California’s Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms  
*Emphasis on Geologic Sequestration*

October 26, 2011

Presentation Outline

- Background and Rule Development Process
- Cap-and-Trade Regulation
- Geologic Sequestration in Cap-and-Trade
- Next Steps
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 of regulation last week

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 GHG emissions

• The cap declines each year

• Covered entities must reduce emissions or compete for allowances

What is the Cap?

• The cap is an aggregate limit on GHG emissions from covered sources from 2013-2020
  • 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 and report GHG Emissions
- Acquire compliance instruments (allowance and offsets) equivalent to emissions
- Surrender allowances and offsets to match emissions at the end of the compliance period
- Comply with recordkeeping, market rules, verification, and other requirements in the regulation

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
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
How Does CCS fit into Cap-and-Trade?

- Reporting
  - Currently any CO₂ supplied for geologic sequestration is subject to reporting under the “CO₂ supplier” category
  - Includes in-state production, imports, and exports of CO₂ for geologic sequestration purposes

- Compliance Obligations
  - If the amount of CO₂ is greater than 25,000 MtCO₂, the supplier must hold compliance obligations beginning with the 1st compliance period.
  - Based on emissions data reported

- Role of CCS in program is unclear

Potential Future Changes

- The Cap-and-Trade regulation includes language that the compliance obligation will be reduced by:
  - The amount of CO₂ verified to be geologically sequestered through a Board approved quantification methodology
  - Ensuring reductions are real, permanent, quantifiable, verifiable, and enforceable.

- Currently no Board-approved Quantification Methodology
Further Board Direction

• Resolution 10-42 directs ARB staff to:
  • Initiate a public process to establish an accounting protocol
  • Provide recommendations for how to address sequestration in the Cap-and-Trade program
  • Ensure separate requirements for CO₂-EOR
    • CO₂ use for EOR will not be considered an emissions reduction without meeting ARB’s monitoring, reporting, verification, and permanence requirements

Next Steps
Next Steps: Cap-and Trade

- Operations
  - Market tracking system
  - Market simulation
  - Implementation documents and training
- Auctions & Oversight:
  - RFPs for financial services provider and auction platform, and market monitoring
- Additional Analyses
  - Continue leakage and benchmarking work
- Offset Protocols
- WCI Linkage

Next Steps: CCS

- ARB will need to undertake a public process to consider a quantification methodology for CCS
- Quantification method could be incorporated into both the Cap-and-Trade and Low Carbon Fuel Standard
- Public process will need extensive coordination and outreach to stakeholders and other state agencies
Questions?

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