

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

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California Environmental Protection Agency
 **Air Resources Board**

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Presentation Outline

- Background and Rule Development Process
- Cap-and-Trade Regulation
- Geologic Sequestration in Cap-and-Trade
- Next Steps

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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

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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

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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

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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)

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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

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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

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Compliance Flexibility and Cost-Containment

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

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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

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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

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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

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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

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Next Steps

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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

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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

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Questions?

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