

# *ARB VISION:* SCENARIO PLANNING

SCAQMD AQMP WHITE PAPER  
WORKING GROUP MEETING

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# VISION'S PLANNING FRAMEWORK

- Take a broader view of planning from a multi-pollutant, multi-sector, perspective (integrated)
- Planning horizon for implementing strategies
  - Helps inform when new strategies need to be launched and scaled up in the market
- Integrate planning efforts:
  - Clean Air Act SIPs
  - AB 32 Scoping Plan programs
  - Sustainable Freight Transport Initiative

# STRATEGIES FOR INTEGRATED, MULTI-POLLUTANT PLANNING

- Cleaner Combustion
- Vehicle Technology Transformation
- Fuels and Electricity Transformation
- Vehicle & System Efficiency Gains

**Vision for Clean Air: 2012-2050**

<http://www.arb.ca.gov/planning/vision/vision.htm>

# VISION MODEL TO EVALUATE SCENARIOS

# WHAT IS SCENARIO PLANNING

- A “what if” story that provides context for, and informs, decision-making
- A projection of what could be possible beyond currently adopted regulations and programs
- Combinations of technologies, fuels, and efficiencies that could yield the necessary emission reductions

# MODEL OVERVIEW: USER INPUT CHOICES & SUMMARY RESULTS

## ***INPUT CHOICES***

**Vehicle Fuel Efficiency**

**Fuels (Conventional & Alternative)**

**Advanced Technology**

**Transportation System Efficiencies**

## ***RESULTS***

**Emissions of Criteria Pollutants and GHGs**

**Energy Consumption**

**Vehicle Populations**

***Annually from 2010 - 2050***

# SECTORS IN VISION MODEL 2.0

## Mobile Sectors Already Included

- Passenger vehicles
- Heavy-duty vehicles (on-road)
- Freight locomotives
- Aviation

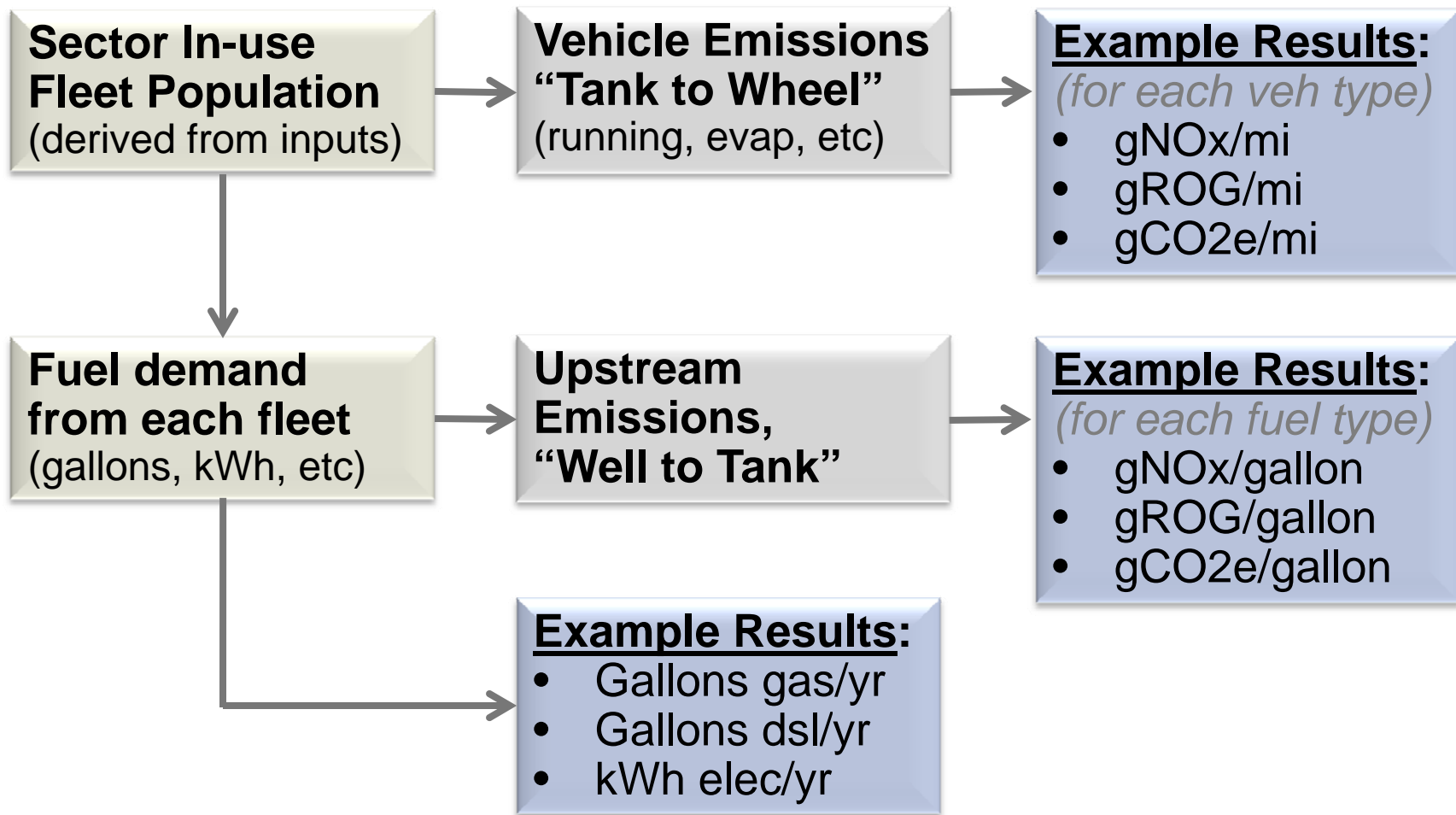
## Stationary Sources Already Included

- Fuel production for transportation and buildings
- Residential and commercial buildings
- Industry facilities (non-fuel facilities) – in dev

## Mobile Sectors Under Development

- Cargo handling equipment
- Commercial harbor craft
- Commercial ships (ocean going vessels)
- Construction equipment
- Other off-road vehicles

# BASIC MODEL STRUCTURE





# VALUE OF VISION SCENARIOS FOR PLANNING PROCESS

# TYPES OF POLICIES VISION SCENARIOS CAN INFORM

- SIP Planning and Regulatory development
  - Coordinated vehicle and alternative fuel strategies
- Public incentives and investments
  - Evaluate relative emission benefits to help set priorities
- State, regional, and local fuel infrastructure planning

# COMPARE EMISSION BENEFITS OF DIFFERENT STRATEGIES

- Most strategies will reduce both criteria pollutants and greenhouse gases
  - Zero emission vehicles
  - Activity changes
- Several strategies may predominantly reduce one pollutant
  - Renewable liquid fuels reduce lifecycle GHGs
  - Engine NOx standards reduce criteria emissions

# CURRENT STATUS

- ARB Vision 2.0 model structure complete; validation process underway
- Preliminary scenarios being developed to explore capabilities of the model
- Input assumptions leveraged for ARB Technology Assessment