CALIFORNIA AIR RESOURCES BOARD
Assembly Bill 32 Technical Stakeholder Working Group Meeting

April 4, 2008
9:00 a.m. - 12:30 p.m.

Sierra Hearing Room
2nd floor of the California Environmental Protection Agency (CalEPA)
Headquarters Building
1001 "I" Street, Sacramento, California

Note: The Sierra Hearing Room at CalEPA Headquarters has limited seating. The meeting will be webcast (http://www.calepa.ca.gov/broadcast/) and open to real-time questions via e-mail (ccplan@arb.ca.gov).

AGENDA

A. Opening Remarks

B. Air Resources Board (ARB) Staff Presentation: "Role of Offsets Under AB 32"

C. Round-Table Discussion on Offsets

1. Should California have an offsets program for compliance purposes?
2. What should the project approval and quantification process be for approving projects?
3. Should there be quantitative limits on the use of offsets for compliance purposes? If so, how should the limits be determined?
4. Should California establish geographic limits or preferences on the location of projects that could be used to generate credits within the offsets system? If so, what should be the nature of those limits or preferences?
5. Should California discount credits from offset projects?

An Economic Analysis Technical Stakeholder Meeting will be held the same day starting at 1:30 in the Sierra Hearing Room to discuss issues related to modeling offsets in Energy 2020.

This is the fourth in an ongoing series of program design technical stakeholder meetings. These meetings are being conducted to provide interested stakeholders the opportunity to provide specific technical input concerning various elements of the program design that may become part of the Assembly Bill (AB) 32 Scoping Plan. The attached white paper is also intended to provide background on the offset issues that will be discussed, along with a summary of recommendations on this topic from the Market Advisory Committee (MAC), the Economic and Technology Advancement Advisory Committee (ETAAC), and precedents from other greenhouse gas emissions cap-and-trade programs.

CALIFORNIA AIR RESOURCES BOARD
Assembly Bill 32 Technical Stakeholder Working Group Meeting

Schedule of Upcoming AB 32 Economic Analysis and Program Design Stakeholder Technical Work Group Meetings

(Schedule is subject to change; when updates occur, a revised schedule will be posted at http://www.arb.ca.gov/cc/scopingplan/meetings/meetingstechstake.htm)

Group	Meeting Topic	Time	Location
Program Design	Offsets	April 4 9 a.m. – 12:30 p.m.	Sierra Hearing Room
Economic Analysis	How Offsets are Modeled	April 4 1:30 p.m. – 3:30 p.m.	Sierra Hearing Room
Economic Analysis	Non-economic Analysis	April 25 9 a.m. – 12:30 p.m.	Coastal Hearing Room
Program Design	Cost Containment	April 25 1:30 p.m. – 5 p.m.	Coastal Hearing Room
Scenarios Workshop	**Overview of Policy Scenario Evaluation Process and Preliminary Modeling Results**	**May 5**	**Byron Sher Auditorium**
Economic Analysis	Cost Effectiveness	early May	Coastal or Sierra Hearing Room
Program Design	Enforcement	early May	Coastal or Sierra Hearing Room
Economic Analysis	TBD	June 16 9 a.m. – 12:30 p.m.	Coastal Hearing Room
Program Design	TBD	June 16 1:30 p.m. – 5 p.m.	Coastal Hearing Room

CALIFORNIA AIR RESOURCES BOARD
Assembly Bill 32 Technical Stakeholder Working Group Meeting

FRAMEWORK FOR DISCUSSION

Overview

The April 4, 2008 program design technical stakeholder meeting is designed to provide interested stakeholders the opportunity to provide specific technical input concerning various program design elements that may become part of the Assembly Bill (AB) 32 Scoping Plan. This meeting will focus on the possible generation and use of offset credits for compliance purposes under AB 32. ARB has structured this meeting around five questions related to offsets.

This meeting is part of ARB's effort to understand how to best design market mechanisms for possible inclusion in the AB 32 Scoping Plan. AB 32 includes specific criteria that ARB must consider before implementing market-based measures. ARB will evaluate any market-based measures against those criteria before deciding whether to include them in the Scoping Plan.

To establish a basic framework for our discussion today, here is the basic definition for "offset":

> **Offset**
> An "offset" is an emission reduction achieved by an entity, beyond what otherwise would have happened because of regulation, common practice, or otherwise expected behavior. In general, an offset would come from an uncapped source. For offsets to be used for compliance with AB 32, the offsets program in California may only credit projects with reductions that are real, additional, quantifiable, permanent, verifiable and enforceable.[1]

The MAC defined additionality in its glossary as follows: "emission reductions achieved through a given project over and above those that otherwise would have occurred in the absence of the project under a business-as-usual scenario."[2] The MAC also suggested two additional adjectives to be used when defining offsets—transparent and predictable. However, these adjectives are more descriptive of an offsets program than of an offset reduction. A transparent and predictable program would generate public confidence and minimize administrative costs.

For use in a California cap-and-trade system, any offset would need to come from a source and reduce emissions that are not directly covered by the cap-and-trade program.[3] The non-covered source does not have a compliance obligation under the

[1] The text of AB 32, part 38562(d)(1) states, "The greenhouse gas emission reductions achieved are real, permanent, quantifiable, verifiable, and enforceable by the state board." Part 38562(d)(2) states, " … the reduction is in addition any greenhouse gas emissions reduction that otherwise would occur".
[2] Market Advisory Committee, "Recommendations for Designing a Greenhouse Gas Cap-and-Trade System for California," June 2007, p. 90.
[3] The typical definition of entity in a non-covered sector may not be broad enough. An otherwise covered entity may have some non-covered emissions, which may be eligible to generate offset credits. For example, RGGI directly covers the electricity sector for its CO_2 emissions, but allows offset credits to be generated for reductions of SF_6 emissions in transmission and distribution of electricity.

cap-and-trade program, but it may generate reductions that can be used by entities with compliance obligations. An offset credit could be generated for each metric ton of reduction of carbon dioxide equivalent (CO_2e) beyond an established baseline. Like an allowance, each offset credit authorizes its bearer to emit one ton of CO_2e. Offsets could also be used as a flexible compliance mechanism outside of the context of a cap-and-trade system.

In the stakeholder meeting on April 4, 2008, ARB staff will present an overview of the possible roles of an offsets program under AB 32, and will facilitate a group discussion on five questions regarding how offsets can be generated and used for compliance purposes under AB 32:

1. Should California have an offsets program for compliance purposes?
2. What should the project approval and quantification process be for approving projects?
3. Should there be quantitative limits on the use of offsets for compliance purposes? If so, how should the limit be determined?
4. Should California establish geographic limits or preferences on the location of projects that could be used to generate credits within the offsets system? If so, what should be the nature of those limits or preferences?
5. Should California discount credits from offset projects?

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Assembly Bill 32 Technical Stakeholder Working Group Meeting

KEY QUESTIONS FOR DISCUSSION

1. Should California have an offsets program for compliance purposes, either within a cap-and-trade system or as an alternative compliance mechanism in conjunction with direct regulation?

- **An offsets program could serve two primary purposes under AB 32**. First, it could provide greater flexibility for entities under a cap to meet their compliance obligations. Such flexibility would create opportunities for lower cost solutions to be found, reducing the overall cost of the program. Second, the offsets program could encourage reductions (beyond common business practice and what is required by regulation) from non-capped sources. Another purpose of an offsets program may be to effectively link a California cap-and-trade program to other cap-and-trade programs, if both programs recognize a project as producing a credit which can be used to meet compliance obligations in their programs.[4]
- **There are several drawbacks from an offsets program.** First, offsets may come from sources where it is difficult to obtain accurate, reliable and consistent measurements of the emission reductions.[5] This may be one reason why these sources were not directly capped. Second, offsets projects often have relatively high administrative costs, both to businesses and government, in comparison to sources placed directly under a cap. However, from a business point of view, an offsets project will remain attractive if the cost of the offset reduction is substantially lower than reducing emissions at the capped source. Third, an offset mechanism may decrease the amount of emissions reductions achieved directly by capped sources. This may delay the changes eventually needed to transition California's economy to a low carbon future by reducing incentives for innovation of capped sources.
- **California would need to establish solid rules for what constitutes a regulatory grade offset in California.** Under AB 32 reductions must be real, additional, quantifiable, permanent, verifiable, and enforceable. The prescribed rules could inadvertently reduce the incentive to create offset credits because they could create uncertainties for project developers as to whether or not there will be a viable market for their emission reductions. Furthermore, limiting usage on offsets may increase investment risk, which effectively could increase costs of reductions within the system. Therefore, the real question becomes how strict the rules for offsets should be.
- **In addition to rules on criteria, California may decide to establish explicit limits on offsets.** These may include limiting the portion of compliance obligations that may be met through offset credits or the imposition of specific

[4] The particular topic of linkage to other GHG trading programs will be discussed in depth on April 25th at the program design stakeholder meeting dealing with cost containment.

[5] Various concerns have been raised in this regard. For example, the members of the California environmental justice community issued a Declaration that touched on these issues. The Declaration can be accessed via http://www.ejmatters.org/declaration.html

geographic boundaries on where qualifying offset projects can be located. Both possibilities are discussed in more detail below.

- **California has three general options for the role offsets may play in meeting California compliance obligations:**
    - Do not allow any use of offsets
    - Allow limited use of offsets (e.g. limit absolute usage of offset credits or limit only to certain types of sources)
    - Allow unlimited use of offsets

2. What should be the project approval and quantification process?

- **If California chooses to allow offsets, it would need to establish which types of offset projects are eligible to generate credits within the system.** Two basic approaches can be used for deciding which project types would be eligible. California could allow project types to be proposed and submitted directly by project developers and then be evaluated by the regulators for possible inclusion (bottom-up), or it could choose to identify project types from the outset to be used by project developers (top-down).
- **California may choose to include many different project types from the outset of the program.** Allowing project developers to submit proposals for project types could be viewed as more economically efficient for the program, because it would allow for the inclusion of more low-cost reductions. This bottom-up approach allows for project developers to be more innovative in finding low-cost reduction opportunities that would be implemented on a practical level. By allowing more project types, many smaller sources of emissions could be allowed to participate in achieving emission reductions under the AB 32 program.
- **California may choose to only allow certain project types to generate credits at the outset of the program for a number of reasons.** This top-down approach gives a clear signal to project developers as to exactly what regulators are looking for. Regulators may choose to use this approach in order to channel investment into certain sectors/projects that they feel are high priority for achieving emission reductions or achieve other policy goals (e.g. projects that have associated co-benefits). Such an approach reduces costs to the program over time, because each project proposal does not need to be assessed by staff.
- **California may consider three approaches when approving eligible project types:**
    - A bottom-up approach
    - A top-down approach
    - A hybrid approach

- **California may wish to include elements of both approaches for determining the eligibility of project types.** An example of a possible hybrid approach would be to establish an initial list of eligible project types at the outset of the program, and as the program is more administratively established, allow for project developers to submit additional project proposals that would then be reviewed by the regulators. California could then either expand the list of eligible project types based on some of these submittals, or continue to allow project type proposals to be evaluated on a one-by-one basis by the regulators.
- **California would also need to establish which methodologies can be used for quantifying emission reductions from projects.** Two basic approaches can be used for quantifying the baseline and additionality of offset projects. California could allow emission reductions to be based on individual project assessments submitted by project developers (project-by-project), which would then be reviewed on a case-by-case basis by regulators and verifiers. Emission reductions could also be based on general criteria and emission factors (standards-based) pre-established in protocols and approved by regulators, for use by project developers.
- **A project-by-project approach may be the most precise and rigorous way to quantify emission reductions from offset projects,** because individual project circumstances and factors are accounted for. However, this sort of approach can be associated with high administrative costs for regulators to validate and verify project-specific information. Also, individual baseline scenarios are based on counterfactual information in which some subjective judgment may be used on behalf of the project developers. Likewise, regulators must use consistent judgment when evaluating different methodologies for one project type. If multiple methodologies exist for a particular project type, project developers may engage in "methodology shopping" in order to find the methodology that most favorably calculates emission reductions from their individual project. The possibility of gaming the system may be greater in a project-by-project approach because project developers may use evaluation criteria that are hard for regulators and verifiers to evaluate due to their site-specific nature, when estimating their baseline scenarios.
- **A more centralized approach may provide a tool for eliminating some of the concerns associated with a project-by-project approach.** The standards-based approach uses more general information and assumptions about project types, instead of project-specific data, to establish baselines and additionality, which eliminates the need for project developers to develop a method for defining baselines. Such an approach may be helpful in determining the leakage potential of certain project types and may also lead to easier monitoring, verification, and enforcement of emission reductions. This sort of process tends to be associated with a more transparent review process.
- **A standards-based approach may also have some disadvantages.** For some projects, baselines may be hard to standardize. This approach may unfairly penalize projects where baselines are actually higher than that assumed

in the available methodology. Also reductions could be quantified that are in essence non-additional, because they were not included in the baseline scenario. In this regard it is evident that some tradeoffs exist between screening out non-additional projects and excluding additional ones.

- **There are three approaches that California could consider to determine baselines and additionality:**
    - A project-by-project approach
    - A standards-based approach
    - A hybrid approach
- **California may wish to strike a balance between the two approaches for determining emission reductions from offset projects.** An example of a hybrid approach to determining baselines and additionality of offset projects could include California establishing protocols or methodologies for certain projects, where baselines can easily be standardized, while allowing developers of additional projects to submit project-specific methodologies in cases where baselines are harder to standardize.

3. Should there be quantitative limits on the use of offsets for compliance purposes? If so, how should the limit be determined?

- **Limiting the quantity of offsets for compliance purposes is one way to attain the benefits of offsets while reducing some of the risks associated with offsets.** The primary reason to impose a limit on the number of offset credits that an emitter could use for compliance obligations is to ensure that at least a certain fraction of the reductions come from capped sources. The primary argument against a quantitative limit is that it may prevent emitters from choosing the least costly reductions.
- **Additional quantitative limits on certain offset credits may also be desirable** (e.g. if the program wishes to limit the amount of offset credits from entering the system from out-of-state projects). However, if California allows offsets from out-of-state projects there may be legal issues if quantitative limits on offsets projects within the State differ from that of out-of-state projects (i.e. the Interstate Commerce Clause).
- **Over time California could change the quantitative limit on offset credit use.** However, it is not necessarily clear when the need for offset credits would be larger. The need for offset credits may be larger early in the program, when capped sources have not yet had much time to implement new technologies or have found it prohibitively costly to prematurely replace their current equipment. Conversely, the demand for offset credits could be greater in later years, as reduction requirements become larger. It is California's hope that more of the world will implement GHG emission reduction programs over time. Such action would also limit the amount of uncapped sources that would be eligible to generate offset credits.

- **California could also allow the level of limitation to depend on certain market circumstances.** For example, "price triggers", which signal when additional offset credits may be used to meet compliance obligations, could be imposed.
- **California has four general policy options for limiting the number of offset credits which an emitter may use to meet its compliance obligations:**
    - No limit on offset credits
    - A percentage (e.g., 10%) of the obligation[6] that may be met with offsets
    - An increasing percentage of the obligation that may be met with offsets
    - A decreasing percentage of the obligation that may be met with offsets
- **Another possible way to limit offset use is to have a limit on the number of offset credits that California would issue.** However, California-issued credits may have value beyond regulatory compliance in California. In fact, RGGI has decided not to place a limit on the number of offset credits issued, but has limited the amount of the obligation that can be met with offset credits.

4. Should California establish geographic limits or preferences on the location of projects that could be used to generate credits within the offsets system? If so, what should be the nature of those limits or preferences?

- **Potential offset projects are located throughout the world; however, there may be reasons why an offsets program would limit the geographic area in which offset projects are eligible to generate credits within the system.** There are several concerns with allowing out-of-state projects. According to AB 32, reductions must be enforceable by ARB. Reductions from out-of-state offset projects may raise an issue in this regard. Allowing out-of-state projects might also reduce the development and implementation of low-carbon technologies in California industry, which could raise concerns for meeting the long-term 2050 goal. To address this issue California could recognize an out-of-state project only if a cooperating environmental agency in the project's home state has entered into a formal MOU with ARB.[7] The MOU would need to require that agency to act on behalf of ARB in carrying out certain obligations relative to GHG emission offset projects within its borders. These obligations would include performing audits of offset project sites and reporting violations to ARB. [8]

[6] This is typically discussed in terms of a percent of the compliance obligation, which is tied to emissions, rather than a percent of the expected reductions. For example, the Regional Greenhouse Gas Initiative (RGGI) established an initial limit on offsets of 3.3% of the compliance obligation. This level was chosen based on analysis that indicated that it would allow half of the required reductions to come from offsets, while the remainder of the reductions would need to come from facilities covered in the RGGI system.
[7] RGGI has followed a similar process regarding out-of-state projects in its Model Rule.
[8] RGGI has not yet specified what other obligations they may require, but these two are specified in their Model Rule.

- **Furthermore, California may choose to limit the geographic scope of the offsets program to in-state only projects in order to incent California offsets.** Allowing only in-state offsets would keep the dollars spent on offsets within the state's economy. Other benefits, such as environmental and economic co-benefits from California reductions, would also be retained by the State.
- **Several motivations exist for allowing out-of-state offset projects.** Out-of-state projects would expand the scope of the program to allow for more low-cost GHG reduction possibilities to be incorporated, reducing the overall costs of the program. The broadened scope would increase access to a larger and more established offsets market and would also allow California to export its knowledge and technologies for reducing GHG emissions throughout the United States and possibly internationally. Since climate change is a global issue establishing a broad offsets market could help support the adoption of low-carbon technologies and sustainable development in the developing world, which is vital to reducing global emissions in the long-term.
- **There are three general locations for offset projects, and California could issue credits for projects in these locations:**
    - Projects within California
    - Projects in jurisdictions with specific agreements with California, either in the context of a regional trading system like that being developed in the Western Climate Initiative or outside of such a trading system
    - International projects (beyond regional agreements)
- **If California decides to allow out-of-state offset projects, it may wish to allow only certain kinds of projects.** For example, California might allow projects using only standard protocols approved by ARB.
- **Some project types could not be executed in California but might be available in other jurisdictions** (e.g. coal mine methane projects)**.** Emission sources which are likely to be controlled through direct regulation inside California, may provide sources for California offsets credits through projects in other states.[9] This may raise competitiveness concerns because the reductions in California would be non-additional, while those reductions outside of California may be additional. This could lead to financial flows out of the state. Another complication may arise around certain project types (e.g. energy efficiency and renewable energy projects) that reduce indirect emissions from capped sources. This issue known as "double counting" would need to be addressed in order for such projects to generate credits within the system.
- **California is a partner state in the Western Climate Initiative (WCI).** A cap-and-trade program developed by the WCI would likely allow offset projects within any partner state to be eligible for compliance obligations in California.

[9] ARB has proposed landfill methane as a direct regulation through its Early Action process.

5. Should California discount credits from offset projects?

- **One way to account for the risk associated with offset projects (mainly the risk of potential non-additional reductions being counted towards the emission reduction goal) is to use a discount factor.** This can help account for statistical variance of measurement and calculation methods used to quantify reductions from offset projects.
- **Using a discount factor may penalize truly additional projects with real emission reductions.** The risk of including credits from non-additional projects within the system may be better addressed by requiring that very stringent criteria be applied or by requiring offset projects to use more conservative baseline estimations.
- **Currently no other GHG trading system uses a discount factor for their offset credits.** This may cause some difficulties if California were to decide to link with other cap-and-trade programs.[10]

[10] The topic of linkage to other GHG trading programs will be discussed in depth on April 25th at the program design stakeholder meeting addressing cost containment.

CALIFORNIA AIR RESOURCES BOARD
Assembly Bill 32 Technical Stakeholder Working Group Meeting

SUMMARY OF RECOMMENDATIONS TO ARB AND PRECEDENTS

Recommendations to the California Air Resources Board (ARB):

Market Advisory Committee
The Market Advisory Committee (MAC) was formed December 20, 2006 by California Secretary for Environmental Protection, Linda Adams, and delivered its report[11] to ARB June 30, 2007. It includes recommendations on many aspects of the design of a cap-and-trade program, including subchapter 6.3 on offsets. The MAC recommends that "offsets should be allowed as part of the overall cap-and-trade program. The MAC also recommends that offsets should be "real, additional, independently verifiable, permanent, enforceable, and transparent."

The MAC argued against imposing geographic or quantitative limits in order to maximize emission reductions at the least cost. The MAC did, however, agree that there may be some legitimate reasons for imposing these limits (e.g. air quality and social equity) and introducing the limits gradually to the program.

The MAC recommended that California select specific project types that would be eligible to generate credits within the system. They also recommended that California follow a standards-based approach for determining the baseline and additionality of projects, and recommended against the project-by-project approach because of the administrative complexities and costs associated with it.

No GHG cap-and-trade program has required that offset credits be surrendered for compliance on a discounted basis.

Economic and Technology Advancement Advisory Committee (ETAAC)
The California Global Warming Solutions Act of 2006 (also known as AB 32) required the establishment of the ETAAC, which delivered its final report[12] February 11, 2008. It recommends that offsets be "real, additional, permanent, enforceable, predictable, and transparent."

ETAAC recommended that while "…quantity limits on offsets can be valuable for encouraging action and creative thinking within a sector, it should be pointed out that it is difficult to come up with a "scientific" number to justify any specific limit." The Committee also discussed how "placing geographic limits on offsets is one way to guarantee that offset projects used for compliance within state borders meet California's rigid standards for 'additionality' and verification. Some members raised questions as to

[11] Market Advisory Committee, "Recommendations for Designing a Greenhouse Gas Cap-and-Trade System for California," June 30, 2007. http://www.climatechange.ca.gov/documents/2007-06-29_MAC_FINAL_REPORT.PDF
[12] Economic and Technology Advancement Advisory Committee, "Economic and Technology Advancement Advisory Committee (ETAAC) Final Report: Technologies and Policies to Consider for Reducing Greenhouse Gas Emissions in California," February 11, 2008. http://www.arb.ca.gov/cc/etaac/ETAACFinalReport2-11-08.pdf

whether or not placing geographic limits on offsets could be designed in a way that does not violate the Commerce Clause."

Examples of Offset Programs:

European Union Emission Trading Scheme (EU ETS)

The EU ETS was established as part of the European Union member states' strategy for compliance with the Kyoto Protocol. Trading is planned for three phases: Phase I, which ran from 2005–2007; Phase II, which began January 1, 2008 and runs through 2012; and Phase III, which will run from 2013–2020. In both Phase I and Phase II, EU ETS allowed Certified Emission Reductions (CERs) from the Clean Development Mechanism (CDM) and credits from Joint Implementation (JI) projects. They have indicated that they will continue to accept these credits in Phase III as well.

The EU ETS has quantitative limits which differ by member country. Via the UNFCCC's CDM and JI mechanisms, the EU ETS program has accepted international offsets. However, due to over-allocation in Phase I, very few offset credits were needed to meet compliance obligations.

The CDM mechanism has followed a bottom-up approach for determining eligible project types. It has also followed a project-by-project approach for determining baselines and additionality, but is moving towards a more standards-based approach through the addition of combined methodologies.

Regional Greenhouse Gas Initiative (RGGI)

RGGI is a collaboration of ten Northeastern states to create a regional cap-and-trade program for carbon dioxide (CO_2) emissions from the electricity sector. Trading is scheduled to start in 2009. The Regional Greenhouse Gas Initiative (RGGI) will allow offsets from several specified project categories, as well as limited use of CERs when certain "price triggers" are reached.

In its Model Rule, RGGI has proposed that emitters may meet no more than 3.3% of their compliance obligation with offset credits; that would increase to 5% or 10% under certain market conditions. RGGI has also laid out provisions to issue credits for out-of-state projects.

RGGI has applied a top-down approach for determining eligible project types. The Model Rule has currently identified five project types that can generate credits within the system. RGGI has also opted for a standards-based approach for determining emission reductions from approved projects.

CALIFORNIA AIR RESOURCES BOARD (ARB)

Assembly Bill 32 Program Design Technical Stakeholder Working Group Meeting

April 25, 2008
1:30 p.m. - 5:00 p.m.

Sierra Hearing Room
2nd floor of the California Environmental Protection Agency (CalEPA)
Headquarters Building
1001 "I" Street, Sacramento, California

Note: The Sierra Hearing Room at CalEPA Headquarters has limited seating. The meeting will be webcast (http://www.calepa.ca.gov/broadcast/) and open to real-time questions via e-mail (ccplan@arb.ca.gov).

This is another in an ongoing series of program design technical stakeholder meetings. These meetings are being conducted to provide interested stakeholders the opportunity to provide specific technical input concerning various elements of the program design that may become part of the Assembly Bill (AB) 32 Scoping Plan. The attached white paper is also intended to provide background on the cost containment issues that will be discussed.

AGENDA

A. Opening Remarks

B. Air Resources Board (ARB) Staff Presentation: "Cost Containment in a Greenhouse Gas Cap-and-Trade System"

C. Round-Table Discussion on Cost Containment

If a cap and trade program is implemented:

1. What type of cost containment mechanisms should California consider for a potential cap-and-trade system?
2. Is there a need to establish an independent market oversight body?
3. Which systems should be considered for linkage with a potential California cap-and-trade system?

Written comments and responses are welcome. Please submit your comments to ccplan@arb.ca.gov by May 9, 2008.

CALIFORNIA AIR RESOURCES BOARD (ARB)

Assembly Bill 32 Program Design Technical Stakeholder Working Group Meeting

FRAMEWORK FOR DISCUSSION

Overview

This paper provides background for the April 25, 2008 program design technical stakeholder meeting. These meetings provide interested stakeholders the opportunity to provide specific technical input concerning various elements of a cap-and-trade system for possible inclusion in the Scoping Plan. AB 32 includes specific criteria that ARB must consider before using market-based measures to implement AB 32, and ARB will evaluate a possible cap-and-trade system against those criteria before deciding whether to include such a system in the Scoping Plan.

The April 25, 2008 meeting will focus on "cost containment," which can be broadly defined as the ability of regulators to influence the allowance price within a cap-and-trade system, both through program design choices and through active market intervention. In this context "cost" refers to the cost to regulated facilities. Staff recognizes that there are a variety of other costs associated with greenhouse gas reduction programs that also need to be considered in program design. A variety of cost containment tools are available to regulators but ARB has structured this meeting around three primary questions related to this topic:

- What type of cost containment mechanisms should California consider for a potential cap-and-trade system?
- Is there a need to establish an independent market oversight body?
- Which systems should be considered for linkage with a potential California cap-and-trade system?

Background

The Goal of Cost Containment Tools: Ensuring Environmental and Economic Performance

The interest in cost containment arises from the belief that an excessively wide range in allowance price or sudden sharp changes in allowance price (volatility) could be economically disruptive in the short term. The cost containment measures discussed in this paper are designed to address one or both of these issues.

In the long term, tightening the cap (i.e. reducing the supply of allowances) will lead to higher allowance prices. The prospect that continued greenhouse gas (GHG) emissions will carry a high cost in the future is likely to force investment decisions in the direction of a low-carbon economy. Therefore, although many cost containment tools can influence allowance price in the long term, the goal of cost containment measures should not be to prevent a steady increase in allowance prices over time.

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Relationship between how the Cap is Set and the Need for Cost Containment

The cap represents the total GHG emissions permitted from all sources in the cap-and-trade system during a given compliance period. Stringency of cap levels strongly affects what allowance price will prevail in a cap-and-trade system and, therefore, the need for cost containment options.

The first compliance period of a California cap-and-trade system would likely begin in 2012. The initial cap level could be set aggressively to incent early reductions or could be set more leniently to provide a gentle transition into the program. Similarly, the level of the cap for the compliance period that ends in 2020 is critical—at the end of this period the emission levels from the capped sources must reach the target for these sources in order to ensure the broader economy-wide target is met [1].

The way in which the cap declines determines the rate at which greenhouse gases can be emitted from covered sources during a given period. This decline will be referred to as the "emission reduction path". The area under the path curve represents the total amount of emissions which occur and can be referred to as the "emissions budget" (see Figure 1).

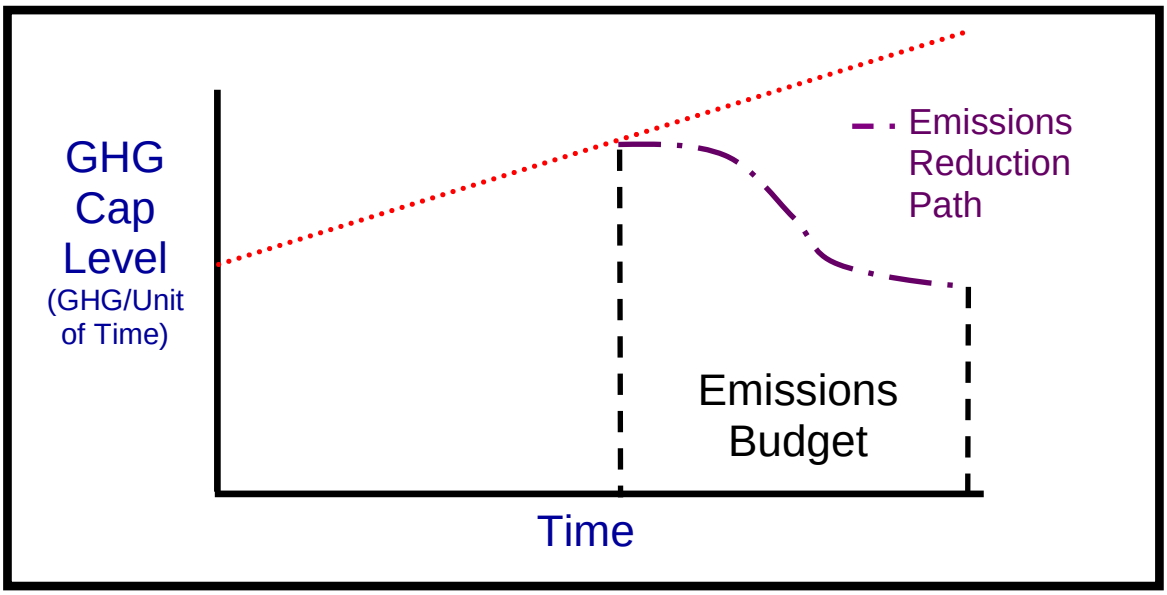

Figure 1. The emissions budget is equal to the area under the curve of the emissions reduction path.

[1] The target for the sources covered by a cap-and-trade system would be a portion of California's economy wide 2020 emissions target of 427 million metric tonnes of CO_2e.

An infinite number of possible emission budgets—varying from lenient to stringent—could be conceived for a given 2020 target for capped sources[2]. More importantly, multiple potential emission reduction paths exist with the same emission budget. Cost containment mechanisms can involve changes in the aggressiveness of the overall emissions budget, manipulation of the reduction path by which that budget is spent, or a combination of these tools.

What type of cost containment mechanisms should California consider for a potential cap-and-trade system?

A number of possible cost containment mechanisms are described below. Comments are welcome on the role any of these might play in California, and on whether there are other mechanisms not described here that should be considered.

Length of the Compliance Period
Expanding the length of the compliance period can help smooth volatility related to annual variations (e.g., low availability of hydroelectric electricity in dry years). The flexibility added by increasing the length of the compliance period may be especially valuable in the earlier years of the system when a bank of allowances has not yet been established.

Banking and Borrowing
Banking involves saving allowances from the current compliance period for use in future periods. Borrowing involves permitting allowances from future compliance periods to be used in the current period. If both banking and borrowing are allowed, market participants can effectively trade between compliance periods. This inter-temporal trading provides flexibility as to the timing of emission reductions to firms which should help reduce volatility in the allowance prices.

Banking creates an incentive to make early reductions and encourages long-term commitment to the system from stakeholders. In contrast, borrowing may create the incentive for firms which run up a heavy allowance debt to lobby for the cessation of the system.

Price Triggers

The basic concept of using a price trigger for cost containment is that when allowance prices reach a predetermined value, market intervention occurs in some specified fashion. The primary tools which could be made available to market regulators to implement these triggers include the ability to buy allowances, issue additional

[2] For this discussion, environmental harm from greenhouse gas emissions will be assumed to be proportional to the total amount of emissions released to the atmosphere regardless of exactly when the emissions occur during the eight year period (2012-2020). Over a longer time period the timing of reductions may need to be considered, with earlier reductions preferable from an environmental standpoint.

allowances, or allow a variable amount of offsets to be used to meet compliance obligations[3].

Offset triggers were heavily debated during the program design phase of the Regional Greenhouse Gas Initiative (RGGI)[4]. An offset trigger functions by reducing or increasing the quantitative or geographic limit placed on the use of offsets for compliance in a cap-and-trade system, increasing or decreasing this limit, once allowance prices reach a given level, will alter the price of allowances.

Alternatively, the allowance price could be affected by regulators purchasing or selling allowances in an attempt to create or reduce scarcity. A distinction between the various trigger options available, which involve directly purchasing or selling allowances, can be made relating to the desire to maintain the overall emissions budget. For example, to relieve undesirably high allowance prices regulators could offer allowances from future periods for sale in the current period, and maintain the overall emissions budget[5]. Alternatively, regulators could generate additional allowances to be offered for sale, thus inflating the overall emissions budget.

Is there a need to establish an independent market oversight body?

The cost containment mechanisms discussed above can have dramatic impacts on allowance prices and the overall functioning of the cap-and-trade system. This high level of potential impact highlights the importance of the individuals making the decisions as to "when" and "how" these tools should be employed.

Static rules governing the use of these tools would likely lack flexibility and may create unintended consequences[6]. A more dynamic option to ensure the proper use of these tools would be to establish an independent oversight board to selectively and proactively use the cost containment mechanisms to manage carbon market efficiency and transparency.

This board could be modeled after the Federal Reserve and be tasked with controlling the allowance budget in such a way as to balance environmental and economic goals. Other potential duties related to cost containment could include: collecting and analyzing market information and reporting to the public and to policymakers on the

[3] These basic tools provide the foundation for a broad range of mechanisms. At times more precise vocabulary is used to differentiate these mechanisms (e.g., price ceiling/safety valve, price floor, accelerator, circuit breaker, etc). A detailed discussion of all the permutations possible is beyond the scope of this paper. See the work of William A. Pizer for the origin of this discussion: http://www.rff.org/Documents/RFF-DP-98-02.pdf

[4] Offsets are in of themselves a cost containment mechanism. Due to the complex nature of the topic of offsets this subject was treated in a separate discussion at the April 4 Program Design Stakeholder Technical Workgroup. A white paper and presentation associate with that meeting are available from: http://www.arb.ca.gov/cc/scopingplan/pgmdesign-sp/meetings/meetings.htm

[5] This may also be thought of a price trigger creating a specific type of borrowing.

[6] For example, price triggers set statically around a certain price may cause the market to gravitate toward that price.

functioning of the market. The proper release of in-depth information from a reliable source could strongly influence trends in allowance price. This independent body has been given different names by various proponents of the concept such as the "Carbon Market Efficiency Board" or the "California Carbon Trust"[7].

Which systems should be considered for linkage with a potential California cap-and-trade system?

The concept of "linkage" involves integrating one emissions trading system with one or more other systems around the world. To accomplish this in California, ARB could choose to accept allowances or offset credits issued by other trading systems. Advantages of linkage associated with cost containment could include further potential for lower cost abatement options, reduced concerns about market power, and reduced price volatility. However, linking with other systems may imply some loss of control over allowance price by regulators and could result in a reduced potential for achieving co-benefits associated with greenhouse gas reductions occurring within California.

Linkage to other markets is only advisable if the designs of the markets are compatible and linked markets should ideally embed mutually acceptable levels of mitigation requirements. The inclusion of some cost containment tools in California's system designs may influence the feasibility of linking with other systems. For example, the implementation of a price trigger by regulators in one system would affect allowance prices in all linked system.

Several types of linkage are possible. In the simplest case one trading system could allow allowances from other systems to be used for compliance without an expectation of reciprocal treatment (unilateral linkage). Alternatively, a bilateral agreement could be reached between two governments to enable allowances from both trading systems to be used interchangeably. These are both examples of "direct linkages".

It is important to recognize that "indirect" linkages may also exist—market dynamics in one system may impact market dynamics in another system if both share direct links with a common third system. The variety of potential linkages is best illustrated by the following specific examples:

- California could directly link, unilaterally, with the European Union's Emission Trading Scheme (EU ETS) by accepting European Union Allowances (EUAs) for compliance in the California system.
- California could indirectly link with EU ETS through the Clean Development Mechanism by accepting Certified Emissions Reductions (CERs) offset credits for compliance in the California system.

[7] This concept was initially proposed by the Nicholas Institute for Environmental Policy Solutions at Duke University and has been incorporated into federal climate change legislation. See: http://www.nicholas.duke.edu/institute/carboncosts/carboncosts.pdf. The Economic and Technical Advancement Advisory Committee (ETAAC) has included a California Carbon Trust that would function along these lines among its recommendations. This recommendation is discussed below.

CALIFORNIA AIR RESOURCES BOARD (ARB)
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- California's participation in the Western Climate Initiative (WCI) would likely involve identical allowances being used for compliance in all WCI partner jurisdictions. This is equivalent to direct bilateral linkage between each pair of WCI partners.

SUMMARY OF RELATED ACTIVITES, RECOMMENDATIONS TO ARB AND PRECEDENTS

Related Activities:

The Western Climate Initiative
The Western Climate Initiative is a collaboration which was launched in February 2007 by the Governors of Arizona, California, New Mexico, Oregon and Washington to develop regional strategies to address climate change. Since the inception of the program five additional partner jurisdictions have joined the system[8]. WCI is identifying and evaluating collective and cooperative ways to reduce greenhouse gases in the region. ARB staff and other representatives from California serve on the subcommittees of WCI and are closely involved in the development of this process.

The WCI has recently released draft recommendations on a variety of topics for public comment[9]. With respect to cost containment these documents recommend banking but no borrowing, three year compliance periods with a provision for a special start-up compliance period and establishment of a regional entity to monitor and report on market activities.

Recommendations to the California Air Resources Board (ARB):

Market Advisory Committee
The Market Advisory Committee (MAC) was formed December 20, 2006 by California Secretary for Environmental Protection Linda Adams and delivered its report to ARB June 30, 2007[10]. The report includes recommendations on many aspects of the design of a cap-and-trade system.

The MAC recommended full banking, no borrowing and compliance periods of approximately three years. A safety valve price trigger which removed the certainty of the cap (price ceiling) was not recommended; however, the committee encouraged ARB to consider enforcing a price floor. Linkages with other mandatory GHG trading

[8] The WCI Partners are Arizona, California, New Mexico, Oregon, Washington, Montana and Utah, as well as British Columbia, Quebec and Manitoba.
[9] Western Climate Initiative, "Draft Allocation Design Recommendation." April 2, 2008. Available from: http://www.westernclimateinitiative.org/WCI_Documents.cfm
[10] Market Advisory Committee, "Recommendations for Designing a Greenhouse Gas Cap-and-Trade System for California," June 30, 2007. Available from: http://www.climatechange.ca.gov/documents/2007-06-29_MAC_FINAL_REPORT.PDF

systems, including Regional Greenhouse Gas Initiative (RGGI) and the EU ETS were encouraged.

Economic and Technology Advancement Advisory Committee (ETAAC)
The California Global Warming Solutions Act of 2006 (also known as AB 32) required the establishment of the ETAAC, which delivered its final report February 11, 2008[11]. In Section 9 it responds to the MAC recommendations.

ETAAC recommends the establishment of a California Carbon Trust. The Trust would fund reductions in emissions, environmental justice goals, and California university research, development, and demonstration of low-emission technologies. With respect to cost containment, the Trust is envisioned to act as a "market maker," smoothing out volatility in the market by buying allowances when prices drop and selling them if prices rise. This active market maker is preferred by the ETAAC to a rigid price trigger such as a safety valve.

The ETAAC report supports banking with the caveat that a large bank established in earlier years could potentially reduce the incentive to innovate in later periods. With regards to borrowing, some ETAAC members felt that limited borrowing might be necessary in order to encourage long-term investments.

Precedents:
European Union Emission Trading Scheme (EU ETS)
The EU ETS was established as part of the European Union member states' strategy for compliance with the Kyoto Protocol. Trading is planned for three phases: Phase I, which ran from 2005–2007; Phase II, which began January 1, 2008, and runs to 2012; and Phase III, which will run from 2013–2020.

No banking was permitted between Phase I and Phase II of the program. This fact, coupled with the sudden realization by the market that there was an over-allocation of Phase I allowances led to a sharp decline in Phase I allowance prices in April 2006. Phase II allows unlimited banking (through Phase III) but no borrowing.

Regional Greenhouse Gas Initiative (RGGI)
RGGI is a collaboration of ten Northeastern states to create a regional cap-and-trade system for carbon dioxide (CO_2) emissions from the electricity sector. Compliance is scheduled to start in 2009. RGGI will begin with three year compliance periods and banking but no borrowing[12]. The RGGI Model Rule, a template for state implementation

[11] Economic and Technology Advancement Advisory Committee, "Economic and Technology Advancement Advisory Committee (ETAAC) Final Report: Technologies and Policies to Consider for Reducing Greenhouse Gas Emissions in California," February 11, 2008. Available from: http://www.arb.ca.gov/cc/etaac/ETAACFinalReport2-11-08.pdf
[12] "Regional Greenhouse Gas Initiative Model Rule" January 5, 2007. Available from: http://www.rggi.org/docs/model_rule_corrected_1_5_07.pdf

of the system, also sets the following fixed price triggers which create linkages if activated:

- If the twelve-month rolling average allowance price rises above $7 per short ton:
  - Sources will be allowed to cover up to 5 percent of their emissions using domestic offsets[13]. This is an increase from the initial limit of 3.3 percent.
- If the twelve-month rolling average allowance price rises above $10 per short ton:
  - Sources will be allowed to cover up to 10 percent of their emissions with offsets.
  - The geographic limit on offsets will be relaxed. Offset projects outside the United States including the Kyoto Protocol's Clean Development Mechanism CERs will be permitted for compliance purposes. Allowances from the EU Emissions Trading Scheme and similarly rigorous future systems will also be permitted for compliance purposes.
  - The compliance period will be extended by one year, for a maximum compliance period of four years.

Regional Clean Air Incentives Market (RECLAIM)
The California South Coast Air Quality Management District established the RECLAIM cap-and-trade system in 1993 to reduce oxides of nitrogen (NO_x) and sulfur dioxide (SO_2) pollution. RECLAIM has restricted banking, does not allow borrowing, and has a one year compliance period.

Acid Rain Program
The Acid Rain Program is a United States cap-and-trade system for SO_2 emissions from fossil fuel burning electricity generators. It was established by the U.S. Environmental Protection Agency under Title IV of the 1990 Clean Air Act Amendments. The system allows banking but no borrowing, has one-year compliance periods, and does not use price triggers. Banking is often credited for much of the early reductions which occurred in this system.

[13] This is an example of an offset trigger. Domestic offsets include offsets from the RGGI region or from any other U.S. state with a memorandum of understanding with the RGGI states.

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GLOSSARY OF TERMS

Allocation

"Allocation" is how the program administrator distributes the allowances. Each allowance has a value, which depends on the supply and demand of allowances. In order to achieve emission reductions, the number of allowances issued is usually reduced over time. These allowances can be distributed by various methods including auctioning, benchmarking, and grandfathering.

Allowance

In a cap-and-trade system an "allowance" is a permit to emit a certain amount of pollution; in California's discussions of greenhouse gases, one allowance would be equal to one metric tonne of carbon dioxide equivalent (CO_2e).

Cap

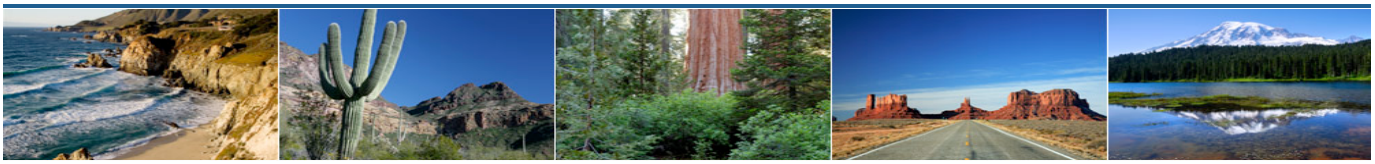
The number of allowances issued within a cap-and-trade system equals the total permitted level of emissions and is referred to as the "cap." The cap declines over time to reach a desired emissions target.

Compliance Period

A "compliance period" is a length of time for which a regulated entities emissions must match the number of allowances surrendered.

(END OF ATTACHMENT B)

Western Climate Initiative



WCI Offsets Subcommittee

Summary of Major Options for a GHG Offsets System to Support the WCI Program

January 3, 2008

Background

The Western Climate Initiative Offsets Subcommittee is examining the potential design, scope and operation of a greenhouse gas offset mechanism as an element of the WCI cap-and-trade system. The Subcommittee will develop recommendations within each of the four task areas in its workplan[1]: the role and objectives of a WCI offset mechanism, the core design elements of a WCI offset mechanism, offset eligibility and fungibility, and offset program structure and authority. While work on each of these tasks continues, the Offsets Subcommittee has identified a set of critical path questions – the Major Options listed below -- that will inform the extent and direction of further analysis and recommendations.

The Offsets Subcommittee seeks Partner, observer, stakeholder and public input on these options. This document identifies several advantages and disadvantages for each option. The Subcommittee recognizes that this list is not exhaustive, and that many of the pros and cons may be lessened – or enhanced – depending on how an offset mechanism is designed and implemented in practice. Therefore, the Subcommittee welcomes input on additional advantages and disadvantages, and on how some of the advantages shown can be maximized, or disadvantages minimized, in the design of an effective offsets mechanism.
Commenters are encouraged to fully discuss the reasoning behind each response.

[1] The Workplan for the WCI subcommittees was released to the public on October 29th, 2007 and is available at: http://www.westernclimateinitiative.org/ewebeditpro/items/O104F13792.pdf

1. Should the WCI allow offsets as a compliance mechanism?

Advantages	Disadvantages
▪ Achieves a given emissions goal at lower overall cost (economic efficiency); provides lower cost compliance options for capped sources ▪ By reducing program costs, can enable establishment of a lower cap than might otherwise be possible	▪ Poses a risk to environmental integrity of the cap, if issues surrounding additionality, permanence, leakage, quantification or verification are not adequately dealt with.
▪ Can spur technology development and innovation in sectors, sources, and locations not included in the cap-and-trade program ▪ Can provide environmental and social co-benefits, such as reduced air pollution, habitat preservation, or job creation, in sectors/sources not included in the cap-and-trade program	▪ Reduces incentive for investment and innovation in lower-emitting technologies by sources and sectors included in the cap-and-trade program ▪ Reduces any associated co-benefits in these sources and sectors
▪ Sends a carbon market signal to emissions sources or sectors that might be otherwise difficult – with emissions too small, disperse, uncertain, or episodic -- to include in a cap-and-trade program ▪ Enables participation of, and new revenues sources and business opportunities for, sectors/sources and locations not included in the cap-and-trade program	▪ May create a barrier to later inclusion of sectors/sources in cap-and-trade systems or conflict with alternative policy instruments (e.g. standards or incentives) in sectors/sources where offsets are allowed, if these issues are not adequately addressed in program design ▪ May be perceived as inequitable to the extent that some emission sources benefit from offset revenue while sources covered by the cap-and-trade system face compliance costs
▪ May be less costly per ton of GHG reduced than other mechanisms (e.g. regulation or incentives) for achieving reductions at sources/sectors not included in the cap-and-trade program, as a result of market forces	▪ May be more costly per ton of GHG reduced than other mechanisms where the cost of implementing offset projects is significantly lower than the market price of offsets
▪ Builds capacity and expertise within the region	▪ Can create administrative complexity and costs, and decisions would be needed on rules and procedures
	▪ May create challenges in sectors/sources not included in the cap-and-trade program where existing incentives and regulations differ significantly between jurisdictions, if these issues are not adequately addressed in program design

2. Location

The WCI is considering the implications of restricting the eligibility of offsets on a geographical basis. Such restrictions could limit some of the disadvantages noted above. At the same time, the WCI recognizes that such restrictions may affect the liquidity of the market and increase compliance costs.

a. Should the WCI allow offsets (only) from projects located within its Partner jurisdictions?*

Advantages		Disadvantages
▪ Enables financial flows and reductions/removals to remain within the region; concentrates other benefits of offset market to the region listed above (co-benefits, innovation); may be easier to ensure credibility and environmental integrity of offsets outside the WCI region (see list of potential disadvantages of allowing offsets from outside the WCI under question 2b below)		▪ Could lead to increased compliance costs, less stringent cap for sources/sectors in the cap-and-trade system, greater price uncertainty, reduced prospects for linkage (see list of potential advantages of allowing offsets from outside the WCI under 2b below)
▪ Could provide a competitive edge for the region, assuming other jurisdictions eventually adopt cap-and-trade programs with a role for offsets		▪ May be questioned by industry (with operations both within and outside the WCI) or by other jurisdictions
▪ May provide leverage to encourage other jurisdictions to join		

* - Note that all options are still under consideration, including the possibility of not allowing offsets from within the region, thus "only" is shown in parenthesis. The subcommittee recognizes that questions 1, 2a, and 2b are somewhat overlapping.

b. Should the WCI allow offsets from projects located outside the WCI (either in the rest of North America or internationally)?

Advantages	Disadvantages
▪ Enables access to a much larger and well established offset market, providing liquidity and offset availability, which may be important in achieving economic efficiency benefits or setting a more ambitious cap level ▪ Could reduce price uncertainty due to the magnitude of potential supply	▪ Could lead to financial flows out of the region and foregone benefits to local projects ▪ May be more difficult to ensure credibility and environmental integrity of offsets outside the WCI region
▪ Can provide support to, and increase prospects for linkage with, other regional or international climate agreements	▪ May raise concerns about consistency or rules and procedures with a WCI offsets program if created
▪ May require less administrative effort for offsets that have undergone adequately rigorous certification processes	▪ May increase complexity and costs of administration, or risk environmental integrity, for offsets that have not undergone certification processes that are adequately rigorous
▪ Can support adoption of low-carbon technologies, technology transfer, and sustainable development benefits to developing countries	▪ May not yield anticipated technology transfer and sustainable development benefits unless additional criteria are applied

3. Quantitative Limits on the Use of Offsets.

a. Should there be quantitative limits on the use of offsets (perhaps based on their location) to meet compliance obligations?

Advantages	Disadvantages
▪ Moderates some of the potential disadvantages of offsets (see section 1) ▪ May increase the extent of emission-reducing investments made by sources/sectors included in the cap-and-trade program	▪ Reduces ability to utilize lower-cost compliance options, and thereby could increase compliance costs ▪ Reduces the market signal to, and potential ancillary benefits from sectors, sources and locations not included in the cap-and-trade program. ▪ May result in setting a less stringent cap for the cap-and-trade program, given the higher overall program costs that offset limits might imply
▪ Can be relaxed if compliance costs are considered to be too burdensome	▪ May constrain development of a robust offset market (e.g., due to investment uncertainties) and create liquidity concerns
▪	▪ Differing limits based on location would increase administrative complexity

In relation to the quantitative limits, the WCI is also considering: how such limits might change over time; how such limits might vary based on the price of allowances; and whether offsets might be discounted (such that a ton of emission reductions from an offset might count as less than a ton towards compliance obligations, based on their location, project type, or other factors), among other possibilities.

4. Eligible offset project types within WCI

a. Should the WCI decide by August 2008 upon an initial list of approved project types, possibly including approved baseline and monitoring methodologies, prior cap-and-trade design? If offsets are allowed (see question 1 above), the WCI would likely establish a process and criteria for approving project types and methodologies on an ongoing basis. The question here is whether time is sufficient and benefits are significant enough to warrant establishing an initial set of approved project types (and perhaps including methodologies) prior to the WCI design to be issued in August 2008.

Advantages	Disadvantages
▪ Quantification methods exist for a number of project types, and have been approved for use in a number of systems (e.g., RGGI, CDM)	▪ Requires assessment of the availability of sufficiently robust quantification methods to ensure that offsets from a given project type are real surplus/additional, verifiable, permanent, and enforceable
▪ Sends an early signal and provides added certainty to potential offset sources and investors	

b. Should the WCI allow offsets from sources capped and regulated by the cap-and-trade system or from indirect emission reductions in sectors covered by the cap-and-trade system?

Advantages	Disadvantages
▪ Increases liquidity	▪ More administratively burdensome than treatment under the cap
▪ To maintain environmental integrity (and avoid double counting) allowances can be set aside or retired for offsets from capped sources	▪ Requires maintaining set asides or determining which allowances to retire, which can increase complexity of the system
▪ Enables additional (double) crediting for specific project types, where an added incentive for specific project types or technologies is desired	▪ Creates potential for double counting from simultaneously generating both an offset and a freed up allowance
▪ Can be allowed (as early action credit) until caps take effect	▪ Offsets from sources/sectors included in the cap-and-trade system are excluded by some other trading systems (e.g. RGGI)
▪ Indirect emissions reduction projects represent a potentially significant area of interest and potential (demand-side electricity efficiency, renewable electricity, biofuels, transit, cement use, etc.)	▪ Other mechanisms such as allowance allocation can be used to support indirect emission reduction opportunities

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5. Linkage with, and use of allowances from, other emission trading systems

The WCI is initially discussing the question of linkage within the Offset Subcommittee, with the recognition that it raises a number of questions distinct from the offsets-specific issues noted above. Input from multiple subcommittees is anticipated. Potential linkage with other systems will have implications with respect to offsets, both directly (by enabling access to offset commodities within other systems) and indirectly (since allowances may be internally fungible with offsets in other systems).

a. Bilateral linkage: Should the WCI link directly with other, rigorous cap-and-trade programs and allow fungibility of allowances among the two (or more) systems?

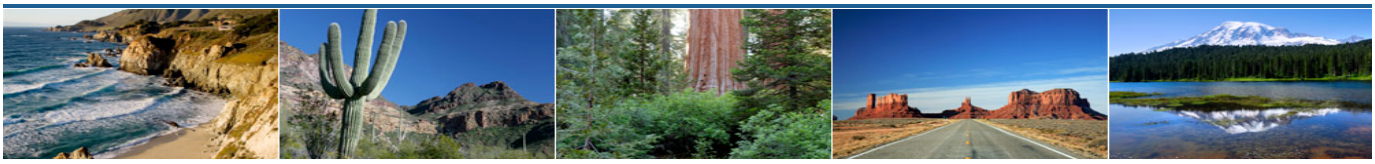
Advantages	Disadvantages
▪ Encourages harmonization among regional, national, and/or international systems and prepares for a potential future global market	▪ May limit or complicate WCI design choices; linkage will be challenging where cap-and-trade systems differ significantly in terms of cap stringency and basis (e.g., absolute vs. intensity-based), borrowing, penalties for non-compliance, offset limitations, monitoring protocols, and other key features. ▪ Would be undermined by price caps or floors unless harmonized
▪ Increases market liquidity and overall cost-effectiveness across the linked systems ▪ Affords a highly credible, low-transaction cost alternative to project-based offsets, where allowances are not over-allocated in other programs, ▪ May reduce WCI compliance costs if allowances in other systems trade at a lower price	▪ Could position WCI as a "price-taker", subject to prices based on other systems' supply-demand relationships, especially if linked systems are larger (e.g. EU Emissions Trading System); ▪ May increase WCI compliance costs if allowances in other systems trade at a higher price
	▪ Differences in allocation levels and modes among systems may create equity and competitiveness concerns

b. Unilateral linkage: Should the WCI allow the use of allowances from other, similarly rigorous cap-and-trade programs to be used as a compliance mechanism by capped sources in the WCI?

Advantages	Disadvantages
▪ May reduce WCI compliance costs if allowances in other systems trade at a lower price ▪ Increases liquidity; enables access to larger market	▪ Requires assessment to establish that allowances from other systems have sufficient rigor

(END OF ATTACHMENT C)

Western Climate Initiative



Western Climate Initiative

Draft Offsets Design Recommendations

April 3, 2008

I. Introduction

The Offsets Subcommittee is examining the potential design, scope, and operation of a greenhouse gas offset program for the Western Climate Initiative (WCI) cap and trade system. The Subcommittee is developing draft recommendations within each of the four task areas identified in the Offsets section of the WCI Workplan released in October, 2007:

1. the role and objectives of a WCI offset program,
2. the core design elements of a WCI offset program,
3. offset eligibility and fungibility, and
4. offset program structure and authority.

In preparing these draft recommendations, the Subcommittee took into account the draft recommendations of other WCI subcommittees, public comments received on the WCI Work Plan (October 29, 2007) and the Summary of Major Options for a GHG Offsets System (January 3, 2008), and information gathered and discussed by the Subcommittee during several conference calls and in-person meetings, including the workshop on Designing an Offsets Program for the WCI (March 26, 2008).

The Subcommittee's draft recommendations are a first step for inclusion of offsets in the overall cap and trade design and are intended to solicit stakeholder input before the Subcommittee takes its draft recommendations to the Partners. The Subcommittee will continue its work and intends to have additional draft recommendations after further deliberations, public input, and interaction with other WCI subcommittees. The Subcommittee is particularly interested in stakeholder comments on how to implement, or alternatives to, the draft recommendations described below.

II. Evaluation Criteria

Based on overall WCI design principles, the Subcommittee identified the following criteria to guide the evaluation of offset program design options:

Administratively simple and cost effective,

Operationally straightforward for participants,

Ensures integrity of emission reductions,

Adds to economic efficiency of the cap and trade system,

Stimulates innovation and provides co-benefits,

Enhances transparency and minimizes uncertainty, and

Facilitates linkage with other programs.

III. Draft recommendations

Based on the guidance provided by the overall WCI design principles and feedback from stakeholders, the Subcommittee recommends that a greenhouse gas offset program be an element of the WCI cap and trade design to facilitate the achievement of WCI Partners' emission reduction goals.

Role of the Offset Program

A primary role of the offset program could be to reduce the overall compliance costs for the cap-and-trade system, by enabling the offset market to deliver lower-cost emission reduction options than are available in the sectors/sources included in the cap-and-trade system. In addition, by lowering overall costs, an offset program could support a more aggressive reduction cap than might otherwise be feasible for the cap and trade system. Another role could be to encourage innovation, co-benefits, greenhouse gas emission reductions from sources not covered by the cap and trade system and removals by sinks.

Offset project types and protocols

The WCI should:

- aim to develop an initial set of eligible project types and approved protocols prior to cap and trade program launch;
- provide a process to review and approve other project types and related protocols proposed by project developers;
- use protocols that are standardized to the extent possible; and,
- make use of, and adapt if needed, existing protocols as appropriate.

Offset projects approved through the WCI offsets program

In addition to those offset projects approved within its jurisdictions, the WCI should consider approving offset projects located throughout Canada, the United States, and Mexico, where such projects would be subject to comparably rigorous oversight,

validation, verification and enforcement as those located within the WCI jurisdictions and would not undermine the ability for the WCI to link to other trading systems.

The WCI should consider a method that gives priority to offset projects located within WCI jurisdictions. The method should also consider other roles of the offset system.

Tradable units from government regulated GHG emission trading systems

The WCI should consider allowing for compliance purposes by individual regulated entities the use of tradable units (offsets and allowances) from other government regulated GHG emission trading systems that are recognized by the WCI as meeting similarly rigorous criteria for environmental integrity.

The WCI should ensure accounting systems are in place to prevent using tradable units more than once for compliance.

Limits

To ensure that meaningful emission reductions take place within the sources covered by the cap-and-trade system, the WCI should limit the use of offsets and non-WCI tradable units for compliance by individual regulated entities. The Subcommittee will consider making a specific draft recommendation to the WCI based on further analysis and considering the level of the cap set for the cap and trade system.

Offset program administrative structure and function

The WCI should use an administrative structure for the offset program that combines optimal aspects of jurisdiction-by-jurisdiction, public-private partnership, and centralized regional approaches and may draw from existing programs.

A regional organization should:

- coordinate review and adoption of protocols;
- coordinate review and issuing of offsets;
- provide the criteria and means to accredit service providers to deliver validation and verification services.

The subcommittee recognizes that each jurisdiction may need to retain regulatory authority for offset protocol and project approval, issuing offsets and enforcement.

The WCI should select or develop a centralized offset registry and ensure integration with the emissions reporting and allowance tracking system of the cap and trade system. Public-private partners could be involved in the registration and tracking of WCI offsets.

(END OF ATTACHMENT D)