



Cap-and-Trade

Adaptive Management 101

February 25, 2016

California Environmental Protection Agency

 **Air Resources Board**

Outline

- Defining Adaptive Management (AM)
- Regulatory Framework
- Key Questions
- GHG Mapping Tool
- Facility, Community, and Sector Trend Analyses
- Adaptive Management Work Group
- Opportunities for Public Participation
- Next Steps

Defining Adaptive Management

- Process for tracking and responding to emission trends under Cap-and-Trade Program
- ARB concluded that Cap-and Trade is unlikely to contribute to increased localized emission impacts
- Board approved Adaptive Management (AM) Plan in 2011; AM process under development would implement the Plan

Defining Adaptive Management (cont.)

- Transparent process empowers public to follow and ground truth staff's analysis
- Emissions tracking and trends analysis of
 - Individual Cap-and-Trade facilities,
 - California communities with multiple Cap-and-Trade facilities
 - Industrial sectors
- Potential tie in with U.S. EPA 111(d) (Clean Power Plan)

Regulatory Framework

- Air pollution control programs at federal, State, and local levels
- Reduce greenhouse gas, toxic, and criteria pollutant emissions to improve health of all California residents
- Cap-and-Trade requires greenhouse gas emission reductions that will also help protect public health
 - Price on carbon incentivizes emissions reductions
 - Adaptive management would track trends and establish process for responding to those trends

Key Questions

- Have the emissions from a facility or group of facilities changed, and if so, is the trend likely to continue?
- Does the change merit a more detailed analysis?
- Is that change a direct result from the implementation of Cap-and-Trade?
- What is the public process and potential outcomes?

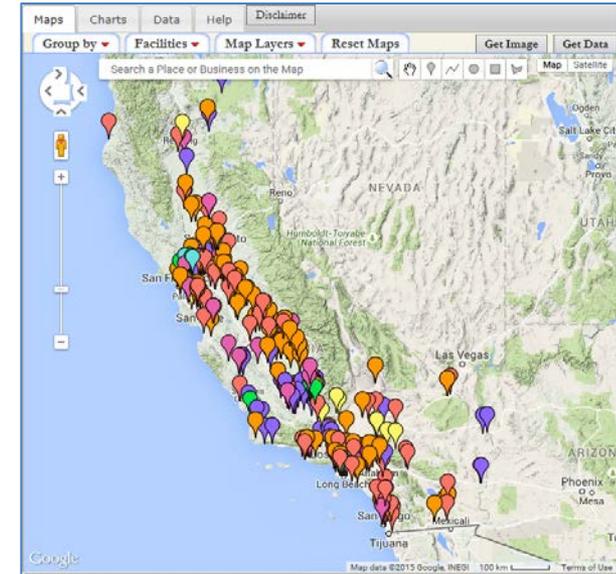
Systematic and Transparent Process

- Draft detailed process released for public comment
- Emissions tracking, analytics, and decision-making for responses to address emission changes



GHG Emissions Mapping Tool

- Publicly available tool *
- Stakeholders can replicate staff's analyses
- Track GHG emissions and trends in California communities
- Mapping tool is a first-order screening
 - GHG increases may suggest potential increase in criteria or toxic emissions
 - GHG changes may trigger more detailed analysis



*<http://www.arb.ca.gov/ei/tools/ghgfacilities/>



Proposed Analysis Overview

- Individual Facility Analysis
- California Community Analysis
- Multiple Year Trend Analysis



Individual Facility Analysis

- ARB will track emissions at Cap-and-Trade facilities located in California
 - First compliance period deadline: November 2, 2015
- Compare most recent report year greenhouse gas emissions data to previous years

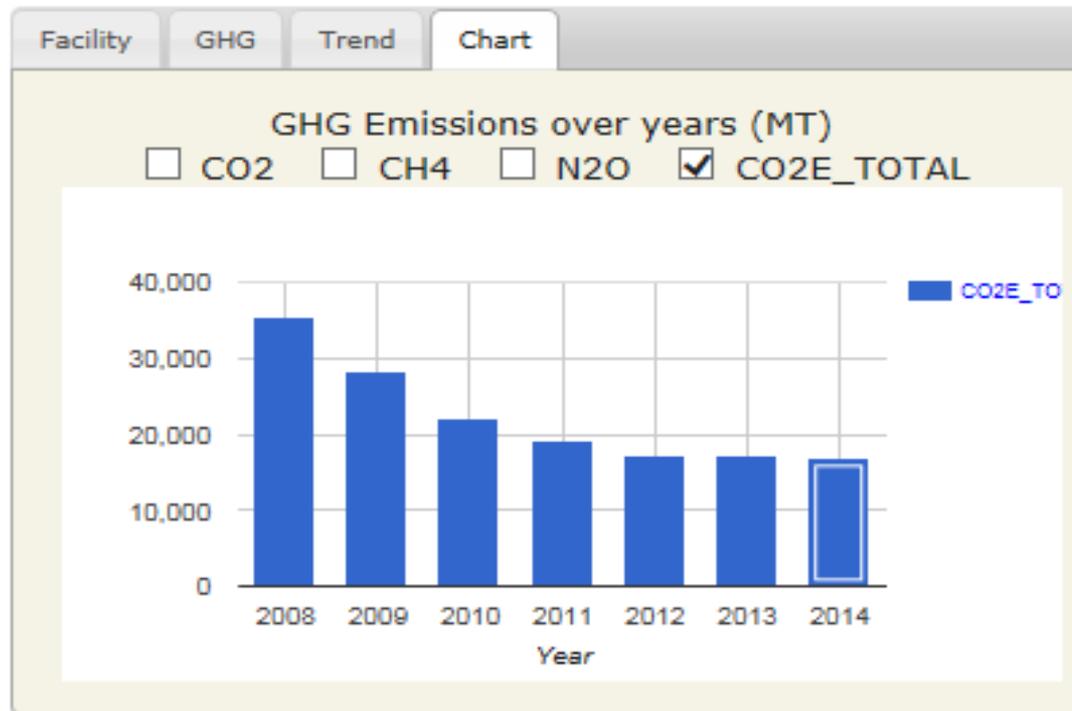


Community Analysis

- Using the mapping tool, staff will conduct the community analysis by:
 - Positioning a defined shape in a California community with multiple Cap-and-Trade facilities
 - Compiling aggregate GHG emissions for the specific area
 - Comparing emissions with previous years
 - Repeating above process for each California community with multiple Cap-and-Trade facilities
- Public can follow our analysis, or conduct their own using the mapping tool



Multiple Year Trend Analysis



Emissions Inventory Review and Results

- Work with air districts to quantify criteria pollutant and toxic air contaminant emissions
- Drill down on reasons for emission changes
- Develop annual report summarizing results

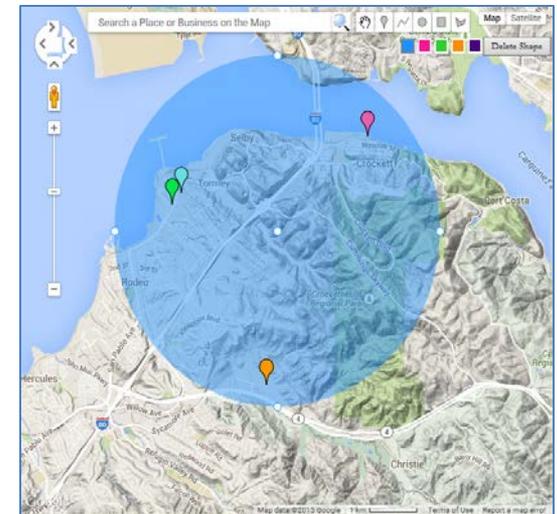


Adaptive Management Work Group

- ARB staff established an Adaptive Management Work Group:
 - Environmental health
 - Public health
 - Air district
 - Environmental justice
 - Regulated industry
 - Other interested stakeholders
- Advise on key aspects of AM analytics

Opportunities for Continuing Public Participation

- Interactive Greenhouse Gas Emissions Mapping Tool allows stakeholders to:
 - Track greenhouse gas changes at individual facilities, in California communities, and across industrial sectors
 - Follow and replicate staff's analysis
- On annual basis, ARB will:
 - Post Results from Analysis
 - Consider Public Comments Received
 - Present Results at Public Board Meeting



Data Collection & Screening

Data Analysis

Review

Decision Making

Potential Responses to Issues Identified

- ARB's long-standing approach to implementing programs to ensure that goals are met
- Some potential responses if localized trends are identified can include:
 - Air monitoring studies
 - ARB sponsored research study
 - Health risk assessments
 - Regulatory amendments
 - Amendments to district rules

Data Collection & Screening

Data Analysis

Review

Decision Making

Next Steps

- Monthly AM Work Group Meetings
- Work with the Local Air Districts to refine draft process and further develop GHG Emissions Mapping Tool
- Additional regional public meetings in 2016
- Present final AM Process to Board in Summer 2016