

# Public Meeting

## Cap Setting and Data Review: Introductory Discussion

April 28, 2009

California Air Resources Board

# Agenda

- Opening Remarks (15 minutes)
- Staff Presentation (30 minutes)
- Round-Table Discussion (2 hours)
- Other Issues (15 minutes)
- Adjourn

# California Cap-and-Trade Rulemaking Timeline

- Focus in 2009: work through implications of different issues and policy decisions
- Focus in 2010: finalize program design and develop regulatory language
- End of 2010: Board action on cap-and-trade regulation
- Extensive public process throughout

# Purpose of Today's Meeting

- Initiate a discussion on how the emissions cap will be determined for the California cap-and-trade program
- Stakeholders are asked to provide written comments on this topic to ARB by May 29<sup>th</sup> (to [ccworkshops@arb.ca.gov](mailto:ccworkshops@arb.ca.gov))

# Outline of Presentation

- Introduction and Background
  - Objectives of the cap-setting process
- What is a capped source?
  - Establishing a compliance obligation
- Calculating the level of the cap
  - Examining historical emissions data trends
  - Setting expected future emissions levels
- Analysis of the cap levels
  - Development of scenarios with various compliance pathways
  - Economic analysis
- Cap trajectories from other cap-and-trade programs.

# Guiding Principles of the Cap-Setting Process

- Meet all AB 32 requirements for market systems
- Ensure:
  - Overall environmental effectiveness
  - Technological feasibility of reduction goals
  - Cost-effectiveness of reduction goals
- Maximize:
  - Simplicity of program design
  - Transparency of decision making

# Relationship Between Statewide Limit and Cap

- AB 32 required ARB adopt a statewide limit for 2020 emissions equal to 1990 emission levels
  - Board approved a target of 427 MMT CO<sub>2</sub>e in December 2007
- The cap for 2020 in the cap-and-trade program is a subset of the statewide target
  - Scoping Plan estimate for 2020 cap is 365 MMT CO<sub>2</sub>e
- Annual caps will be set from 2012-2020
  - Referred to as California's 'Allowance Budgets' in the context of the Western Climate Initiative

# Capped Sources

- 2012-2014 (Narrow Scope)
  - In-State Electricity Generation Facilities (>25,000 MT CO<sub>2</sub>e/year) and Imported Electricity
  - Large Industrial Facilities (>25,000 MT CO<sub>2</sub>e/year)
- 2015-2020 (Broad Scope)
  - Adds ‘upstream’ treatment of fuel combustion where fuel enters into commerce covering
    - Small industrial fuel use (for facilities  $\leq$  25,000 MT CO<sub>2</sub>e/year)
    - Residential and commercial fuel use
    - Transportation fuel use

**Source:** Scoping Plan page 31

# ARB Sources of Historical Emissions Data

- **Top-down Inventory Data**
  - **Years Available:**
    - 1990-2004 currently publicly available
    - 2005-2008 expected to be available in time for cap-setting
  - **Coverage**
    - Broad Scope
- **Bottom-up Mandatory Reporting Data**
  - **Years Available:**
    - 2008-2009 expected to be available in time for cap-setting
  - **Coverage**
    - Narrow Scope

# Establishing a Compliance Obligation: Narrow Scope

- What generates a compliance obligation for narrow-scope sources?
  - Start with mandatory reporting regulations
  - Potentially add or exclude some emission categories
- Possible considerations:
  - Accuracy of specific reporting methodologies
  - Treatment of emissions from biomass combustion
  - Process emissions
  - Imported electricity

# Establishing a Compliance Obligation: Broad Scope

- What generates a compliance obligation for broad-scope sources?
  - Point of regulation will be determined for fuel providers
  - New reporting requirements will be completed for fuel providers
- Possible Considerations:
  - ‘Netting-out’ fuels sold by fuel providers to large point sources with direct compliance obligations

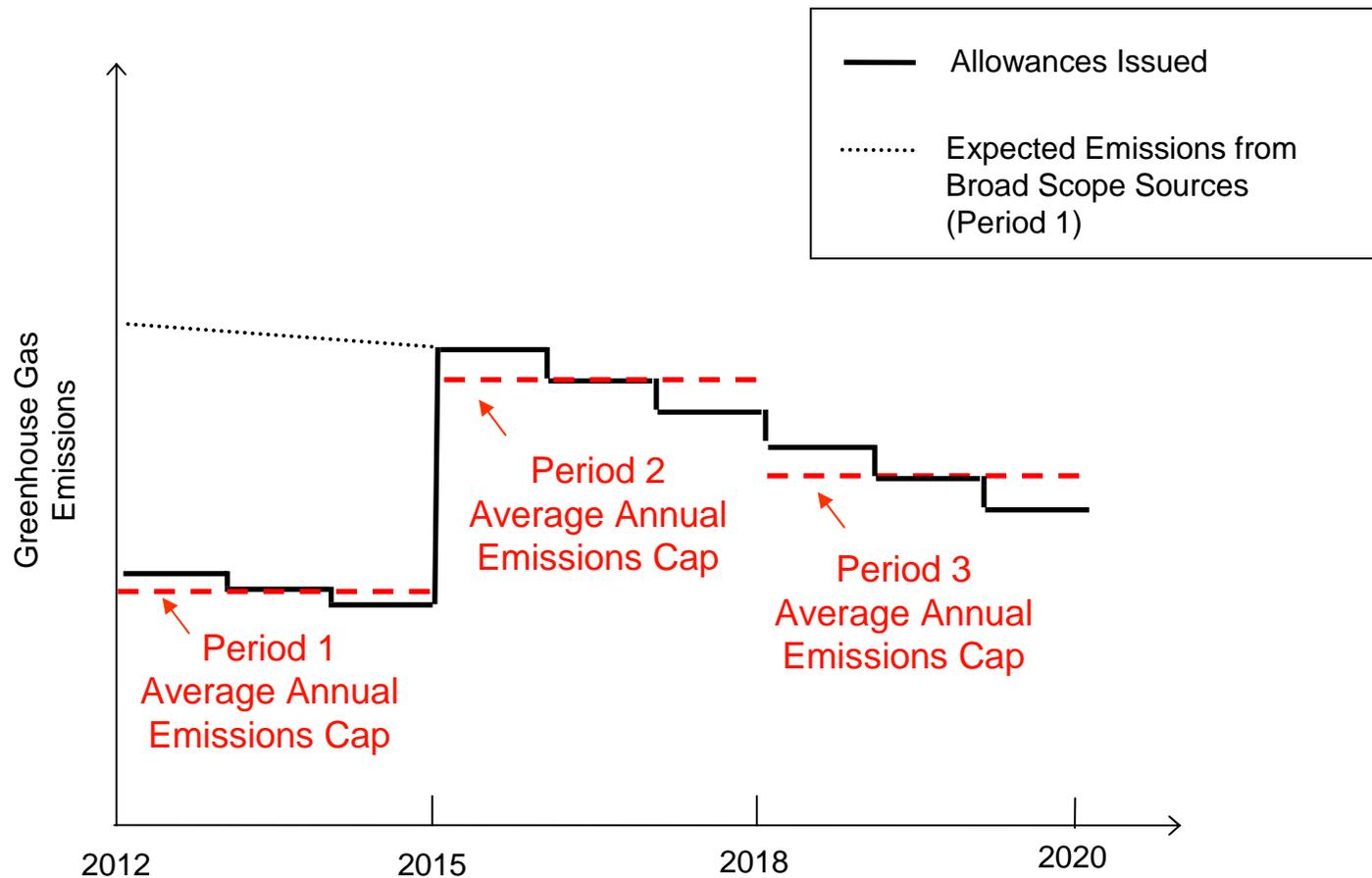
## Level of the Cap: Examining Historical Emissions Data Trends

- Present historical data sets which approximate narrow- and broad-scope coverage
- Possible considerations:
  - Hydroelectric variability
  - Economic variability

# Level of the Cap: Setting the Cap Based on Expected Future Emissions Levels

- WCI Design Document Approach:
  - Set annual caps
  - Establish a 2020 level for ‘broad scope’ sources
  - Project 2012 ‘best estimate of expected actual emissions’ for ‘narrow scope’ sources
  - Project 2015 ‘best estimate of expected actual emissions’ for ‘broad scope’ sources
  - Establish straight line trajectories to 2020 for both scopes
    - Some uncertainty in how trajectory would be established for the first compliance period (2012-2014)

# Concept: Desired Average Annual Emissions from Capped Sources by Period



# Projecting Expected Future Emissions Levels

- Cap-setting projections based on estimates of:
  - Population growth
  - Economic growth
  - Expected voluntary and mandatory emission reductions
    - Including contribution of complementary policies
  - Other factors?

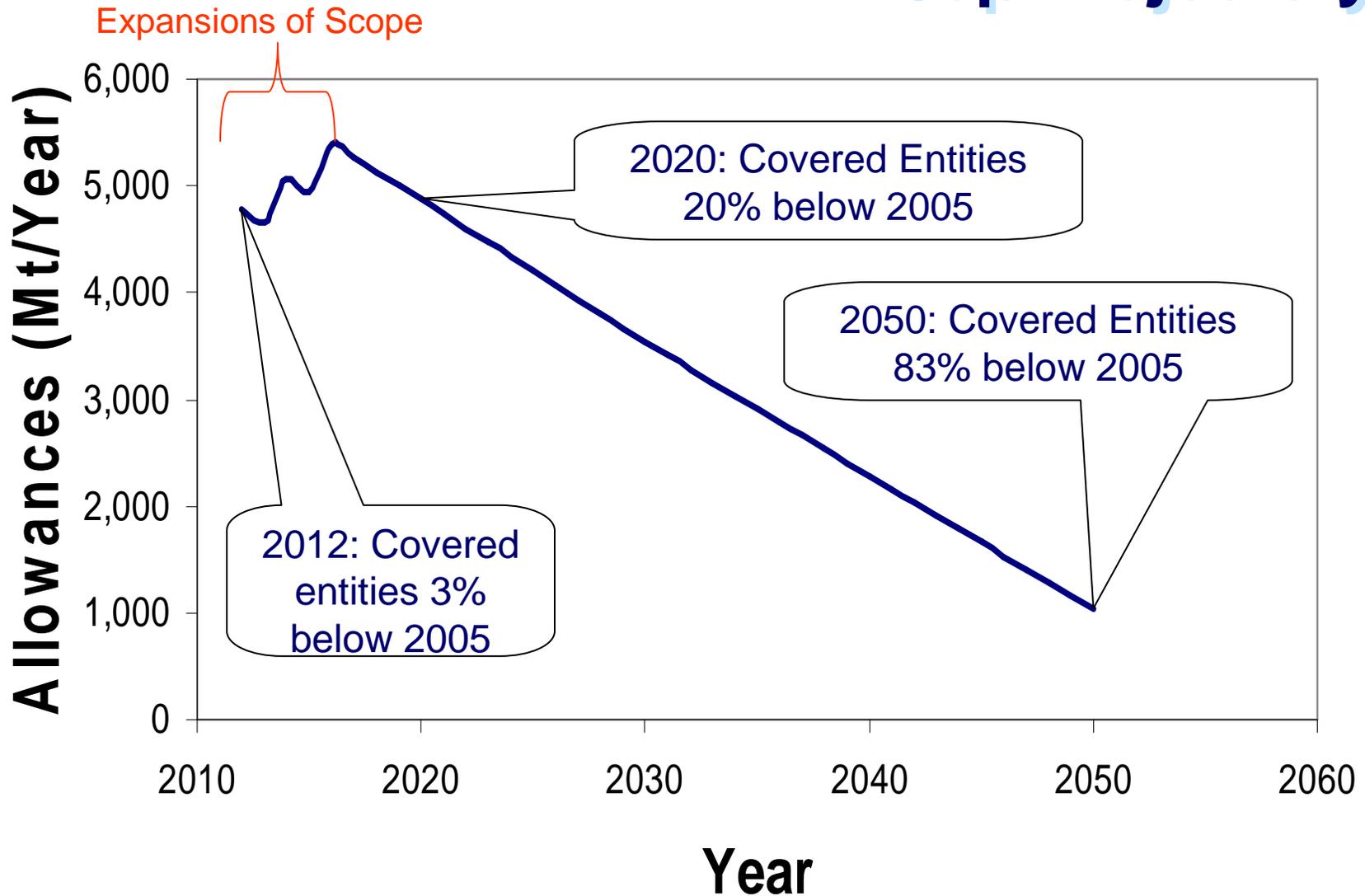
# Analyzing Possible Compliance Pathways

- Cap-and-trade is a flexible mechanism
  - Multiple compliance paths conceivable
- ARB will evaluate compliance pathway scenarios
- Analysis will help ensure that the trajectory of the cap is reasonable and can be achieved in each period
- The ongoing economic analysis and compliance pathway analysis are interrelated

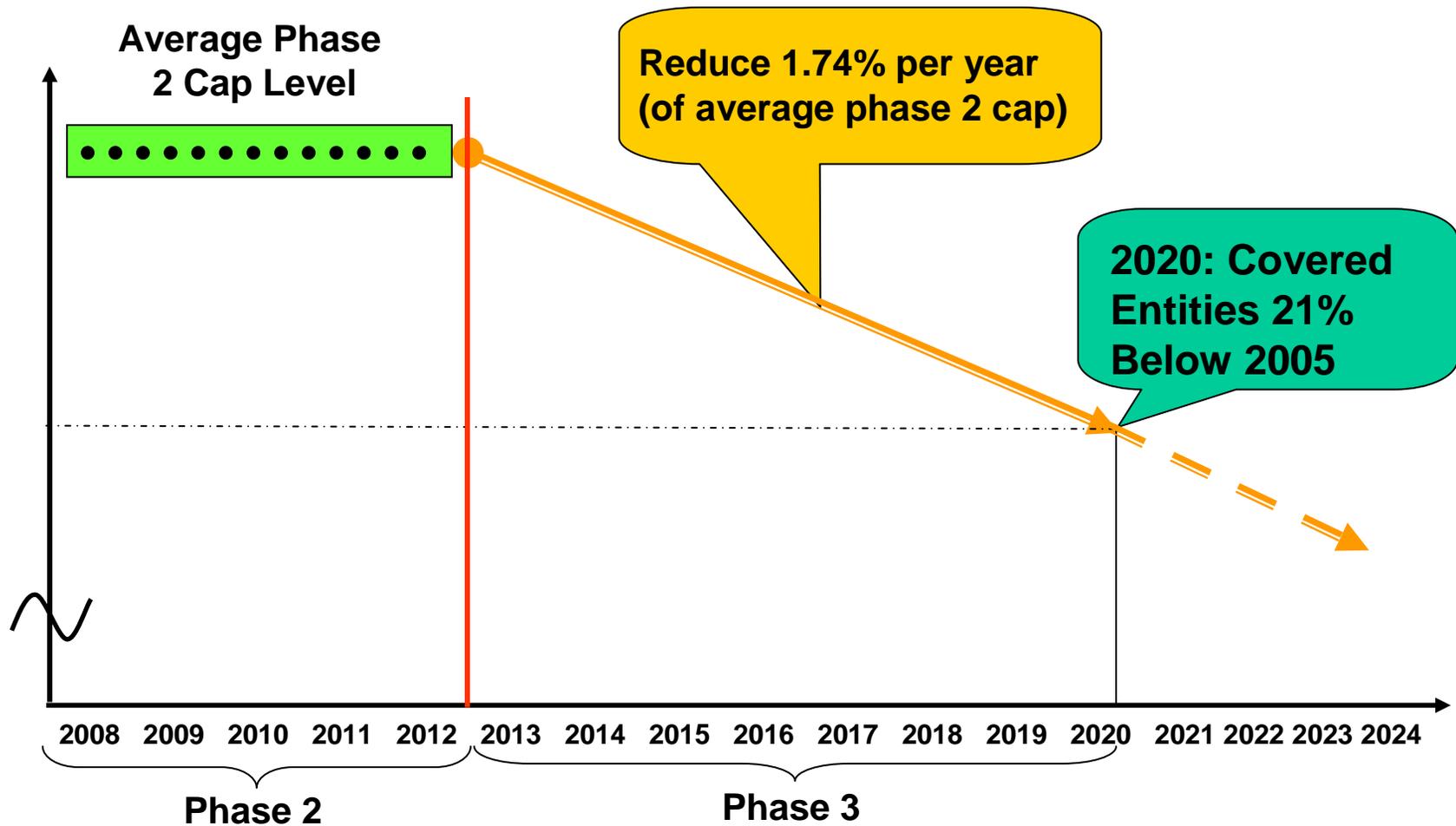
## **Board Direction in the Scoping Plan Resolution for Economic Analysis**

- Examine economic impacts of:
  - Initial cap level
  - Rate of decline
- For reductions, examine:
  - Overall costs, savings, and cost-effectiveness
  - Estimates of the timing of capital investment
  - Annual expenditures to repay capital investments, and resulting cost savings

# Waxman-Markey Discussion Draft: Cap Trajectory



# European Union ETS Phase III: Cap Trajectory



## Potential Topics for Future Meetings on Cap Setting

- Establishing expected compliance obligations for sources of emissions
  - Narrow-scope
  - Broad-scope
- Examining trends in historical emissions data
- Establishing detailed method for projections of future expected emission levels
- Developing compliance pathway scenarios

# Key Question for Stakeholder Comment

- Please examine the proposed WCI cap-setting methodology and give us your comments.
  - How should this method be expanded upon?
- Please comment on potential approaches to the following:
  - Projection of future emissions levels
  - Compliance pathway analysis methodologies

# Comment Period

Reminder:

Stakeholders are asked to provide written comments on this topic by  
May 29<sup>th</sup> to [ccworkshops@arb.ca.gov](mailto:ccworkshops@arb.ca.gov)

# Team Leads for Cap & Trade Rulemaking

Sam Wade, Mary Jane Coombs	Cap setting and allowance distribution
Ray Olsson	Market operations and oversight
Brieanne Aguila	Offsets; Cap-and-trade project manager
Claudia Orlando	Electricity
Joshua Cunningham	Transportation
Manpreet Mattu	Reporting; Energy efficiency
Bruce Tuter, Mihoyo Fuji	Industrial sectors
Karin Donhowe	Natural gas for residential and commercial
Mihoyo Fuji	Marginal abatement costs and competitiveness issues
Barbara Bamberger, Mihoyo Fuji, Jeannie Blakeslee, Judy Nottoli, Jerry Hart	Impact analyses (environmental, economic, localized, small business, public health)

## For More Information...

- ARB's Cap-and-Trade Web Site
  - <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>
- To stay informed, sign up for the Cap-and-Trade listserv:
  - [http://www.arb.ca.gov/listserv/listserv\\_ind.php?listname=capandtrade](http://www.arb.ca.gov/listserv/listserv_ind.php?listname=capandtrade)
- Western Climate Initiative
  - <http://www.westernclimateinitiative.org>