

Issue Analysis¹: Linkage with Quebec in California's Greenhouse Gas Emissions Cap-and-Trade Market

by

**Elizabeth M. Bailey, Severin Borenstein, James Bushnell and Frank A. Wolak
Emissions Market Assessment Committee for AB 32 Compliance Mechanisms
September 20, 2012**

The Emissions Market Assessment Committee (EMAC) was formed to provide independent analysis and advice to the California Air Resources Board (CARB) and staff on implementation of California's greenhouse gas (GHG) cap-and-trade (C&T) market. One pressing issue with this market is the timing of linking with other jurisdictions, particularly the market in the province of Quebec.

Linking two international jurisdictions together to create one integrated allowance market is a momentous challenge. CARB has worked diligently at developing protocols for linkage for several years.² We appreciate and commend CARB's work to date and recognize that the framework for linking two international cap-and-trade jurisdictions is a dynamic process that CARB is continuing to refine.

We have identified five specific areas of concern associated with coordinating linkage between GHG C&T markets in California and Quebec at this early stage³:

- 1) Coordinating legal and regulatory frameworks within the context of international law;
- 2) Consistency in transparency about market mechanisms and compliance;
- 3) Consistency of definitions and market rules for the use of compliance instruments;
- 4) Consistency in the enforcement of market rules;
- 5) Ability to respond quickly to unforeseen contingencies and to take action to address them.

¹ Issue analyses reflect the views of the EMAC at the time they are released. They are written in order to inform stakeholders of the EMAC's views in a timely manner and to invite feedback from interested parties. The EMAC will update its views as new information arises and circumstances change.

² Materials to enable the linking of cap-and-trade programs were developed through the Western Climate Initiative, and are available at: www.westernclimateinitiative.org. Among the documents developed through the Western Climate Initiative that are relevant to the issues raised in this analyses are: "Guidance for Developing WCI Partner Jurisdiction Allowance Budgets" (July 8, 2010); "Offset System Essential Elements Final Recommendations Paper" (July 2010); "Final Recommendations Offset System Process" (February 22, 2012); "Final Essential Requirements of Mandatory Reporting" (December 17, 2010 and its subsequent updates); and "Design for the WCI Regional Program" (July 2010).

³ We note that our views are shared by virtually all of the major participations in the California market. Based on comments submitted to CARB, Southern California Edison and Southern California Public Power Authority support delaying linkage with Quebec until there is a well-functioning market in California. Pacific Gas and Electric lists a number of significant unresolved issues associated with linking with Quebec. Valero, Chevron and the Western States Petroleum Association all argue against linking at this time, although all of them support linking in the future. Finally, the AB 32 Implementation Group also opposes linking at the start of the California market. Some groups, such as Natural Resource Defense Council, Environmental Defense Fund, The Wilderness Society, and the Union of Concerned Scientists express support for linking, although none of these entities disputes the arguments offered by the entities that currently oppose linking.

In addition to these concerns, there do not appear to be large potential benefits from linking with Quebec, because of the negligible amount of trade in emissions-intensive goods that exists between the two jurisdictions.

We believe that the decision to link with other GHG C&T markets should not be tied to a specific date, but instead to meeting certain market performance criteria in both the California market and the linking market, so that CARB can be confident that the linkage will have the desired effect on the total cost of compliance for each of the linking jurisdictions. Linking California's market with Quebec and other jurisdictions' GHG C&T markets has the potential to reduce the cost of compliance for each linked jurisdiction. For this reason, we believe that linking with well-functioning GHG C&T markets in other jurisdictions should be pursued once the California market can be deemed to be well-functioning.⁴ However, prematurely linking with an unproven GHG C&T market could result in administrative and legal costs to California and California's regulated entities or adverse environmental impacts to California, undermining the goals of AB 32.

The remainder of this issue analysis discusses several specific issues that CARB must address prior to establishing a linkage with Quebec's market. We explain each of these areas of concern in more detail below.

Coordinating Legal and Regulatory Frameworks

If California compliance instruments can be used to comply with emissions obligations incurred in Quebec, and Quebec compliance instruments can be used to comply with emissions obligations in California, then both jurisdictions have a clear need to verify the integrity of the compliance instruments originated in and accuracy of compliance obligations incurred in the other jurisdiction. Verification and enforcement is likely to require each jurisdiction to compel market participants located in the other jurisdiction to provide information, which is likely to present a number of challenges under international law.

This need for cross-jurisdiction legal and regulatory oversight may arise in a number of contexts. For example, California might find a market design flaw that can only be corrected if Quebec implements the same market rule change. However, it would be difficult, if not impossible, for CARB to compel Quebec to implement this market rule. More simply, doubts as to the environmental integrity of Quebec's emissions reporting protocol could leave CARB wishing to seek information regarding facility-level emissions in Quebec. In this context, one can imagine circumstances where Quebec may not wish to comply with an information request by CARB necessary to verify the quality of a firm's GHG emissions monitoring technology, in order to ensure that these emissions are measured as accurately as they are in California.

⁴ While it is beyond the scope of this memorandum, possible metrics for deeming the California GHG C&T market to be well-functioning include GHG allowance prices that are tied to abatement costs, convergence in allowance prices (subject to transaction costs) across trading venues, evidence of allowance trading activity taking place, and price volatility reflective of changes in the cost of abatement, not market manipulation).

In the absence of clear precedents set by international law or previous market operations, California and Quebec must remove as much uncertainty as is practicable prior to establishing a linkage between their two markets. At this time, it has not been made clear to the EMAC that the parties have established rules or reached mutual understanding surrounding questions as basic as information sharing. California and Quebec cannot establish a linkage while still actively negotiating the details of this arrangement, without subjecting both programs to undue risk.

Consistency in Transparency About Market Mechanisms and Compliance

Different degrees of transparency about market mechanisms and compliance is likely to diminish market efficiency and introduce greater opportunities for market manipulation. For example, if Quebec requires less public release of data about purchases and sales of compliance instruments than does California, voluntary market participants (and possibly compliance entities) will shift their transactions to Quebec. This is particularly likely to be the case for a market participant interested in engaging in a strategy to increase its profits by exploiting some private information it has about compliance instrument holdings or aggregate emissions levels.

The two jurisdictions should adopt identical information release policies in terms of the type of information released, who it is released to, the time lag between production and release of the information, and how the information is made available to each entity. Different levels of transparency across markets will increase the opportunities for market participants to engage in strategies that allow them to profit from their private information. For entities that have emitting facilities in both jurisdictions, differences in transparency could further increase the potential benefits to engaging in behavior that exploits their unique vantage point in each market.

Consistency of Definitions and Market Rules for the Use of Compliance Instruments

There is an obvious need for consistent definitions for compliance instruments across the two jurisdictions. We believe that the jurisdictions have successfully harmonized their definitions of compliance instruments. However, different protocols for allowable offset projects and different rules for offset compliance remain points of concern. California assigns liability for invalid offsets on the buyer of the offset. If California invalidates an offset, the buyer must replace it with another valid compliance instrument (offset or allowance). Quebec has an environmental integrity pool into which each offset project contributes a small percentage. If Quebec invalidates an offset, the environmental integrity is maintained by retiring a valid offset from the environmental integrity pool. Both jurisdictions retain the authority to pursue enforcement against any party that provides misinformation in the development and issuance of their respective compliance offsets. California allows forestry and urban forestry offsets but Quebec does not allow them. Conversely, Quebec allows landfill methane destruction offsets, but California does not. Without undertaking a detailed harmonization of the offset compliance process, the details of the protocols for determining how much GHG emissions reductions are credited to the same type of offset project may differ across the jurisdictions, which could also have adverse impacts on market efficiency or environmental consequences.

Consistency in the Enforcement of Market Rules

Differences in how stringently jurisdictions enforce market rules can significantly harm market efficiency. Unfortunately, it is very difficult to know before the two markets actually begins operation how stringently each jurisdiction will enforce the market rules. The fact that different U.S. courts of law make different decisions about how to interpret the same law should provide some intuition as to how difficult it will be to coordinate enforcement of market rules across jurisdictions. The problem would almost certainly be greater across international boundaries.

This fact argues in favor of waiting until each jurisdiction has significant experience with enforcing market rules, before attempting to link the two markets. The accumulated enforcement histories for the same or similar market rule infractions will provide useful information for the linkage process. Clearly, both markets would like to adopt best practices, but experience is the best guide to determining which approach to enforcement is in fact best practice and should be adopted when the two markets link.

Ability to Respond Quickly to Unforeseen Contingencies

Multiple regulatory agencies overseeing the linked markets, with none of them having jurisdiction over the entire linked market, can give rise to circumstances when there is no entity able to take action to quickly respond to an unforeseen circumstance. Our earlier example of one regulatory body uncovering a market design flaw that requires coordinated actions by both regulators to correct is an important example of what can go wrong. As a point of comparison, the wholesale electricity market in California has been repeatedly updated, and in some circumstances the California Independent System Operator has had to request emergency changes to its settlement rules or tariffs. We believe it is very important for ARB to maintain similar freedom of action during its early experience with the market.

For this reason, it is important that a common set of responses to potential contingencies is agreed upon in advance of establishing a linkage between the two markets. Basing these protocols on a history of responses over the early years of independent operations would be a sensible approach to formulating them.

Cost versus Benefits of Linkage with Quebec

Quebec is relatively small and its economic output is not as GHG emissions-intensive as California. Most importantly, there is very little trade in emissions-intensive goods between California and Quebec. Therefore there is relatively little potential for reductions in emissions leakage or reshuffling, as might be gained from linking with a more tightly integrated trading partner.

This logic implies that immediate linkage with Quebec is unlikely to have a large benefit to California, while there is the possibility for substantial disruption to the California market for the reasons discussed above. Linking to other jurisdictions only after California is able to demonstrate its program is well-functioning has the added benefit that it could cause other

jurisdictions to join the California and Quebec markets, which would likely increase the benefits from linkage.

Concluding Comments

To harness the greatest benefits from linking with other GHG C&T markets and still ensure the integrity and viability of California's market, linkage with Quebec should be considered once each market is found to be well-functioning. While no time frame should be imposed, finding that both the California market and the Quebec market are well-functioning is unlikely to be determined prior to the implementation of the second phase of California's cap-and-trade program, in 2015. Considering linkage once each market is found to be well-functioning should provide sufficient time for the California market to develop and should provide sufficient time for the linking jurisdictions to reach a common understanding on important dimensions of the market, including information availability, offset liability, and procedures for imposing penalties.