Implementing a Quantitative Limit on the Use of Offsets in a Cap and Trade Program

March 23, 2009
California Air Resources Board
Agenda

• Opening Remarks (15 minutes)
• Staff Presentation (30 minutes)
• Round-Table Discussion (2 hours)
• Other Issues (15 minutes)
• Adjourn
Purpose of Meeting

• Discuss options for implementing a quantitative limit on the use of offsets in a cap-and-trade program

• Stakeholders are asked to provide written comments on this topic to ARB by April 30th (to ccworkshops@arb.ca.gov)
• Introduction and Background
• What does ‘49% of reductions’ mean?
• How should the offset limit be implemented?
  – Usage, supply, hybrid limits
  – WCI considerations
  – Temporal considerations
• Offset limits in other greenhouse gas cap-and-trade programs
  – EU ETS
  – RGGI
• Questions for Discussion
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
Upcoming Meetings

- April 2\textsuperscript{nd}
  - Competitiveness Issues & ‘Leakage’
- April 10\textsuperscript{th}
  - Biomass Emissions in a Cap-and-Trade Program
- April 21\textsuperscript{st}
  - Essential Elements of an Offset System
  - Intro to Cap Setting and Data Review
What Sources are Capped?

- **2012-2014**
  - In-State Electricity Generation Facilities (>25,000 MT CO₂e/year) and Imported Electricity
  - Large Industrial Facilities (>25,000 MT CO₂e/year)

- **2015-2020**
  - ‘Upstream’ treatment of fuel combustion where fuel enters into commerce covering
    - Small industrial fuel use (for facilities ≤ 25,000 MT CO₂e/year)
    - Residential and commercial fuel use
    - Transportation fuel use

**Source:** Scoping Plan page 31
What is an Offset Credit?

• A GHG offset is a GHG emission reduction …
  – beyond what otherwise would have happened because of regulation and common practice
  – that generates a credit that can be used to meet a regulatory compliance obligation or a voluntary commitment
  – that addresses emissions not included in a cap-and-trade program
• Under AB 32, the reductions must be real, additional, quantifiable, permanent, verifiable and enforceable
  – H&S Code §38562(d)(1-2)
Anticipating Potential Offset Supply by Region

- Global Supply
- US and Canada
- CA, WCI
Why Allow Offset Credits?

• Cost-containment
  – Allow capped sources to take advantage of lower-cost reductions

• Temporal considerations
  – Offset projects may be available more quickly than other forms of reductions

• Target sources/sinks of emissions that are difficult to include directly in the cap
  – May be difficult to quantify emissions/reductions for all sources/sinks but possible at the individual project level
Scoping Plan: Limits on Offsets

- All offsets must meet high quality standards; no geographic limits
- The majority of emission reductions must be met through action at capped sources
  - No more than 49% of reductions can come from offsets
- Similar to the “supplementarity” argument
  - The Kyoto protocol requires that the use of flexible mechanisms (e.g., CDM offsets) be ‘supplemental’ to domestic action
Offset Limits Pros and Cons

• Pros
  – Ensures emission reductions from capped entities
  – Address concerns about environmental integrity of offset credits

• Cons
  – Forgo emission reductions with lower costs
  – May discourage creation of offset projects
What does 49% of reductions mean?

51%: Minimum reduction from covered sources

49%: Maximum use of offsets and other allowances

Source: Scoping Plan Appendix page C-22
What does 49% of reductions mean? (in color)
Accounting for Phase II Change in Scope

- Allowances Issued
- Emissions from All Sources (Period 1)
- Linear Projection to Target (All Capped Sources)
- Linear Projection to % of Target (Electricity and Industrial Sources)

Source: Scoping Plan Appendix page C-18
Accounting for Phase II Change in Scope (continued)

- Allowances Issued
- Emissions from All Sources (Period 1)
- Reductions From Offsets
- Reductions From Capped Sources

Greenhouse Gas Emissions

2012 2015 2018 2020
Alternate Definitions of ‘Reductions’

- Allowances Issued
- Emissions from All Sources (Period 1)
- Reductions From Offsets
- Reductions From Capped Sources
Once the Cap is Set, a Total Maximum Amount of Expected Offset Use Could be Approximated

Total Emissions from Capped Sources (if 2012 emission rate was maintained through 2020)

- Number of Allowances = Cap

Reductions from Capped Sources
- Reductions from Offsets

Total Reductions from 2012-2020 (Maximum 49% from Offsets)

Total Emissions Expected from All Capped Sources 2012-2020
Potential Types of Offset Limit Implementation

• **Usage Limits**
  – Fix the amount that an individual entity can use
    • Example: each entity able to surrender allowances and offsets up to a fixed percentage of individual ‘compliance obligation’ (emissions)

• **Supply Limits**
  – Fix the total amount of offsets that would be accepted in the system
    • No limit placed on the amount used by an individual entity

• **Hybrids of both are conceivable**
'Usage' Limit Graphical Example

Total Reductions (Maximum 49% from Offsets)

Total Emissions Expected from All Capped Sources 2012-2020

Example ratio = 5 Offsets and 95 Allowances

Number of Allowances = Cap

Reductions from Capped Sources
Reductions from Offsets

Max 5% Offsets
Min 95% Allowances

Compliance Obligations of Individual Entities

A
B
C
‘Supply’ Limit Graphical Example

- **Reductions from Capped Sources**: Reductions from Offsets = 5
- **Total Reductions**
- **Number of Allowances = Cap**
- **Total Emissions Expected from All Capped Sources 2012-2020**
- **Offset Limit = 5**
- **Fixed Amount of Offsets Credits Issued/Allowed into the System Between 2012 and 2020**

- **Project 1**: 3
- **Project 2**: 1
- **Project 3**: 1
Considerations of Offset Limit Structures

- **Usage Limit:**
  - Diminishes the total cost of compliance vs. a supply limit
  - Complying entities capture benefit of limit structure

- **Supply Limit:**
  - Increases the total compliance cost vs. a usage limit
  - Offset sellers capture benefit of limit structure
  - May create uncertainty for project developers

Source: Anger and Dixon 2009
Hybrid Limit Option

• Create a new offset license instrument
  – ‘Offset Quota Certificate’
  – Number issued is fixed = total offset limit
• Sources using offsets for compliance
  surrender both an offset credit and an offset quota certificate
• CA could auction offset quota certificates
  – State captures benefit of limit structure
• Proceeds of offset quota certificate auction
  could be used for purposes similar use of any allowance auction proceeds
How Should the Limit be Calculated and Applied Across the WCI?

• Jurisdiction Specific
  – Each jurisdiction independently estimates reductions
  – Each jurisdiction implements a limit

• WCI Wide
  – Estimate reductions using the WCI-wide cap (sum of ‘allowance budgets’)
  – Apply a uniform limit WCI-wide

• Many possible permutations with different market implications
Should the Offset Limit Change Through Time?

• Arguments for Greater Use of Offsets in Early Years
  – Reduction activities at capped sources will take time to implement

• Arguments for Increased Use of Offsets in Out Years
  – Expectation of higher carbon prices in later years
  – Potentially greater confidence in mature offset program rules
• **Phase I** – unlimited use of credits from CDM but in practice not available and not needed

• **Phase II** – initial assumption: offset limit of 10% of allocated allowances
  – Each member state could argue for a higher limit
  – Some EU member states got limits up to 20%
  – Overall limit at about 13.6% of EU wide cap
    • Potential to exceed supplementarity goal
  – Limit varies by source type in some countries
    • UK limited to 9.3% of allocation for electricity generators
    8% for all other sources
Offsets Limits in the EU ETS (continued)

• Phase III
  – Tighten limit to ensure offset use is supplemental to domestic action
  – Reconsideration of limits on use of international credits after international agreement is achieved
  – Rules on offsets for 2013 -2020 can respond to changing circumstances
    • Intentionally avoided legislative lock-in
• Guiding principle:
  – No more than 50% of reductions from offsets
  – ‘Reductions’ defined from an increasing BAU
• Principle led to an initial offset limit of 3.3 % of compliance obligation (emissions)
• Price Triggers
  – If Allowance Price > $7/short ton
    • Offset limit = 5% of compliance obligation
  – If Allowance Price > $10/short ton
    • Offset limit = 10% of compliance obligation
Questions for Discussion

• Should the limit be applied based on the use of offsets, the supply, or a hybrid of both?
  – Are there other options?
• How should the 49% limit be applied across jurisdictions in the Western Climate Initiative?
• How should the limit be divided among time (compliance) periods?
  – Is it more critical to have a greater supply of offsets early in the program or later in the program?
Potential Topics for Future Meetings on Offsets

- Essential elements system requirements for the offset program
- Eligible offset project types and protocols
  - Protocol review process
  - Requirements for linkage to other offset and GHG trading systems
  - International offsets/ International forestry offsets
- Further meetings to discuss staff thinking on implementing a quantitative limit on the use of offsets
Reminder:

Stakeholders are asked to provide written comments on this topic to ARB by April 30th (to ccworkshops@arb.ca.gov)
## Team Leads for Cap & Trade Rulemaking

<table>
<thead>
<tr>
<th>Team Lead(s)</th>
<th>Responsibilities</th>
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<tbody>
<tr>
<td>Sam Wade, Mary Jane Coombs</td>
<td>Cap setting and allowance distribution</td>
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<tr>
<td>Ray Olsson</td>
<td>Market operations and oversight</td>
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<tr>
<td>Brieanne Aguila</td>
<td>Offsets and cap-and-trade project manager</td>
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<tr>
<td>Claudia Orlando</td>
<td>Electricity</td>
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<td>Karen Khamou</td>
<td>Transportation</td>
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<td>Manpreet Mattu</td>
<td>Reporting</td>
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<td>Energy efficiency</td>
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<td>Bruce Tuter, Mihoyo Fuji</td>
<td>Industrial sectors</td>
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<td>Mihoyo Fuji, Claudia Orlando</td>
<td>Natural gas for residential and commercial</td>
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<tr>
<td>Mihoyo Fuji</td>
<td>Marginal abatement costs and competitiveness issues</td>
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<tr>
<td>Barbara Bamberger, Mihoyo Fuji, Jeannie Blakeslee, Judy Nottoli, Jerry Hart</td>
<td>Impact analyses (environmental, economic, localized, small business, public health)</td>
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For More Information…

• 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:

• Western Climate Initiative
  – http://www.westernclimateinitiative.org