

California Cap-and-Trade Program Potential Border Carbon Adjustment for the Cement Sector

California Air Resources Board
February 5, 2014

Participation and Comments

- Presentation posted at <http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm>
- Email questions to sierrarm@calepa.ca.gov
- Comments accepted through 2/20/2014

Agenda

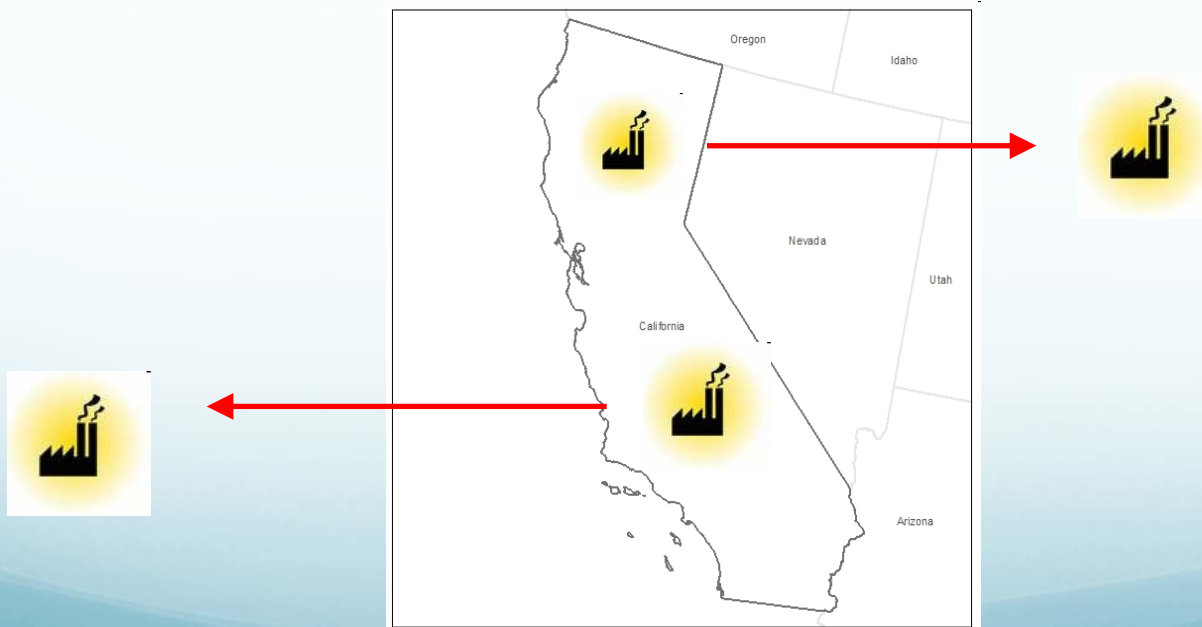
- Background and Definition
- Border Carbon Adjustment (BCA)
 - preliminary concept
- BCA design considerations
 - Scope and applicability
 - Program framework & stringency
 - Program elements

Background

- AB 32 requirement to minimize emissions leakage in industrial sectors
 - Cap-and-Trade uses free allocation as one mechanism
- Resolution 10-42
 - Directed staff to review technical/legal issues related to border adjustment for cement sector
- Cement – first sector for consideration
 - High leakage risk category
 - Homogeneous product with relatively small number of additional point of regulation

What is Emissions Leakage?

- “Leakage” means a reduction in emissions of greenhouse gases within the state that is offset by an increase in emissions of greenhouse gases outside the state.
- AB 32 goal: to minimize emissions leakage to the extent feasible

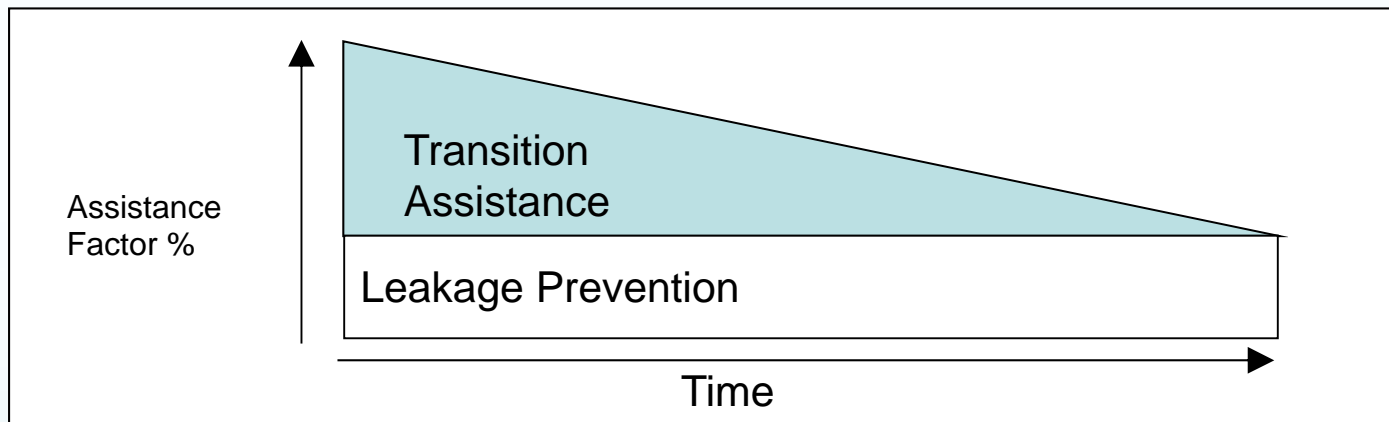


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BCA Preliminary Concept: Industrial Assistance

- Free allocation provided to covered industrial sectors
 - Transitional assistance
 - Leakage prevention



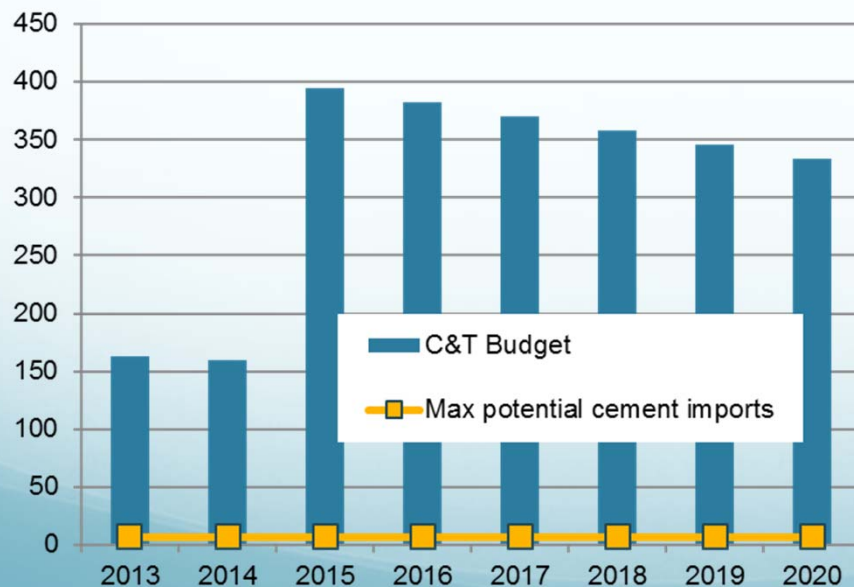
- Border adjustment would further reduce the risk of emissions leakage

BCA General Design Concept: Potential Options

- Option 1: Include importers in the Cap-and-Trade program
 - Importers are subject to full Cap-and-Trade requirements as covered entities
- Option 2: “Linked cost” for importers with no market mechanism
 - Importers are subject to a cost calculated based on emission obligation x Cap-and-Trade allowance price(s)
- Option 3: Create an independent allowance pool for importers with equivalent program stringency
 - Replicate a “mini” Cap-and-Trade allowance pool with full market mechanism
 - Create a simplified purchase/sales system with equivalent program stringency

Option 1: Include Importers in the Cap-and-Trade Program

- PROS: Administratively simple with no change in regulatory framework
- CONS: Current allowance budget does not account for emissions associated with potential production outside of California due to leakage



– Potential BCA allowance demand: 1- 6 MM tonnes

Option 2: “Linked cost” for Importers with no Market Mechanism

- Importers are subject to a cost calculated by compliance obligation x Cap-and-Trade allowance price(s)
- PROS: May be easier to administer
- CONS:
 - Does not provide market flexibility such as offsets to importers that Cap-and-Trade participants
 - Does not guarantee consistent emissions reduction associated with imported cement

Option 3-1: Create Independent Allowance Pool for Importers

Replicate a “mini” Cap-and-Trade allowance pool with full market mechanism

- Set a cap only for importers based on projected cumulative emissions through 2020
- Conduct quarterly auctions
- Allow banking, trading, access to offsets/other compliance instruments and access to price containment reserve to provide equal flexibility to comply
- PROS: California covered entities and importers are subject to consistent requirements if designed properly
- CONS: Challenge to set appropriate allowance budget

Option 3-2: Create Independent Allowance Pool for Importers

Create a simplified purchase/sales system with equivalent program stringency

- Set an updating allowance limit instead of a permanent cap
- Determine a single sales price tied to Cap-and-Trade auction
- Conduct sales upon bidding
- Allowances are not fungible with the main Cap-and-Trade
- Allow market flexibility mechanisms such as access to offsets to provide comparable level of flexibility to comply
- PROS: Avoid setting a permanent cap
- CONS
 - May still be associated with some complexity & allowance budget uncertainties
 - Does not guarantee consistent emissions reduction associated with imported cement

Cap-and-Trade Program Design

Sub Article	Title	Sub Article	Title
3	Applicability	8	Disposition of allowances
4	Compliance instruments	9	Direct allocation
5	Registration	10	Auction and sale
6	Allowance budgets	11	Trading and banking
7	Compliance requirements	15	Enforcement & penalties
		16	Other provisions

Principal issue categories for BCA

- How to determine what/who to cover?
- How to create equivalent program stringency relative to the main Cap-and-Trade?
- How to operationalize the program?

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Design Considerations: Scope & Applicability

Strive for consistency with Cap-and-Trade Program

- Determination of compliance obligation
 - GHG reporting of covered emission
 - GHG from biomass combustion including waste tire
- Consideration of country or regional level program exemption
 - Regions with equivalent carbon regulation
- “Wheeled-through”
 - Cement imported at CA ports but shipped to other regions for consumption

Design Considerations: Options for Greenhouse Gas Reporting

- Options for emissions documentation provided by cement importers
 - Importer specific
 - Use MRR or other methodology?
 - Emissions certification
 - Imported estimated emissions
 - Reviewed by ARB accredited verifiers or other bodies?
 - Documentation submission
- Mechanism to maintain similar rigor
 - Use MRR methods?
 - Conservative technology specific emissions factors?

Design Considerations: Greenhouse Gas Reporting Best Estimated Data

- Conservative emissions factors
- Apply default emissions factor(s) similar to imported electricity based on sound engineering estimates
 - Default emission factor(s) by technology
 - Identify “typical” production configurations, equipment efficiency and fuel that represent imported cement
 - Require reporting about the plant specification to some degree

Design Considerations: Scope & Applicability

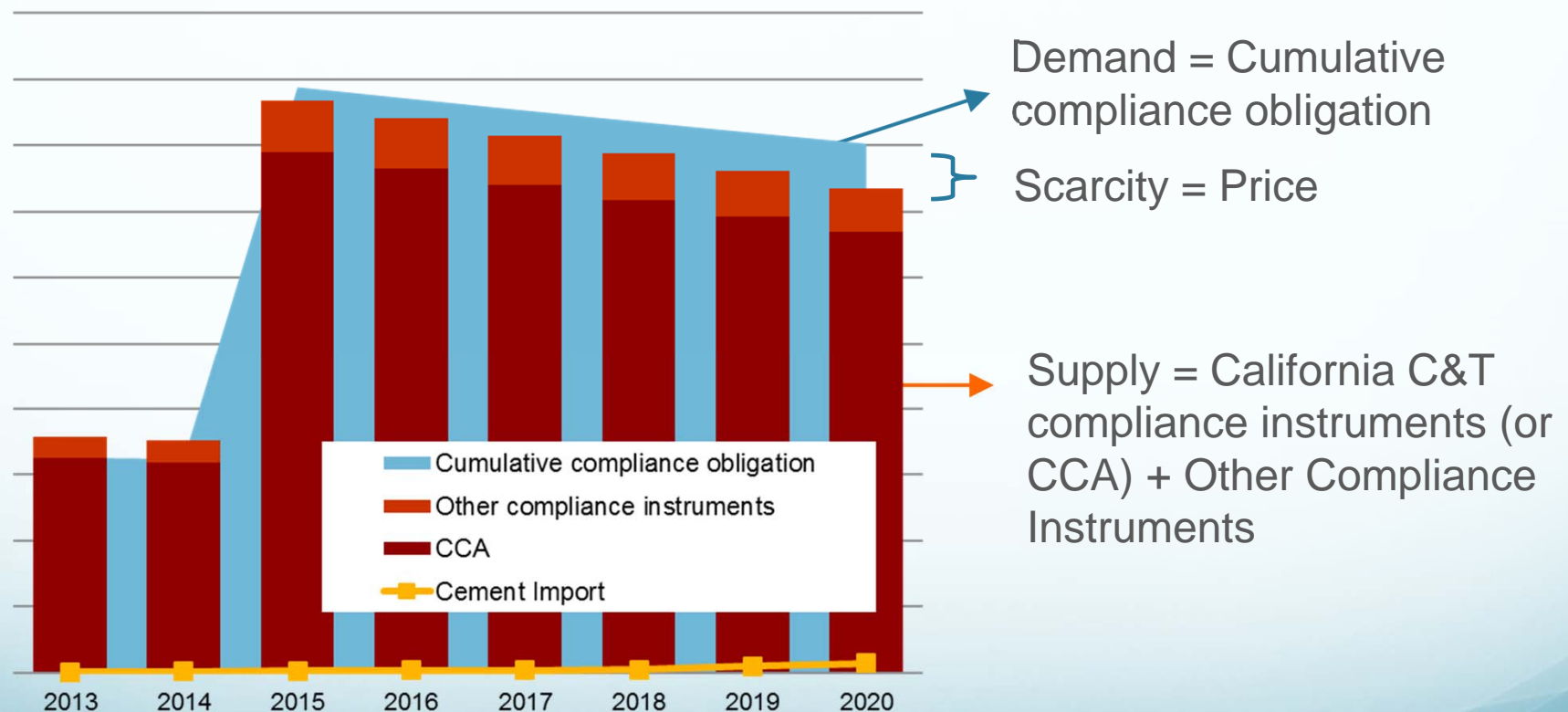
- Covered gases
 - CO₂, CH₄, N₂O for California cement manufacturers
- Covered emissions sources
 - Direct emissions
 - Combustion emissions
 - Process emissions
 - Indirect emissions from electricity
 - Transportation emissions
- Covered product
 - C&T cement benchmark: clinker + mineral additives
- Covered entities
 - Importer of cement from other countries
 - Importer of cement from other states

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Design Considerations: Cap-and-Trade Supply & Demand

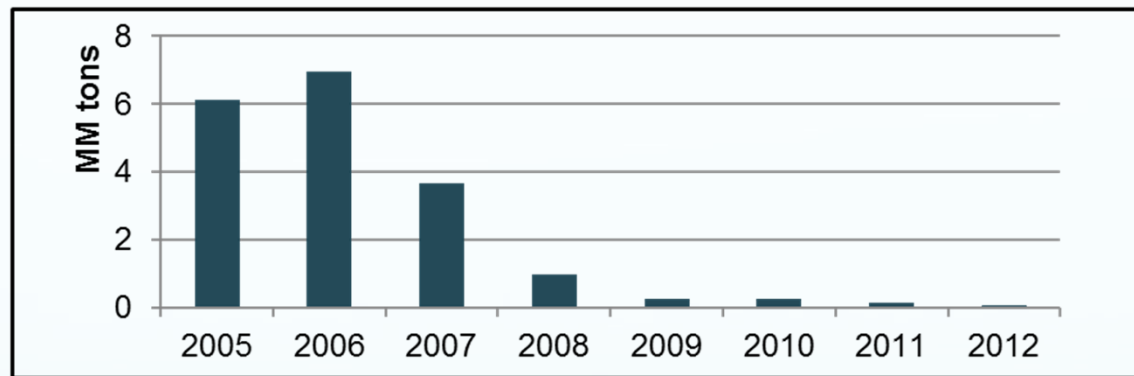
- Conceptual supply & demand



- Can this relationship be replicated in a separate system?

Design Considerations: BCA Supply & Demand

- Demand: Uncertainty to forecast ~ 2020
 - Cumulative amount of cement imported to California tied to economic growth



- Cumulative emission efficiency for production
- Supply : Challenges to set if uncertainty in demand

Note: Data source for imported cement: International Trade Commission <http://dataweb.usitc.gov/>

Design Considerations: Other Considerations

- Challenges setting allowance budget (cap) for imported cement in advance
- Alternative to allowance budget
 - Allowance quantitative limit?
- Price setting
 - Tied to Cap-and-trade allowance prices?
- Maintain same level of emission reduction incentive with the Cap-and-Trade program

Design Considerations: Potential Access to Flexible Mechanisms

- Allowances are not fungible with the main Cap-and-Trade
 - BCA does not affect Cap-and-Trade allowance budget
- Access to other compliance instruments
 - Offsets
 - Compliance instruments from linked program(s)
- Bilateral trading among BCA participants
 - May occur if sales quantitative limit is smaller than compliance obligation
- Banking
- Access to price containment reserve

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Design Considerations: Potential Disposition of Allowances

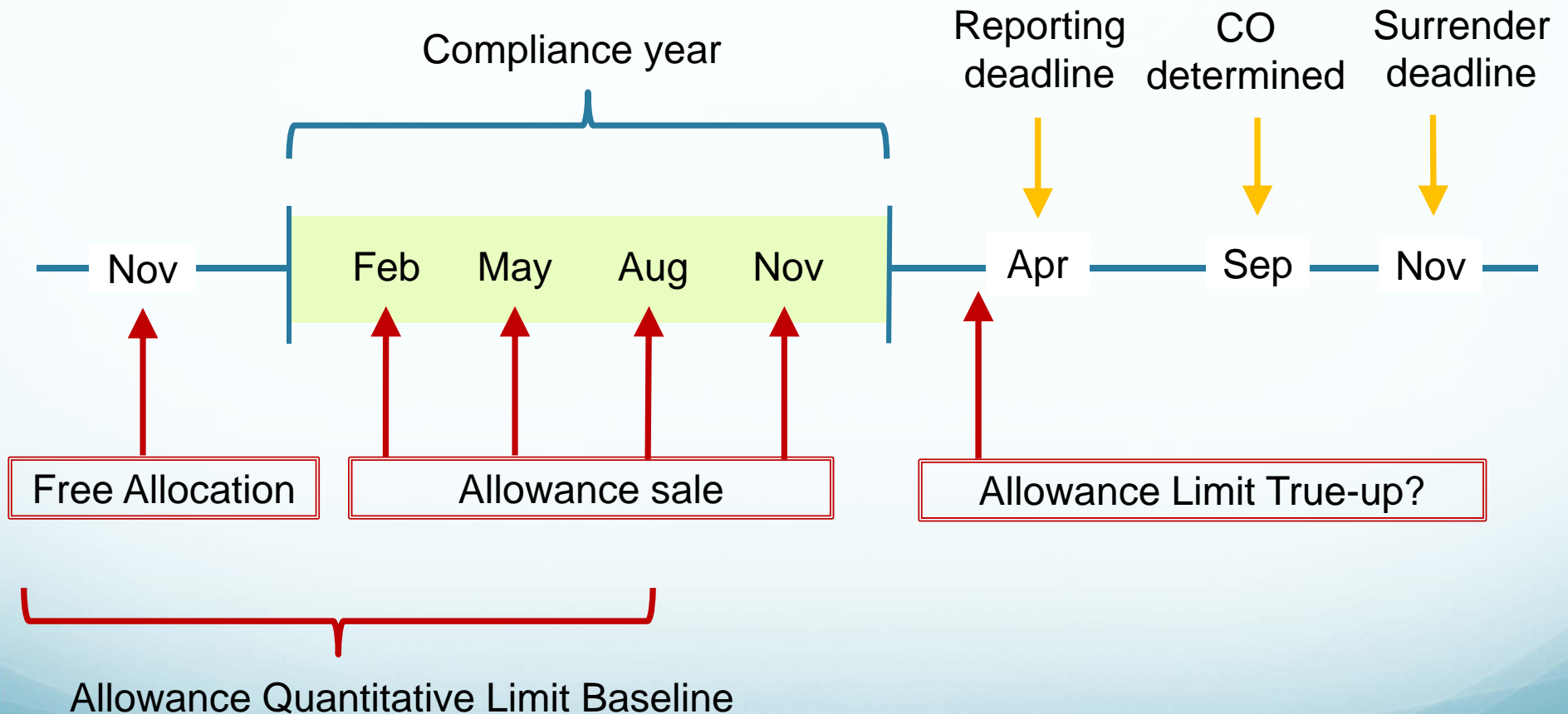
- Free allowance allocation
 - Based on the same calculation method as currently covered entities using the same benchmark
$$FA = O \times B \times A \times C$$

O: Output (short ton of clinker + mineral additives in t-2)
B: Benchmark (0.742 MT of CO₂e/ Short ton of cement)
A: Assistance Factor: (100% for the 2nd and 3rd compliance period)
C: Cap Adjustment Factor (declines around 2% per year)
 - Occurs annually in November of the previous year

Design Considerations: Potential Disposition and True-up of Allowances

- Quarterly allowance sale
 - Harmonized timing with Cap-and-Trade auction:
Immediately after the publication of auction clearing price?
- True-up if necessary
 - Allowance limit to adjust the timing of
 - Allowance quantitative limit (Based on Sept-Aug ITC data)
 - Compliance obligation (Jan-Dec)
 - Free allocation
 - Same as the Cap-and-Trade true-up
 - Cover the difference between the amount an entity is eligible for a given compliance year and the allocation occurred in November of the previous year

Design Considerations: Potential Compliance Cycle



Technical Work Group Meeting

- Open to any stakeholders interested in providing input on technical aspects of BAM
- Meet every 3-4 weeks

WG meeting	Timing	Discussion Topic
No. 1	February 2014	Scope & Applicability <i>How to determine what/who to cover?</i>
No. 2	March 2014	Scope & Applicability <i>How to determine emission factor(s)?</i> <i>Emission factor(s) for compliance obligation</i> <i>Emission factor for allowance limit setting</i>
No. 3	April 2014	Program framework & stringency <i>How to establish a system with the equivalent scarcity relative to the main C&T?</i> Program Elements <i>How to operationalize the program?</i>

Schedule and Next Steps

2014	Schedule
February-April	Technical work group meeting
May	Public workshop to consider draft regulation
Late July	Proposed regulation language release
Early August	45 day comment period starts
September	Board hearing

- Next Steps
 - Contact ARB to participate in technical work group meeting
 - Comment accepted through 2/20/2014

Discussion

- BCA preliminary concept (60min)
- BCA design considerations
 - Scope and applicability (30min)
 - Program framework and stringency (30min)
 - Program elements (30min)

Contact Information

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