

Public Meeting

Linking California's Cap-and-Trade Program to Other Greenhouse Gas Trading Programs

July 27, 2009

California Air Resources Board

Meeting Agenda

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

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 Today's Meeting

- Discuss policy options on:
 - Linking to other GHG trading programs
- Stakeholders are asked to provide written comments on this topic to ARB by August 21st
 - <http://www.arb.ca.gov/cc/capandtrade/comments.htm>

Outline for Today's Presentation

- Defining Linkage
- Implications of Linkage
- Types of Linkage
- Linking Options for California
- Linkage and Offsets Limit
- Requirements for Linkage

Linkage Defined

- Linkage recognizes compliance instruments (e.g., allowances, offsets, and/or any other credits) from other programs to meet compliance obligations in California's cap-and-trade program.
 - Reciprocity: linkage may also provide for compliance instruments in California's cap-and-trade program to meet compliance obligations in other GHG trading programs.

Linkage in Scoping Plan

- Confirmed California's commitment to link with Western Climate Initiative (WCI) partners
- Also said California should be “primed to take advantage of opportunities for linking with other programs, including future federal and international efforts”

ARB Development Process for Other Compliance Units

March 23rd

- Offset compliance limit

April 28th

- Criteria for compliance offsets

May 21st

- Protocol review and adoption process
- Approval process for offset projects

Today

- Linkage

Future Topics

- International offsets

Implications of Linkage

- Linkage has many implications. Among them ...
 - A broader market
 - Reduced overall abatement costs
 - Exposure to other programs, their rules, and their oversight
- For fuller discussion, see literature
 - IETA Report in November 2007 by Jud Jaffe and Rob Stavins provides a good overview
http://belfercenter.ksg.harvard.edu/files/IETA_Linking_Report.pdf

Broadened Market

- Linkage broadens the market for allowances and offsets.
 - Allowing states (and provinces) to create a regional program
 - Bringing more buyers and sellers and more allowances into the market increases liquidity and improves the market's functioning
 - Increased liquidity more important for smaller programs
 - Reducing concerns about market power

Linkage: One of Several Cost Containment Mechanisms

- Possible cost containment mechanisms
 - Recommended by ARB Scoping Plan and WCI
 - Allowance trading (i.e., cap and trade)
 - Banking
 - Longer compliance periods (3 yrs vs 1 yr)
 - Offsets
 - Linkage
 - Not recommended by ARB Scoping Plan or WCI
 - Borrowing
 - Price ceiling (“safety valve”)

Reduced Abatement Cost

- Linkage reduces overall abatement costs by allowing emitters to choose lower cost reductions in one program instead of higher cost reductions in the other program.
 - Without linkage, these cost savings are achievable only under ideal assumptions.

Defining Abatement Cost

- In this presentation, abatement cost refers to an emitter's (net) expenditures to reduce its emissions
 - This differs from defining abatement costs as the net social costs of reducing emissions
 - e.g., Jim Sweeney and John Weyant “Analysis of Measures to Meet the Requirements of California’s Assembly Bill 32”
<http://piee.stanford.edu/cgi-bin/docs/publications/Precourt%20Institute%20AB%2032%20Draft%20Report.pdf>
 - Abatement costs may differ from private compliance costs, which may include expenditures for (additional) allowances

Cost and Allowance Price

- Under bilateral linkage, even with lower overall abatement costs ...
 - Allowance price could rise or fall in California depending on whether the marginal abatement cost in California is relatively high or low.
 - In general, the allowance price rises in the program with lower marginal abatement cost but declines in the program with higher marginal abatement cost.

Linkage and Total Cost for Abatement

- Under bilateral linkage, even with lower overall abatement costs ...
 - Total cost for abatement in California could rise or fall depending on whether California emitters are a net buyer or seller of compliance instruments.
 - In general, abatement and thus total cost for abatement rises in the program which is a net seller of allowances, although revenue from selling allowances more than offsets the increased abatement costs. Conversely, abatement and thus total cost for abatement declines in the program which is a net buyer of allowances.

Leakage

- Linkage may reduce economic dislocation when entities in different programs face the same carbon price.
- Linkage could increase leakage if allowances are sold from a program more susceptible to emissions leakage to a less susceptible program.

Distributional Effects

- Linkage can have distributional effects within and between programs since a different carbon price ...
 - Alters who are buyers and sellers of allowances
 - Changes the price of energy and emissions-intensive goods purchased by consumers
- Price change example:
 - When (small) Norway and (large) European Union Emissions Trading Scheme (EU ETS) linked, Norway's carbon price changed to match the EU ETS market price.

Financial Flows

- Linkage may raise political concerns if there are large financial flows out of a jurisdiction.
 - However, financial flows between entities involved in a trade are beneficial to them since trading is voluntary.

Location of Co-Benefits

- Linkage may increase or decrease the amount of co-benefits within a program's own jurisdiction since inherent design allows flexibility for where reductions occur.

Exposure to Other Programs

- Linkage exposes a program to the rules and oversight of other programs.
 - Compliance mechanisms in one system essentially extend to any linked system.
Examples include:
 - Safety valve
 - Borrowing
 - Offsets

Types of Linkage

- Bilateral (and multi-lateral) linkage
- Unilateral linkage
- Indirect linkage

Bilateral Linkage

- A “two-way” link in which two programs agree that compliance instruments (i.e., allowances, offsets) from each program may be used to meet compliance obligations in either program
 - This linkage essentially makes a common market from separate cap-and-trade programs
 - Examples:
 - Norway and EU ETS
 - Australia and New Zealand (proposed)

Multi-Lateral Linkage

- A multi-lateral link is a bilateral link, except between more than two programs.
 - Examples:
 - Regional Greenhouse Gas Initiative (RGGI) states with each other
 - WCI partner jurisdictions

Unilateral Linkage

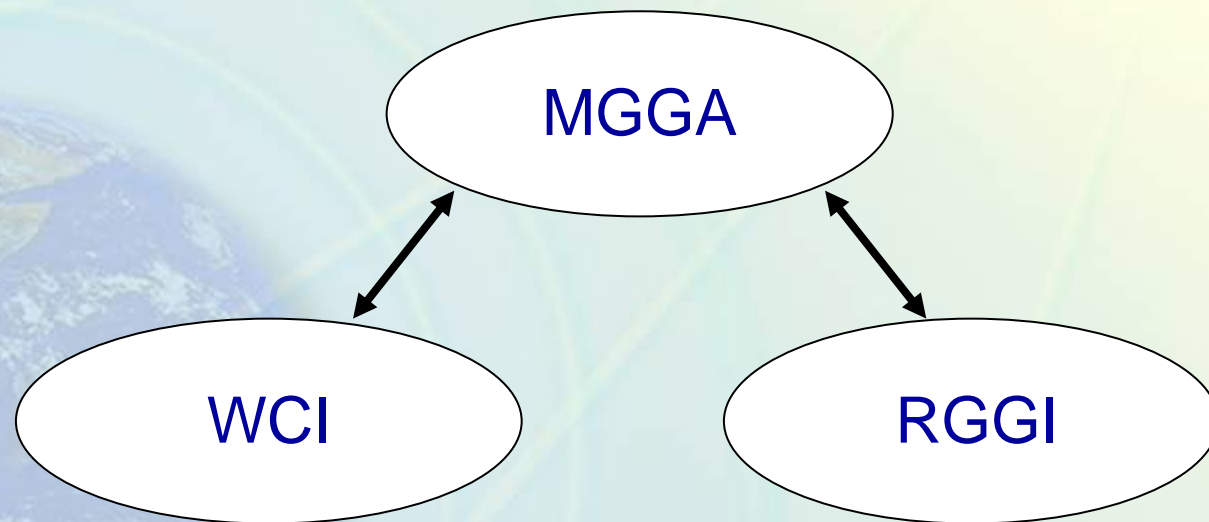
- A “one-way” link in which a program recognizes compliance instruments from another program to meet compliance obligations in its own program
 - Hypothetical examples:
 - MGGA accepts RGGI allowances, but not vice versa
 - California’s cap and trade accepts LCFS credits, but not vice versa

Indirect Linkage

- Two programs effectively become linked to each other because each has linked to a third program.
 - The indirect link is established irrespective of whether ...
 - the formal links are bilateral or unilateral
 - the link is via allowances, offsets, or any other credits

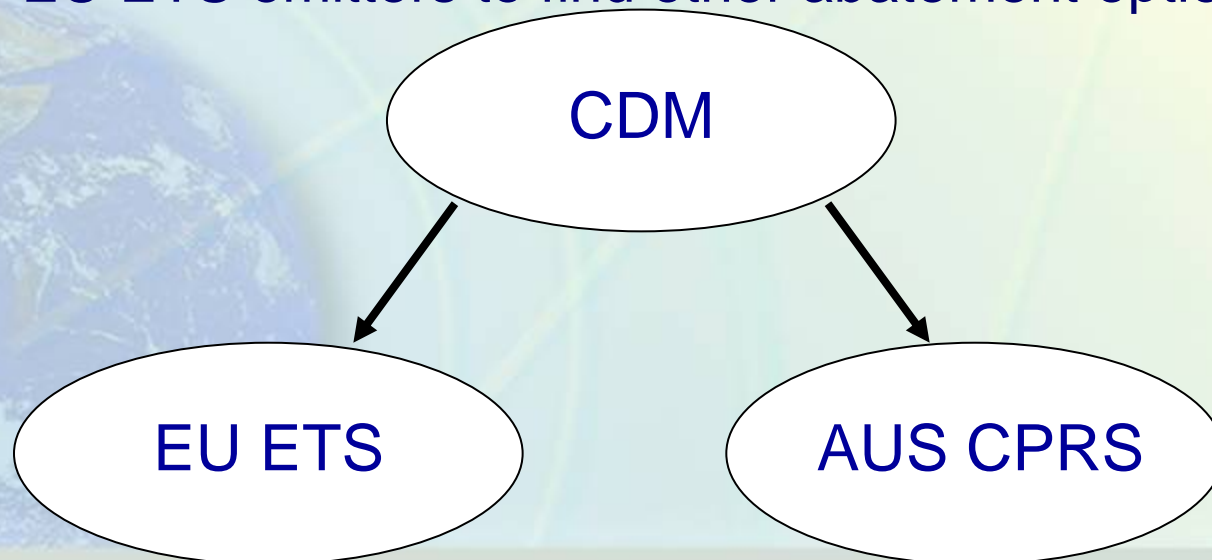
Indirect Linkage: Example #1

- Hypothetical example: WCI and RGGI not linked directly but linked indirectly by both linking directly to MGGA (Midwest Greenhouse Gas Accord).



Indirect Linkage: Example #2

- If both the EU ETS and Australian Carbon Pollution Reduction Scheme (CPRS) linked unilaterally to the Clean Development Mechanism (CDM), the two programs would still be indirectly linked to each other.
 - In particular, CRPS buying CDM credits would require EU ETS emitters to find other abatement options.



Linking through Western Climate Initiative

- California is working with six other Western states and four Canadian provinces to create regional market design.
- Scoping Plan commits to linking with WCI partners consistent with AB 32 requirements and WCI regional design.

Other Possible Linking Options for California's Cap-and-Trade Program

- Sub-national programs in North America
 - RGGI, MGGGA
- National programs
 - EU ETS, AUS CPRS
- International programs
 - CDM, JI (Joint Implementation)
- Voluntary offset programs
 - CAR (Climate Action Reserve), VCS (Voluntary Carbon Standard)
- Other carbon reducing programs
 - CA's LCFS (Low Carbon Fuel Standard)
- Others?

Linking to Sub-National Programs

- WCI
 - Scoping Plan confirmed California's commitment to link to its WCI partners
- RGGI
 - Is this program comparably rigorous given concerns of its possible over-allocation?
 - Its allowances represent a short ton, not a metric ton
- MGGGA
 - Still in design process
- NSW GGAS (New South Wales Greenhouse Gas Abatement Scheme)
 - Does linking a program with an absolute cap to a program with an intensity-based cap lead to an increase in emissions?
 - Being phased out with national program looming

Linking to National Programs

- EU ETS
 - As a sub-national that cannot be a signatory to the Kyoto Protocol, California cannot link to programs such as the EU ETS until after 2012.
 - After 2012?
- U.S. cap-and-trade
 - Design of federal cap-and-trade program still under consideration in Washington DC
 - Federal legislation passed by the US House includes moratorium on state and regional programs for 2012-2017
- Australia CPRS
 - Not yet approved by its government

Linking to International Programs

- California might decide to accept a subset of CDM credits.
 - Precedent from EU ETS
- Scoping Plan identified a sectoral approach.
 - Ongoing post-Kyoto negotiations
- These issues will be the focus of an upcoming public stakeholder meeting.

Linking to Voluntary Programs

- CAR and VCS
 - Are their processes (e.g., verification) compliance-grade?
- CCX (Chicago Climate Exchange)
 - Can voluntary cap-and-trade programs meet all the requirements necessary for linking?

Linking to LCFS

- LCFS regulation left open possibility for a unilateral link, i.e., that LCFS credits could meet cap-and-trade obligations but not vice versa
- How would the cap in California's cap-and-trade program be affected?
 - Does a link to a program with an intensity-based cap lead to an increase in emissions?
 - Would reductions from LCFS be double-counted?
 - LCFS captures life-cycle emissions, which may or may not be subject to California cap.

Quantitative Limits to Linkage

- If a quantitative limit restricts the number of compliance units which may trade into a program, then a common carbon price may not be achieved and other implications from linkage may be diminished.
 - e.g., Two programs with offset limits decide to accept offsets but not allowances from the other program.

Linkage and Offset Limits

- WCI Design Recommendations
 - Outside the offset limit
 - Allowances from other WCI jurisdictions
 - Allowances from non-WCI programs with bilateral links to the WCI
 - Within the offset limit
 - Allowances from non-WCI programs under a unilateral link
 - All offsets

Possible Requirements for Linking (1)

- Similar reporting requirements and methods to ensure that “a ton is a ton” across programs
- Agreement on current and future emission caps
 - i.e., program stringency
- Agreement on a process for making future changes to linked programs
 - When would changes in one program require two programs to be unlinked?
- Similar cost containment provisions
 - e.g., safety valve, borrowing, offsets

Possible Requirements for Linking (2)

- Electronic registries, or a common registry, that can directly communicate transfers to each other
- Similar capability and effectiveness in enforcing program requirements
- An agreement covering monitoring and enforcement procedures
- Other?
 - Similar allowances allocations (i.e., auction vs free)
 - Similar program scope (i.e., same sectors under a cap)

International Carbon Action Partnership (ICAP)

- A partnership which offers an open forum to share experiences and knowledge
 - Members include California and other jurisdictions that have implemented or are implementing cap-and-trade programs
 - ICAP goals
 - To contribute to the establishment of a well-functioning global cap and trade carbon market
 - To enhance the design of carbon markets to achieve maximum reductions and to prevent leakage
 - To ensure that design compatibility issues are recognized at an early stage
 - <http://www.icapcarbonaction.com/>

Linking and Regulatory Language: Preliminary Staff Thinking

- The regulatory language would establish the conditions under which California could link to another program
- Board would delegate authority to Executive Officer to determine whether the conditions have been met
- Link with WCI partners that have met the regional design requirements in their programs

Questions for Stakeholders

- Beyond its WCI partners, to which programs should California consider linking?
- What kind of links (bilateral, unilateral, etc.) should California establish?
- Which implications—advantages or disadvantages—are the most important for ARB to consider when evaluating whether to link with another program?
- What details on linkage should be included or excluded from the regulatory language?

Comments

- Questions during the workshop can be sent to: ccworkshops@arb.ca.gov
- Stakeholders are asked to provide written comments on this topic to ARB by August 21st
 - <http://www.arb.ca.gov/cc/capandtrade/comments.htm>

Team Leads for Cap & Trade Rulemaking

Sam Wade, Mary Jane Coombs	Cap setting and allowance distribution
Ray Olsson	Market operations and oversight
Brieanne Aguila	Offsets and cap-and-trade project manager
Claudia Orlando	Electricity
Manpreet Mattu	Reporting and energy efficiency
Bruce Tuter, Mihoyo Fuji	Industrial sectors
Stephen Shelby	Offsets
Karin Donhowe	Broad scope fuels
Mihoyo Fuji	Marginal abatement costs and leakage related issues
David Kennedy, Stephen Shelby, Barbara Bamberger, Mihoyo Fuji, Jeannie Blakeslee, Judy Nottoli, Jerry Hart	Impact analyses (environmental, economic, localized, small business, public health)

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:
 - http://www.arb.ca.gov/listserv/listserv_ind.php?listname=capandtrade
- Western Climate Initiative
 - <http://www.westernclimateinitiative.org>