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 29th (to 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
• AB 32 required ARB adopt a statewide limit for 2020 emissions equal to 1990 emission levels
  – Board approved a target of 427 MMT CO₂e 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 CO₂e
• 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 CO₂e/year) and Imported Electricity
  – Large Industrial Facilities (>25,000 MT CO₂e/year)

• 2015-2020 (Broad Scope)
  – Adds ‘upstream’ treatment of fuel combustion where fuel enters into commerce covering
    • Small industrial fuel use (for facilities ≤ 25,000 MT CO₂e/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

- Period 1 Average Annual Emissions Cap
- Period 2 Average Annual Emissions Cap
- Period 3 Average Annual Emissions Cap

Graph showing expected emissions from broad scope sources (Period 1) and allowances issued over different periods.
• 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
• 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

- 2012: Covered entities 3% below 2005
- 2020: Covered Entities 20% below 2005
- 2050: Covered Entities 83% below 2005

Expansions of Scope
European Union ETS Phase III: Cap Trajectory

Reduce 1.74% per year (of average phase 2 cap)

2020: Covered Entities 21% Below 2005
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
Reminder:
Stakeholders are asked to provide written comments on this topic by May 29th to ccworkshops@arb.ca.gov
# Team Leads for Cap & Trade Rulemaking

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

• Western Climate Initiative
  – http://www.westernclimateinitiative.org