Informational Update on California's Emission Inventories for Criteria Pollutants, Toxic Air Contaminants, and Greenhouse Gas Air Pollution

California Air Resources Board Meeting
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California Environmental Protection Agency
Air Resources Board

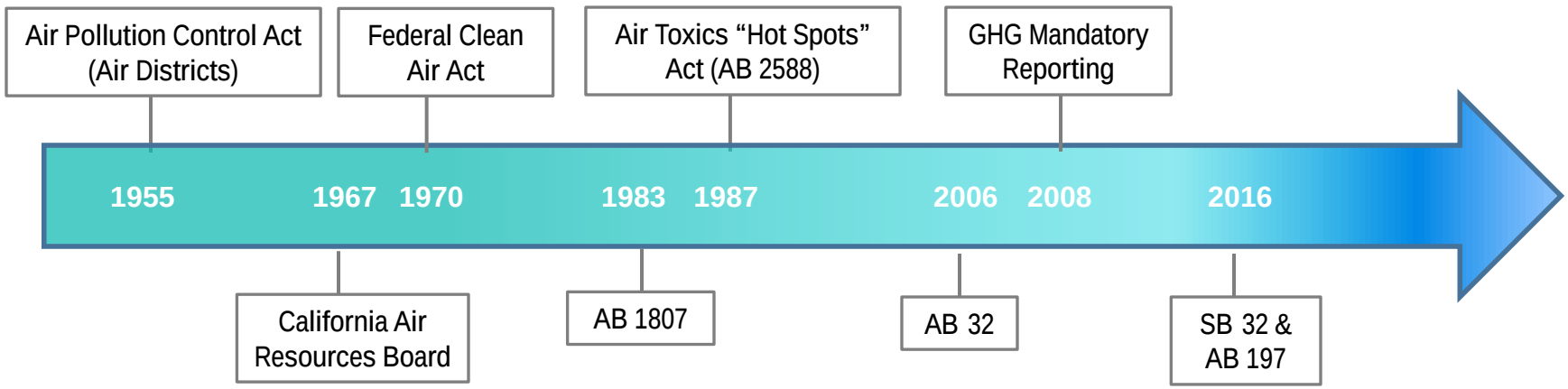
Presentation Outline

- Introduction
- Need for Greater Inventory Integration
- Overview of Current Emission Inventory Programs
- Developing Integrated Inventory Framework

Emissions Data is Foundation of ARB's Programs

- Understand source contributions of different pollutants
- Support state and federal programs
  - Regional air quality planning
  - Toxics risk reduction
  - Climate programs
  - Regulatory development
- Track progress of ARB's programs

Historical Mandates Behind Emissions Inventory Programs



Need for Greater Inventory Integration

- Provide enhanced transparency and public right-to-know
- New legislative mandates under AB 197 to display integrated pollutant data
- Support Adaptive Management assessments
- Understand impacts of our programs across pollutants
- Inventories must move to more integrated system to address new program needs and questions

Integration Challenges

- Developing an integrated system requires bridging following elements:
  - Matching facility IDs
  - Coordinating data submittal requirements and methods
  - Harmonizing reporting deadlines and frequency
  - Enhancing quality assurance/quality control methods
- Need for supplemental data to better understand causes of emission trends
  - Maximize co-benefits
  - Detect and address potential localized impacts from C&T

Overview of Current Emission Inventory Programs

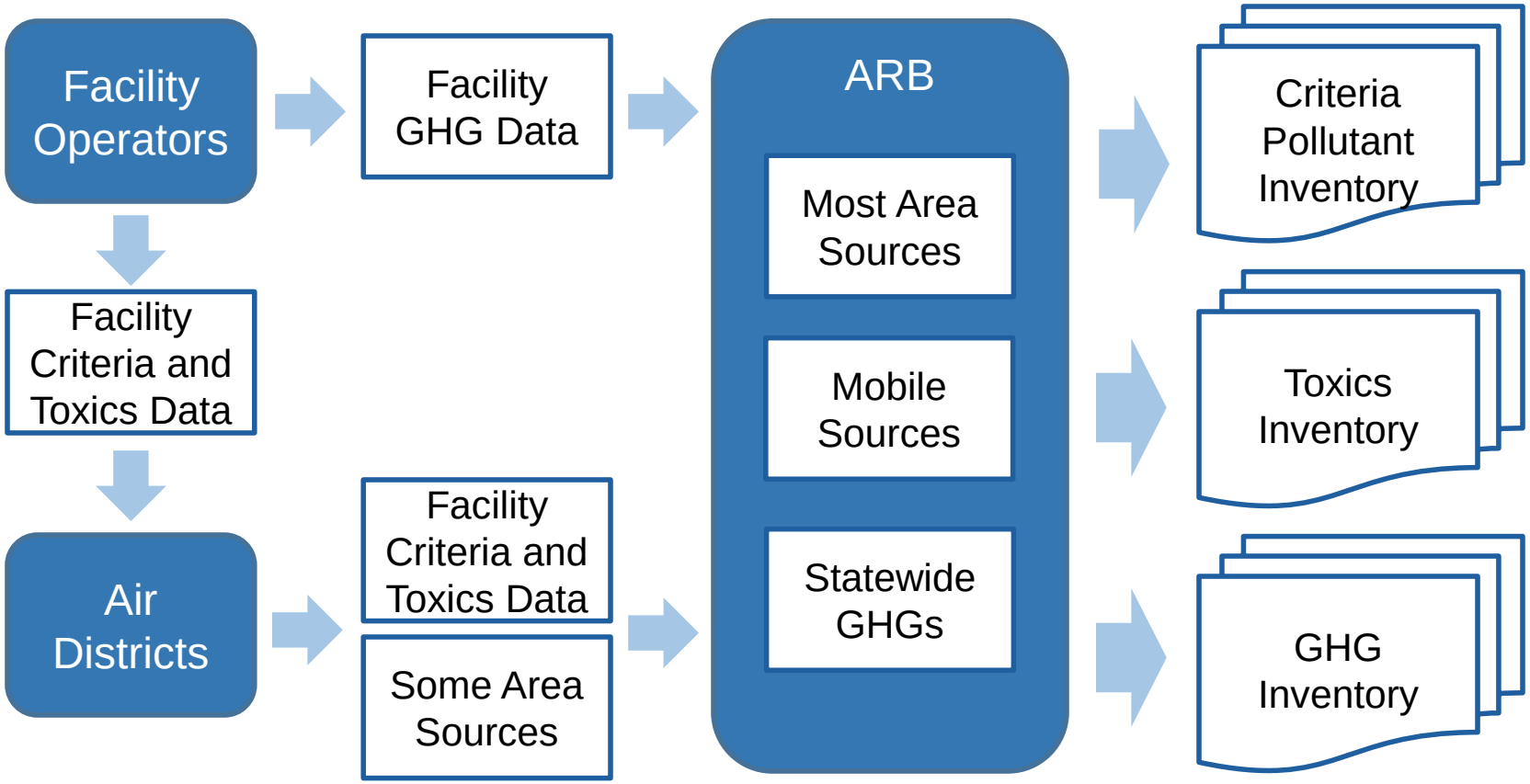
Inventory Overview

- Inventory is the who, what, when, where and how much of air pollutant emissions
- Shared responsibility of ARB, districts, and facilities
- Covers facilities, mobile, area wide, and natural sources
- Current and prior year inventories estimate actual emissions
- Future year inventories reflect forecasts or planning scenarios

Each Inventory Serves Specific Goals

Criteria Pollutants	Toxic Air Contaminants	Greenhouse Gases
VOCs, NOx, SOx, PM2.5, CO…	Benzene, Formaldehyde, Diesel Exhaust…	CO2, Methane, N_2O...
Regional air quality	Localized health risks	Statewide climate

Responsibilities



Mandates and Reporting Guidelines

- Criteria pollutants:
  - Federal Clean Air Act
  - National Emissions Inventory Guidelines
- Toxic air contaminants:
  - AB 2588 Air Toxics Reporting Guidelines
  - National Air Toxics Assessment
- Greenhouse gases:
  - Intergovernmental Panel on Climate Change
  - Mandatory Reporting Regulation

Data Methodologies

- Facilities:
  - Criteria and toxics emissions reported at device level based on individual emission rates
  - GHG emissions reported at facility level based on aggregate fuel use
- On-road Mobile:
  - Criteria and toxics emissions estimated for individual vehicle technologies and regional VMT
  - GHG emissions estimated based on statewide fuel use

Reporting Frequency

- Criteria pollutants:
  - annual for large facilities
  - periodic updates for other categories to support SIPs
- Toxic air contaminants:
  - annual or quadrennial depending on facility size
  - periodic updates for other categories to support risk assessments
- Greenhouse gases:
  - annual for large facilities under Mandatory Reporting
  - annual updates for statewide inventory to support AB32

QA/QC for Facility Emissions

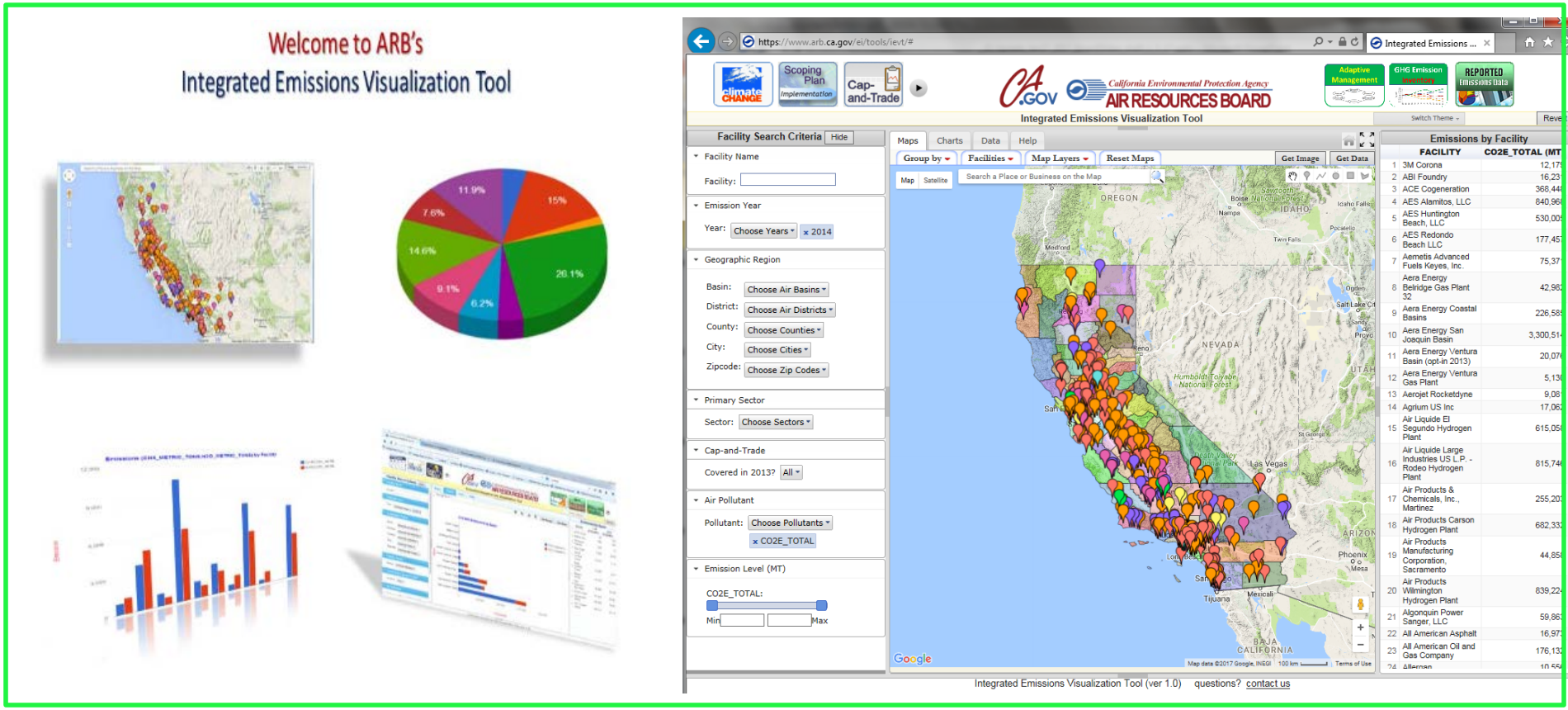
- Criteria pollutants:
  - ARB and districts conduct QA/QC with emphasis on large emitters and regional trends
- Toxic air contaminants:
  - ARB and air districts conduct QA/QC with focus on high risk facilities
- Greenhouse gases:
  - Mandatory reporting requires third-party verification by an accredited verifier

Developing Integrated Inventory Framework

Near-Term Efforts

- Address requirements of AB197
- Integrated Emissions Visualization Tool for facility data
  - Display GHG and criteria data: released end of 2016
  - Add toxics data: end of 2017
- Display multi-pollutant data for all sources at county/sub-county level: end of 2019
- Continue review of trends to support Adaptive Management

Integrated Emissions Visualization Tool



Longer-Term Efforts

- Create integrated inventory database system
  - Maintain diversity of data to meet individual program objectives
  - Enhance ability to compare and connect data
  - Provide greater system efficiency
- Initiate efforts to address how to:
  - Harmonize timing of data submittals
  - Create greater consistency in data methodologies
  - Enhance review and validation of data
  - Consider different potencies of air toxics when displaying data

Tasks to Support Integrated System

- Coordinate with air districts on reporting and data review
- Update inventory guidelines to improve reporting consistency
- Collect additional data to enhance understanding of connections between pollutants
- Develop expanded visualization tools to improve public engagement

Schedule and Next Steps

- Determine user needs and establish system requirements: 2017
- Develop information technology and contracting support: 2017/2018
- Ongoing database system development: 2018 through 2021
- Complete initial version of integrated inventory system: 2021