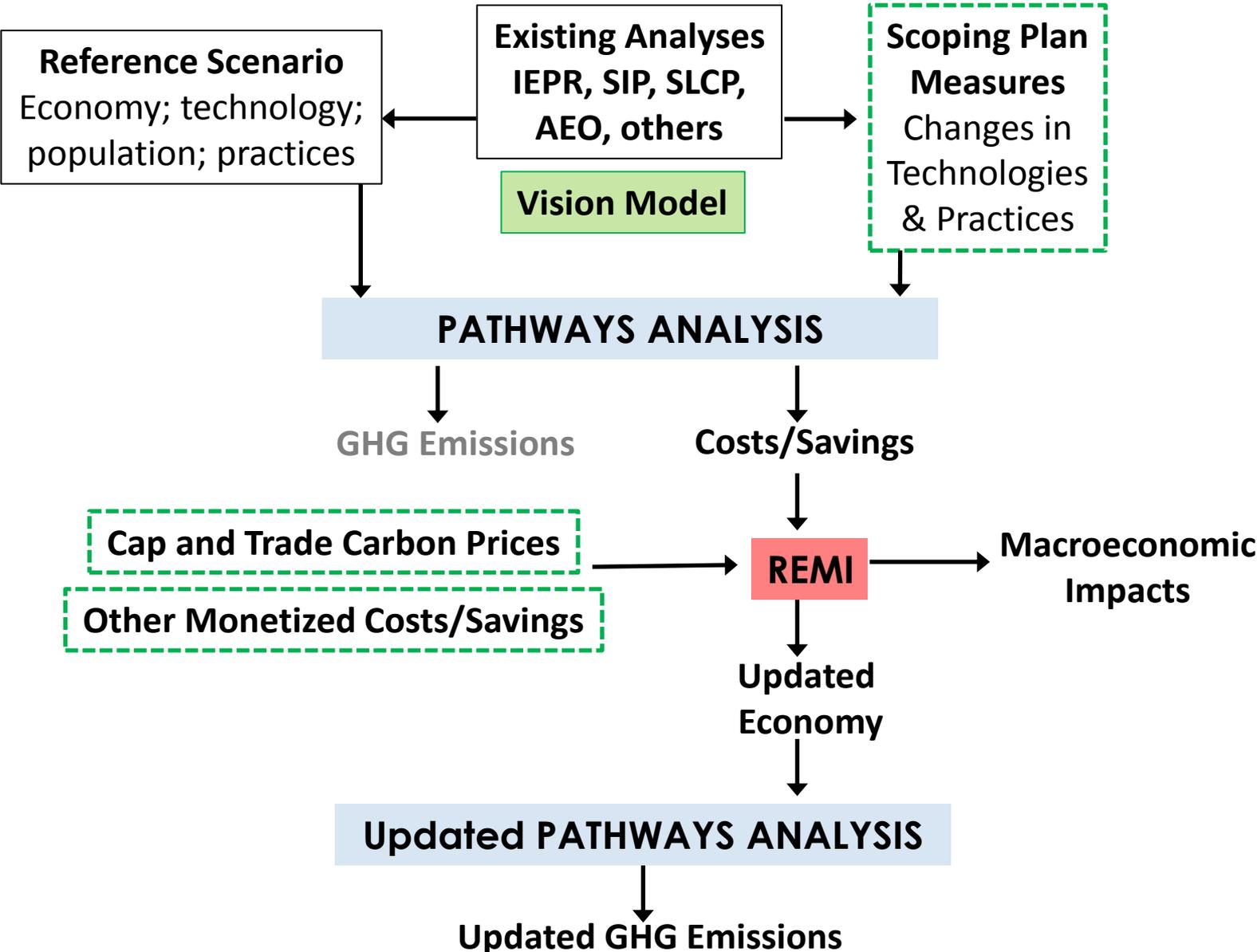
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SCOPING PLAN ECONOMIC ANALYSIS



Modeling Tools (2)

- ▣ California PATHWAYS and REMI Harmonization
 - ▣ Population Forecast
 - ▣ Economic Forecast
 - ▣ Structure of the Economy

Sources of Assumptions and Data

- ▣ Existing Materials
- ▣ Examples:
 - ▣ CEC Integrated Energy Policy Report (IEPR)
 - ▣ ARB Mobile Source Strategy
 - ▣ EMFAC 2014
 - ▣ ARB Vision Model
 - ▣ CPUC Long Term Procurement Plan (LTPP)
 - ▣ CPUC Navigant Potential Study, 2013
 - ▣ CPUC RPS Calculator, updated 2014
 - ▣ DWR California Water Plan: Update 2013
 - ▣ ARB Short-Lived Climate Pollutant Reduction Strategy
 - ▣ ARB California GHG Emissions Inventory
 - ▣ ARB Mandatory GHG Emissions Reporting
 - ▣ Department of Finance Economic and Demographic Forecasts
 - ▣ Department of Energy Billion Tons Study Update, 2011

Sources of Assumptions and Data (2)

- ▣ California PATHWAYS Model Materials
 - ▣ Energy Principals' Study
 - ▣ Presentation at the UC Davis Forum:
<http://policyinstitute.ucdavis.edu/initiatives/ccpm/ccpm-dialogue-final-agenda/>
 - ▣ Model Framework and Methods, posted for today's meeting
 - ▣ PATHWAYS Model and User Guide, posted for today's meeting
 - ▣ Additional material posted on the E3 website

Questions and Comments

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