



# Public Meeting

## Overview of a California Cap-and-Trade Market

March 23, 2009  
California Air Resources Board

# 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 Meeting

- Discuss design options for implementing an allowance auction
- Discuss design options for compliance
- Stakeholders are asked to provide written comments on these topics to ARB by April 30 (to [ccworkshops@arb.ca.gov](mailto:ccworkshops@arb.ca.gov))

# Agenda

- Opening Remarks/Meeting Structure (15 min)
- Presentation: Auction Design (30 min)
- Roundtable: Auction Design Issues (30 min)
- Break (15 min)
- Presentation: Enforcement and Compliance (30 min)
- Roundtable: Compliance (30 min)
- General Discussion
- Adjourn

# How Do Allowances and Offsets Enter the Market?

- Today's Discussion: Allowance auction
- Discussion for future meetings:
  - Direct distribution of allowances to compliance entities
  - Use of approved offsets in the market
  - Allowances imported from “linked” cap-and-trade systems
  - Trading allowances

## How Could Allowances Be Used for Compliance?

- At the end of a compliance period, ARB would have:
  - Verified reports of emissions
  - Proof of ownership of allowances equal to quantity of emissions
- ARB would then:
  - Evaluate compliance submissions
  - Resolve discrepancies
  - Determine compliance or violations and assess penalties

# Meeting Objectives

- Discuss preliminary list of design features and issues on auctions and compliance
- Solicit input on items we've missed
- Identify your preferences among the options

# Auction Design

# Considerations in Evaluating Auction Objectives

- Some objectives are common to existing auction systems
- Objectives may conflict when implementing a design feature
- Design will probably involve tradeoffs
- How you make tradeoffs involves both values and how you expect the market will operate

## **Some Common Objectives Under Consideration**

- Promote open access
- Ensure fairness and transparency
- Minimize administrative and transactions costs
- Promote economic efficiency
- Prevent manipulative behavior
- Reveal market valuation of allowances
- Minimize price volatility
- Promote allowance market liquidity

## **Some Common Design Features Under Consideration**

- Financial Assurance Requirements
- Participation Restrictions
- Information Disclosure
- Purchase Limits
- Auction Frequency
- Award Process
- Reserve Price
- Noncompetitive Bids

# Evaluating Design Features

- The following slides discuss:
  - Specific examples of design features
  - What the features accomplish
  - Tradeoffs inherent in these features
- ARB is evaluating which of these design features to include in the cap-and-trade program

## Design Feature: Financial Assurances

- Participants provide proof of ability to pay for allowances (financial assurance)
  - Limit bidding to amount of financial assurance
  - Provide bid default guarantees
  - Designed to ensure auction integrity
- Possible Tradeoffs
  - Limits access if credit difficult to obtain
  - Raises cost of participation

## Design Feature: Participation Eligibility

- Limit participation to compliance entities
  - Designed to ensure compliance entities have priority in access to allowances
  - Assumption that non-compliance entities would unnecessarily drive up prices
- Possible Tradeoffs
  - Reduces economic efficiency by reducing pool of bidders

## **Design Feature: Information Disclosure**

Auction operators will acquire extensive information on participants through auction operation:

- Identity of bidders, their bid prices and quantities
- Identity of winners, their bid prices and quantities
- Status as compliance or non-compliance entities

# Design Feature: Information Disclosure

- How much of the information should be provided to market participants?
- Possible Tradeoffs:
  - Disclosure of some of this information by the regulator could aid market manipulation
  - Regulator maintaining confidentiality of all data could reduce transparency of market

# Design Feature: Purchase Limits

- Some auction platforms limit the share of allowances which can be purchased by any single entity
  - Intended to reduce potential market manipulation by speculators accumulating large positions
  - Examples
- Possible Tradeoffs:
  - A purchase limit can reduce economic efficiency by preventing bidders from using available market information
  - Complicates planning by businesses needing allowances to enter a market

## Design Feature: Auction Frequency

- Higher auction frequency (e.g. quarterly) can:
  - Send price signals on allowance value in the early years of the program
  - Allow bidders to modify their bidding strategies
  - Reduce the chance that participants overbid
- Tradeoffs
  - Higher administrative costs
  - Reduces number of allowances at each auction, increases risk of oversubscription

# Design Feature: Options for Awarding Auctioned Allowances

- Sealed versus open bids
- Setting auction price:
  - As lowest winning bid (first price) or as highest losing bid (second price)
  - Single price: all winners pay marginal winning bid
  - Pay-as-bid: each winner pays own bid

## Design Feature: Options for Awarding Auctioned Allowances

- How many rounds of bidding?
  - Single round: submit only one bid
  - Multiple round: submit bids until winner declared
- Multiple round methods
  - Ascending or descending
  - Use submitted bids or auctioneer-issued value at each round

## Design Feature: Options for Awarding Auctioned Allowances

Tradeoffs among the options:

- Multiple rounds provide:
  - Greater amount of information on bidders' valuation
  - Higher operating costs
  - Greater complexity for participants
  - Greater potential for manipulation
- Single price method provides market valuation but pay-as bid provides detailed bidder valuations

## Design Feature: Auction Reserve Price

- A reserve price is a minimum bid below which bids would not be accepted
  - Could result in unsold allowances
  - Unsold allowances could be held over for future auction, retired, or held for other use
- Tradeoffs if allowances remain unsold:
  - Creates price floor
  - Raises allowance cost
  - Reduces economic efficiency

## Design Feature: Non-Competitive Bid Process

- Process creates a reserve of allowances for entities wishing to avoid quantity risk
  - Reduce number of allowances auctioned by amount of the reserve
  - Resolve auction using “competitive” bids
  - “Non-Competitive” bidders pay the auction price
  - Compatible with single-price formats
- Tradeoffs
  - Benefits those more concerned with allowance availability and overbidding
  - Problem with oversubscription of reserve

# Roundtable Discussion



# **Enforcement and Compliance Issues in Cap-and-Trade**



# Potential Goals for Enforcement

- Level Playing Field
- Enforceability
- Simplicity
- Clarity
- Transparency
- Fair and Consistent Penalties

# Existing Mandatory Reporting Requirements

- Emissions Reporting
- Verifier Accreditation
- Verification

# Potential Allowance Oversight

- Tracking who has Received Allowances
- Possible use of Allowance Registries
- Allowance “Surrender” (To “surrender” is to turn in allowances for compliance purposes.)
- Matching Surrendered Allowances to Reported Emissions
- Enforcement Mechanisms Needed along the Way

# Existing Enforcement Elements

- Inspections and Auditing
- Investigations, Possible Penalties
- Settlements and Court Proceedings
- Possible Press Release
- Case Summary Posted to Web
- Annual Report

## Penalties Afforded Under AB 32

- H&SC §38580(a)
  - ARB shall monitor compliance and enforce
- Directed to use existing penalty provisions:
  - Article 3 Commencing with §42400
  - Chapter 1.5 commencing with §43025

# Existing Penalty Structure

- Administrative
  - H&SC § 42410 - \$10,000 per day to a \$100,000 max
  - H&SC § 42402.5 - \$500 per offense
- Civil H&SC § 42400
  - Up to \$1,000 per day
  - Up to \$1,000,000 for willful and intentional violations, causing great bodily harm
  - A maximum of 6 months to 1 year in jail
- Criminal H&SC § 42402
  - Up to \$1,000 per day
  - Up to \$1,000,000 for willful and intentional violations, causing great bodily harm

# Existing Penalty Structure

- Administrative H&SC §43028  
Not to exceed \$25,000 per day or \$300,000
- Civil H&SC §43026  
Up to \$1,000 per day and  
Up to \$10,000 per violation per day  
Penalties to eliminate any economic benefit  
Other penalty amounts apply (negligence, etc.)

## Factors Considered in Existing Penalty Structure

*California Health & Safety Code §42403 & §43031:*

*In determining the amount assessed ... shall take into consideration all relevant circumstances, including, but not limited to:*

- Extent of harm caused by the violation,
- Nature and persistence of the violation,
- Compliance history, including the frequency of past violations,
- The length of time of the violation,
- Preventive efforts taken by the defendant, including the record of maintenance and any program to ensure compliance occurs

## Factors Considered in Existing Penalty Structure (con't.)

- The unproven or innovative nature of the control equipment, and the accuracy, reproducibility, and repeatability of the available test methods
- Any action taken, including the nature, extent, and time of response of the cleanup and construction undertaken, to mitigate the violation,
- Financial burden,
- Cooperation during the course of the investigation,
- Efforts to attain, or provide for compliance, and
- In certain cases, the size of the business.

# Possible Excess Emissions Penalty Options in Cap-and-Trade

- Should penalties be significantly higher than expected allowance price to deter violations?
- Possible penalty options for insufficient allowance surrender:
  - Fixed Financial?
  - Variable Financial Using Discretion?
  - Quantitative: Additional Allowances ?
  - Let's look at some examples from existing programs....

# Excess Emission Penalties: US EPA SO<sub>2</sub> and NO<sub>x</sub>

- SO<sub>2</sub> Program
  - Automatic financial penalty
  - Automatic offset (deduct allowance from next year's allocation)
  - Possible civil and criminal penalties
- NO<sub>x</sub> Program
  - 3 allowances surrendered for each excess ton
  - Possible civil and criminal penalties

# Excess Emission Penalties: EU ETS

- Uniform excess emissions penalties
  - € 40 (\$50)/ton CO<sub>2</sub>e in 1<sup>st</sup> Phase (2005-2007)
  - €100 (\$125)/ton CO<sub>2</sub>e in 2<sup>nd</sup> Phase (2008-2012)
  - €100 (\$125)/ton CO<sub>2</sub>e in 3<sup>rd</sup> Phase (2012-2020) and adjusted for inflation
  - Excess emissions must be offset in following year

## **Excess Emission Penalties: EU ETS (cont'd.)**

- Member State set additional penalties (e.g., for fraudulent reporting) but have broad discretion
- “Naming and Shaming” provision for violators

# Potential Options: Quantitative Versus Financial Penalties

- Should penalties be automatic or discretionary?
- Should penalties be:
  - Quantitative (extra allowances)?
  - Financial?
  - Both?
- How high should penalties be to deter non-compliance?

# Compliance Timing

- If an entity has not surrendered sufficient allowances the amount of the shortfall may not be resolved until the subsequent compliance period.
- Can the entity submit allowances from the subsequent compliance period or only from the prior compliance period?

# Summary

- Level Playing Field
- Administrative Simplicity
- Clarity
- Free of Market Manipulation (collusion & speculation)
- Linkage to Regional or Federal Programs
- High-Level of Compliance
- Transparency

# Roundtable Discussion



# Next Steps

## For More Information...

- Mandatory Reporting Web Page
  - <http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep.htm>
- 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=captrade-ej](http://www.arb.ca.gov/listserv/listserv_ind.php?listname=captrade-ej)
- Western Climate Initiative
  - <http://www.westernclimateinitiative.org>

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