California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms

California Air Resources Board
October 20, 2011
Purpose

• Consider approval of the Response to Comment on the Cap-and-Trade Functional Equivalent Document (FED)

• Consider approval of the Adaptive Management Plan

• Consider adoption of the Final Regulation Order, including four Compliance Offset Protocols
Presentation Outline

• Background and Rule Development Process
• Cap-and-Trade Regulation
• Functional Equivalent Document (FED)
• Adaptive Management Plan
• Next Steps
• Staff Recommendation
Cap-and-Trade
Rule Development Process

• Three year development and consultation process
  • Thousands of meetings, workshops, and public comments
• December 2010 - Board considered the proposed regulation and directed staff to make changes
• 2011 - Two 15-day packages for public comment
• 2011 - Additional public workshops to discuss modifications
Why Cap-and-Trade?

• Key element of comprehensive approach to AB 32 implementation
• Program’s declining cap on emissions ensures that California meets the AB 32 target
• Creates an economy-wide carbon price that drives investment in clean and efficient technologies
How Does it Work?

• The “cap” limits GHG emissions, and uses allowances to control total emissions
  • One allowance equals one ton of GHGs
• The cap declines each year
• Covered entities must reduce emissions or compete for allowances
What Is the Cap?

- The cap is the aggregate limit on GHG emissions from covered sources from 2013-2020
  - The cap applies to all sources combined
  - Individual facilities do not have caps
- Cap covers 85% of California’s GHG emissions
  - Large industrial sources
  - Electricity generation and imports
  - Transportation fuels (beginning in 2015)
  - Residential and commercial use of natural gas (beginning in 2015)
What Do Covered Entities Need to Do?

• Register with ARB
• Report GHG emissions annually
• Acquire compliance instruments (allowance and offsets) equivalent to emissions
• Surrender allowances and offsets to match emissions at the end of each compliance period
• Comply with recordkeeping, market rules, verification, and other requirements in the regulation
What are the Other Key Program Elements?

• Allowance allocation
  • Some allowances given for free and some are auctioned
• Cost containment and compliance flexibility
• Oversight and enforcement
Program Start

• Deployment of program infrastructure in 2012
• First compliance period begins in 2013
• Cap stringency unchanged from initial proposal
• Covered entities must report 2011 emissions in 2012 using revised reporting regulation
Allowance Allocation Overview

- Principles recommended by the Economic and Allocation Advisory Committee (EAAC)
  - Cost effectiveness
  - Fairness
  - Environmental effectiveness
  - Simplicity
- High initial levels of free allocation to industry
  - Provide transition assistance to ensure a smooth program start
  - Sustain free allocation only if needed to minimize leakage
- Gradual transition to more auction
Industrial Allocation Benchmarks

- Allocation based on emissions efficiency benchmarks

- Benchmarks set to reward highly-efficient, low-emitting facilities within each sector

- Benchmark: “90 percent of average or best-in-class”
  
  - 90% of average approach: Described in the ISOR released in October of 2010
  
  - Best-in-class exception: Added in 2011 for any sector where 90% of average would be more stringent than the best California facility
Example 90% of Average Benchmark

Emissions Intensity of California Glass Container Manufacturers Compared to CA and EU Benchmark Values

Example Best-in-Class Benchmark

Emissions Intensity of California Cement Manufacturers Compared to CA and EU Benchmark Values

- CA facilities emissions intensity
- CA benchmark: Best in class
- 90% of avg. for CA facilities
- EU ETS benchmark (adjusted for 7% mineral additives)

Updated from:
Electricity Sector Allocation

- Utilities receive allowances on behalf of their customers
  - Initial sector allocation is 90% of historical emissions
- Allocation to each utility:
  - Recognizes rate payers’ cost burden, investments in energy efficiency and renewable power
- Utilities use allowance value to meet AB 32 goals
Electricity Sector Allocation (cont.)

- No direct allocation to electricity generating facilities
- Waste-to-Energy
  - Treated like all other electricity generators
  - Coordinate with CalRecycle on overall climate policy
  - Ensure equitable treatment of waste sector
- Water Agencies
  - Compensation for customer cost provided through electricity distribution utilities
Compliance Flexibility and Cost-Containment

- Trading of allowances and offsets
- Multi-year compliance periods
- Banking
- Allowance reserve
- Offsets
- Linkage
Strong Oversight and Enforcement

• Registry and account tracking
  • All participants must register in the cap-and-trade tracking system
  • System provides chain of custody for allowances and offsets
  • Market safeguards

• Independent market monitor

• Enforcement
  • Firm but fair penalties incentivize compliance
  • Ensure environmental integrity
Functional Equivalent Document for Cap-and-Trade Regulation
Cap-and-Trade FED

- Staff prepared a programmatic environmental analysis in accordance with ARB’s certified regulatory program under the California Environmental Quality Act
- FED was included in the ISOR as Appendix O
- Analyzed proposed regulation and offset protocols
- Scope of analysis
  - Potential adverse environmental impacts
  - Feasible mitigation measures for significant impacts
  - Alternatives
Cap-and-Trade FED: Public Input

- Scoping Meeting held on August 23, 2010
- FED Released on October 28, 2010, circulated for 45-Day public comment period
- Two 15-Day Change Notices
- Written responses to FED comments released October 10, 2011
Cap-and-Trade FED: Public Input (cont.)

- Received 19 comment letters related to the FED
  - Alternatives to Cap-and-Trade (Tax/Fee or Direct Regulation)
  - Cap-and-Trade Design Features
  - Localized impacts
  - Forest / Offsets
Adaptive Management Plan
Adaptive Management Plan
Focus Areas

• Localized air quality impacts
• Forest impacts from the proposed Compliance Offset Protocol for U.S Forest Projects
Adaptive Management
Key Elements

- Information Gathering
- Review and Analysis
- Response
## Adaptive Management Next Steps

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid 2012:</td>
<td>Board update on Adaptive Management Plan implementation</td>
</tr>
<tr>
<td>December 2012:</td>
<td>Adaptive Management Implementation Report (prior to first compliance period)</td>
</tr>
<tr>
<td>December 2013:</td>
<td>Board update on Adaptive Management implementation</td>
</tr>
<tr>
<td>Ongoing:</td>
<td>Annual Adaptive Management reports</td>
</tr>
</tbody>
</table>
Next Steps and Staff Recommendation
Next Steps: Implementation

- **Operations**
  - Market tracking system
  - Market simulation
  - Implementation documents and training
- **Auctions**
  - RFP for financial services provider
  - RFP for auction platform
- **Oversight**
  - RFP for market monitoring
- **Additional Analyses**
  - Continue leakage and benchmarking work
Next Steps: Future Rulemaking

- Offset Protocols
- Ongoing Coordination with WCI
  - Continue working with WCI partner jurisdictions
  - Harmonize program elements
  - Establish regional administrative organization
  - Propose regulatory amendments to link programs
Staff Recommendation

• Approve Response to Comment on Functional Equivalent Document
• Approve Adaptive Management Plan
• Adopt Final Regulation Order, including Four Compliance Offset Protocols