Introduction
Technology and Fuels Assessments

September 3, 2014
Sacramento, California

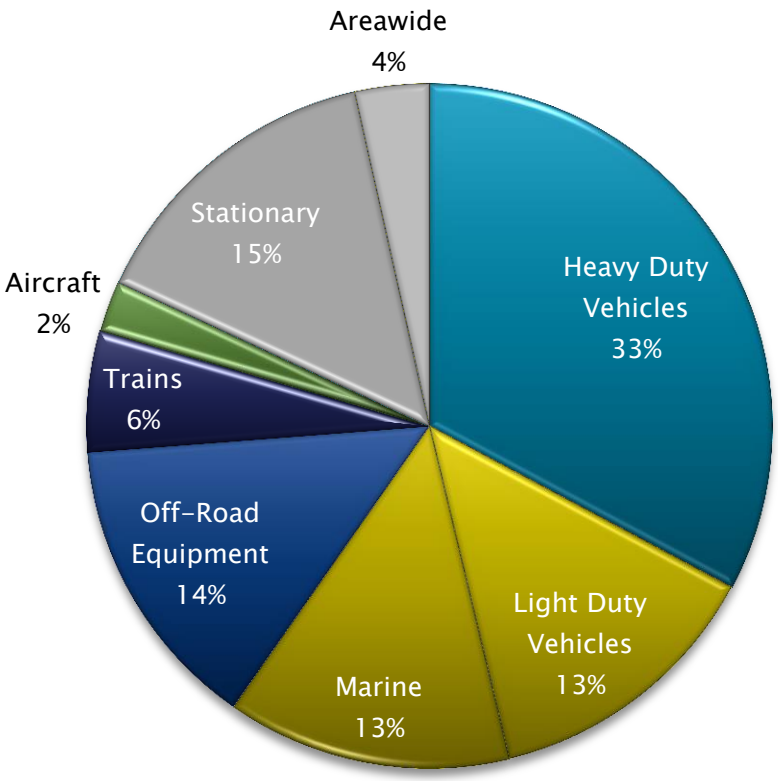
California Environmental Protection Agency
Air Resources Board

Purpose of Technology Assessments

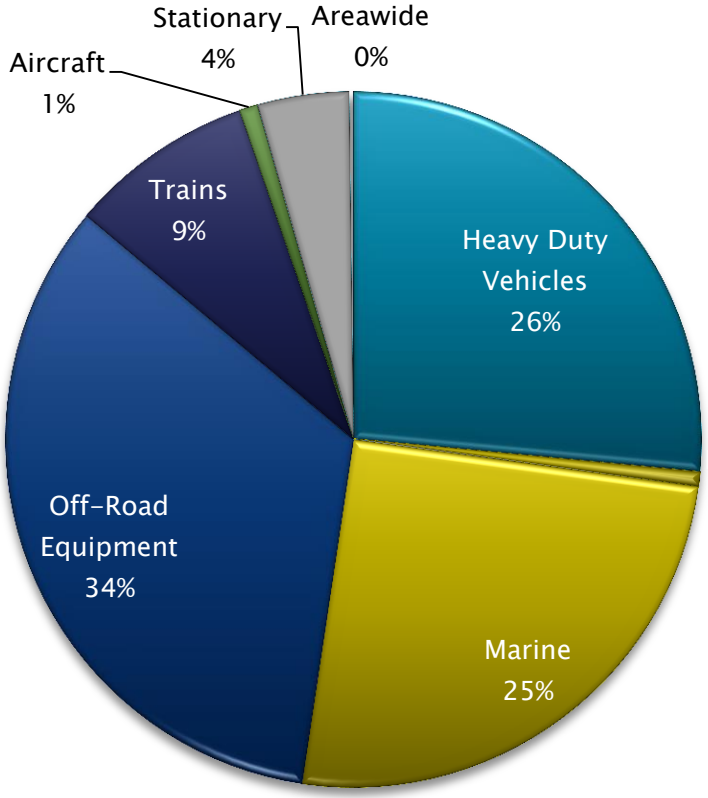
- Assess current and emerging technologies to reduce criteria pollutants and GHG
- Sources
  - Trucks and locomotives
  - Port, rail yard, and distribution center sources
  - Airport Sources
  - Fuels
- Assess compatibility with each sector
  - Operational constraints
  - Economics
  - Time to market
- Lay technical stage for freight plan and SIPs

Statewide Emission Sources

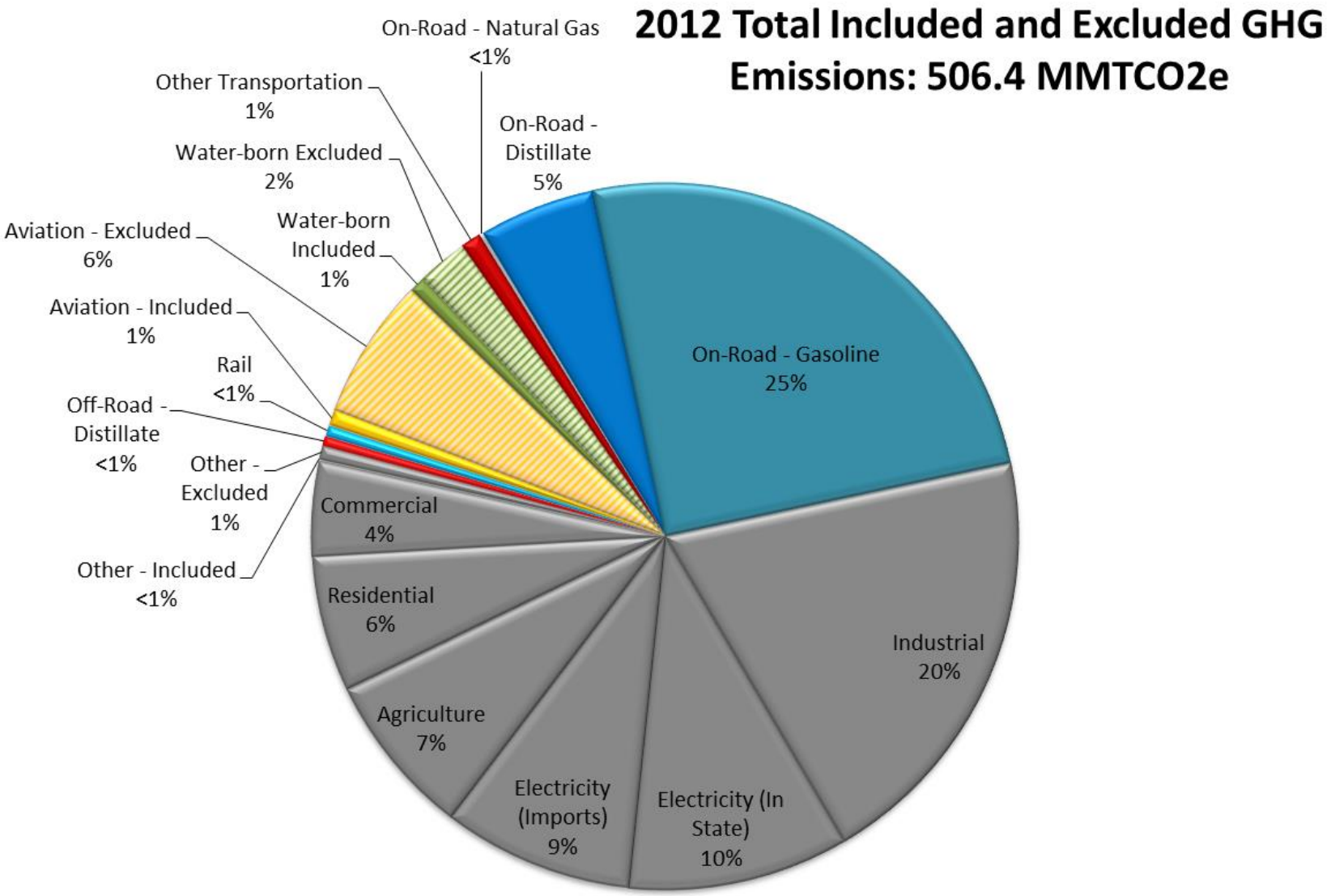
2014 Statewide NOx Emissions



2014 Statewide Diesel PM2.5 Emissions

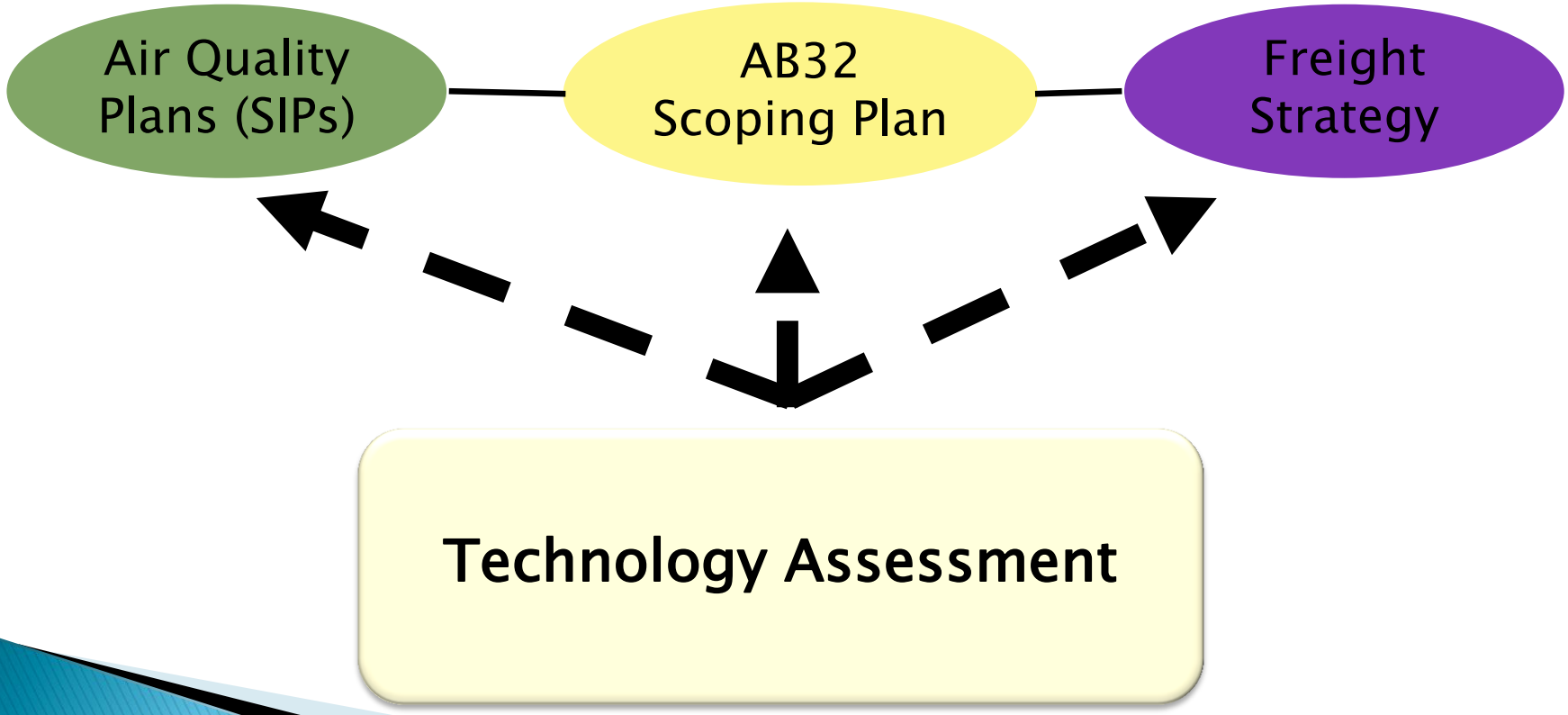


Statewide GHG Emissions



Technology Assessments Underway

Developed in partnership with air districts



Workshop Goals

- Solicit public comment on our understanding of current technologies
- Highlight key issues identified in technology assessments
- Provide opportunity for public review and comment
- Solicit input to help close data gaps

ARB Staff Seeking Input

- We are presenting our current understanding of technology and fuels
- We are seeking input on gaps and areas where we can improve, including but not limited to:
  - Technology and fuels characterization
  - Current and future vehicle and equipment costs
  - Path and timeline to future technologies
  - Additional areas to consider

Multiple Opportunities to Comment

- Submit written comments on workshop slides by October 1st:
  - http://www.arb.ca.gov/msprog/tech/comments.htm
- Technology Assessment draft document released end of October
- Submit written comments on draft document by November 28th
- Meet with staff at any time to provide input

Technology Assessment Sector Workshops

- Sept. 2 --Trucks
- Sept. 3 -- Transport Refrigeration Units, Rail, Fuels
- Sept. 9 – Ocean Going Vessels, Commercial Harbor Craft, Cargo Handling Equipment. Aviation, Assessment Overview

Timeline – Technology Assessments, Sustainable Freight, SIPs

- Sustainable Freight workshops Sept. 11, 15, 16, 23, 24
- Technology Assessment draft document for public comment end of October
- Sustainable Freight/Technology Assessment Board Hearing in December
- SIP Development 2015-2016

Technology Assessment Elements

- Technology description
- Readiness – current development status
- Fueling needs, strengths and limitations, key performance parameters
- Cost and new vehicle emission levels (per vehicle)
- Conclusions and findings – technology status, cross-sector findings