Linking to Obtain the Potential Benefits of Broader Carbon Markets
Requirements of the Western Climate Initiative (WCI)

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A. Introduction

As Western states explore strategies to effectuate clean energy policies that have already been adopted or may be adopted because of state specific priorities or as a response to potential federal regulation, one strategy that is being employed by some states and explored by others is carbon pricing via a cap and trade program. When employing this strategy, there are potentially significant benefits found in larger carbon markets. The most obvious way to obtain the benefits of a larger market is to link with an existing carbon market.

Policy makers weigh many considerations before adopting a particular clean energy policy or program. In assessing whether to join or link with a regional or multi-state entity, one key concern can be the loss of some state autonomy. To evaluate this possibility, policy makers must first understand the requirements of joining a carbon market or participating in some other way, if permitted. This paper explains the nuts and bolts of participation in the greenhouse gas (GHG) market serviced by Western Climate Initiative (WCI), Inc. WCI, Inc. currently has four participating jurisdictions: California and the Canadian Provinces of Quebec, Ontario and British Columbia. California and Quebec have linked cap and trade programs; Ontario is in the process of linking; and Manitoba has announced plans to link in the future. The linked cap and trade programs cover emissions from seven greenhouse gases (GHGs) (including CO₂) and are economy-wide, including the power sector.

This paper does not focus on the design elements of jurisdiction-specific cap and trade programs, but rather focuses on the commitments that accompany participation and the management of the regional organization. This paper also explains options for participating in WCI at this time: as a participating jurisdiction in WCI, Inc., linking cap and trade programs (bilateral linkage); or as an allowance purchaser (unilateral linkage). Further, this paper explores program changes that are being considered that could alter participation options.

B. The Nuts and Bolts of WCI Membership

Overview. In February of 2007, the WCI started as a collaboration of five western U.S. States (California, Oregon, Washington, Arizona and New Mexico) working together to identify, evaluate, and implement policies to mitigate climate change and spur investment in clean energy policies. By July of 2008, the WCI had expanded to include Montana, Utah and the Canadian Provinces of British Columbia, Manitoba, Ontario and Quebec. This group produced several design documents that are still used today as guideposts for program development: Design Recommendations for the WCI Regional Cap-and-Trade Programs (2008) and Design for the WCI Regional Program (2010) which includes the Design Summary and the Detailed Program Design. Hereinafter these documents will be referred to as the “WCI Design Documents.”
By 2011, all states but California had withdrawn from the WCI. Later that year WCI, Inc. was established. WCI, Inc. provides administrative and technical services to support the implementation of cap and trade systems, such as the auction platform, market monitoring and emissions tracking system. It is managed by a Board composed of representative from “participating jurisdictions.” Typically, a participating jurisdiction is a state or province that is, or will be, using the services of WCI, Inc. The current participating jurisdictions are California, Quebec, Ontario and British Columbia.

To link with other programs in the Initiative, a jurisdiction must adopt, through statute or regulation, a cap and trade program that is harmonized with the cap and trade programs of the other linked jurisdictions. A jurisdiction must have a GHG reduction target that is at least as stringent as 1990 levels by 2020 and show that it can meet this target through reductions from the cap and trade program and policies for uncapped sources.

The first auction using the WCI, Inc. platform took place in November of 2012; since then auctions continue to take place quarterly. The first California-Quebec combined auction took place in November of 2014. The compliance period for the two linked CO₂ emission trading programs is three years; the current period began January 1, 2015 and ends December 31, 2017.8

**How to Join: Participating Jurisdiction and Linking Programs.** There are two levels of association with this Initiative.9 The first level is to become a “participating jurisdiction;” the second is to fully link cap-and-trade programs in a common market. A participating jurisdiction has representation on the WCI, Inc. Board, which oversees WCI, Inc. Typically, participating jurisdictions are states or provinces that are, or will be, using the technical services of WCI, Inc.10 Participating jurisdictions manage the operations of WCI, Inc., for example, by developing or amending the operating rules (i.e., the bylaws) and approving the WCI, Inc. budget. All participating jurisdictions are specifically named in the WCI, Inc. bylaws. The bylaws must be amended to include a new jurisdiction,11 and agreement to amend the bylaws must be by an affirmative vote of two thirds of the Board.12 All jurisdictions using WCI, Inc. services pay a fee to support WCI, Inc. The fee is based, in part, on each jurisdiction’s proportion of the total GHG emissions allowance budget. California and the Canadian Provinces of Quebec, Ontario and British Columbia are the only participating jurisdictions currently listed in the WCI, Inc. bylaws.13 Each receives services and contributes fees, with the exception of British Columbia. A participating jurisdiction does not have to link its program or be represented on the WCI, Inc. Board in order to use the WCI, Inc. services. For example, Quebec initially used the WCI, Inc. tracking and auction services to run a Quebec-only auction. This was a preliminary step that Quebec took before conducting joint auctions with California.

To link with other programs in the initiative, a jurisdiction must be a WCI, Inc. participating jurisdiction (because linked programs use the auction and tracking services of WCI, Inc.) and adopt legislation or regulations to implement a cap and trade program that is harmonized with the programs
of other linked jurisdictions. To be harmonized, certain elements of the cap and trade programs must be identical, some elements do not have to be identical as long as they produce similar outcomes, and other elements can be different with no impact on the combined market. The WCI Detailed Program Design serves as a guidepost for jurisdictions seeking to develop cap and trade programs. However, it is not a model rule, nor is there a summary of the other linked programs or a primer describing the program elements that fall into each of the three categories described above. Instead, the currently linked jurisdictions assess the proposed cap and trade program and must agree that the program is sufficiently harmonized with their own regulatory programs. Each jurisdiction has its own unique regulatory process for accomplishing this. Of the currently linked members, California has the most thorough assessment process, which is described below.

Once the jurisdictions have harmonized their respective cap and trade programs, they enter into a **Linking Agreement**. The Linking Agreement outlines the parties’ obligations at a high level and is signed by the heads of the relevant agencies in each jurisdiction. To date there are two parties to the Linking Agreement. The Linking Agreement between California and Quebec is signed by the Chair of California’s Air Resource Board (CARB) and two Quebec Ministers. The Agreement sets forth the objectives of the program and includes obligations to do the following: engage in regular consultation between the parties; continue regulatory harmonization; consult about changes to offset protocols; mutually recognize each party’s compliance instruments (e.g., allowances), trade compliance instruments; conduct joint auctions; work together to develop and use a common program registry and auction platform; work cooperatively to prevent fraud, abuse and market manipulation; continue coordinating administrative and technical support through the WCI, Inc. (although parties can consider other approaches or technical assistance); and take part in a Consultation Committee. To link a cap and trade program with other jurisdictions that are party to the Linking Agreement, the Linking Agreement must be amended to include the new jurisdiction. This requires the consent of all parties to the agreement and must be in writing. This would probably take the form of an amendment to the Linking Agreement, signed by representatives from all parties and committing the new jurisdiction to all provisions of the Agreement.

The following illustrates the different levels of association. California and Quebec are participating jurisdictions; their cap and trade programs are linked and they use the tracking and trading services of WCI, Inc. Quebec linked with California in two stages: first reciprocally accepting allowances (January 1, 2014); then later conducting joint auctions (November 25, 2014). Ontario is a participating jurisdiction, has developed a cap and trade program, and is currently in the assessment process that precedes joining the Linking Agreement. Manitoba, which is currently not a named participating jurisdiction, has announced its intention to implement a cap and trade system and link with California, Quebec and Ontario. British Columbia is a participating jurisdiction but has not adopted a cap and trade program nor announced its intention to do so; it has had an economy-wide carbon tax that has been in effect since 2008.
Program Assessments and California’s Process. Prior to linking with a new jurisdiction, linked jurisdictions have the opportunity to review the new entrant’s program and to assess whether it is sufficiently harmonized with their regulatory programs. If the program meets the criteria of the already linked jurisdictions, it will be approved. There will be some provisions in each jurisdiction’s regulations that must be exactly the same, other areas where the intent and approach needs to be consistent (i.e., has to produce a similar outcome but does not need to be identical), and in a few cases, no need for a similar approach (each jurisdiction can implement or develop a specific policy). Each jurisdiction has its own process for making the determination; California’s is the most thorough and is described below.

In general, the overall standard for linked programs is to provide the same level of stringency and environmental integrity while providing equivalent coverage of emissions in all jurisdictions. The California, Quebec and Ontario programs all have GHG emission reduction targets at least as stringent as 1990 levels by 2020, and cover the following: multiple GHGs (carbon dioxide, methane, nitrous oxide, nitrogen trifluoride, sulfur hexafluoride, hydrofluorocarbons and perfluorocarbons), sources that emit 25,000 metric tons or more of CO₂ annually, and multiple sectors including electricity and electricity imports.

California’s 2016 assessment of Ontario’s Cap and Trade Program, performed by the Air Resource Board (CARB), is instructive. This assessment provides detailed examples of program elements that must be identical, how others elements are determined to be consistent, and which elements can be different without impacting the linking process. For example, requirements of the quarterly auction must be identical. However, the manner in which electricity generation is covered by the program does not; it needs to be consistent only in that it will produce a similar outcome under each program. To illustrate this point, unlike in California, under Ontario’s program most electricity generators will not bear a direct compliance obligation; the compliance obligation instead rests upstream with fuel distributors. However, fuel distributors are not provided allowances. They must acquire allowances either at auction or in the secondary market and the carbon price is reflected in fuel costs borne by the generators. Finally, certain program elements do not even have to be similar, such as the process for and timing of allowance allocations.

California’s standard for the review is based upon four findings that the Governor must make, prior to linking the California program with another jurisdiction, to enable the use of compliance instruments (e.g., allowances) issued by other jurisdictions for use in California’s program. This requirement is statutory (S.B. 1018).

- The partner jurisdiction has adopted program requirements for GHG reductions and offset credits which are equivalent to or stricter than California’s;
- California has the continued ability to enforce its laws and regulations;
- The partner jurisdiction has the ability to enforce its laws and regulations, and enforcement requirements are equivalent to or stricter than California’s enforcement requirements; and
- The proposed linkage does not impose any significant liability on California for any failure associated with the linkage.
The following is an overview of the steps taken in California:

- **CARB conducts an evaluation** of the new jurisdiction’s cap and trade program, assessing each component for consistency with the California standard, and prepares a written report.\(^{33}\) Studies, reports and proposals are subjected to public review and an administrative record is maintained with comments and other materials.

- **CARB notifies the Governor**, via letter, that it intends to link with another jurisdiction (take such action that will result in acceptance by California of allowances issued by another jurisdiction) and requests that the Governor make the required four findings.

- **The Governor, after reviewing the record and getting advice from the Attorney General, makes the necessary findings**, via letter, and may include additional steps that should be taken before fully linking. For example, with respect to Quebec, which linked through a two-stage process, the Governor made the required four findings on April 8, 2013 but required additional collaboration before linking could be completed. Initially, California and Quebec linked by enabling compliance instruments to be transferred between participants in the two programs (January, 2014) and then later, after additional preparation, conducted joint auctions (November, 2014).\(^{34}\)

- **The jurisdictions enter into a Linkage Agreement.** California enters into the Linking Agreement after the Governor makes the requisite findings for linkage to proceed. To amend the Linking Agreement to include additional jurisdictions all parties must agree in writing. To date the Linking Agreement is between two jurisdictions: California and Quebec.\(^{35}\)

- **ARB adopts regulations that provide for linking of the two programs.**

- **ARB conducts any additional coordination or evaluation required by the Governor.**\(^{36}\)

Prior to the official steps described above, a jurisdiction typically works closely with the other linked jurisdictions as it develops (or modifies) its cap and trade program. Also, prior to linking, the jurisdiction typically has become a participating jurisdiction in WCI, Inc. and is receiving support and assistance for the “on-board” aspects of the program. On-board means the technical aspects of using the WCI, Inc. services such as the auction platform and allowance tracking system.

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**How to Leave: Withdrawal and Removal.** The **Linking Agreement** requires jurisdictions with linked cap and trade programs to provide 12 months written notice prior to withdrawal. Further, the withdrawing party should “endeavor to” provide notification 12 months prior to the end of a compliance period, so that the withdrawal will be effective at the end of a compliance period.\(^{37}\) Compliance periods are three years, starting in 2015 (e.g., January 1, 2015 – December 31, 2017).

The WCI, Inc. bylaws do not have any requirements specifically stating how a jurisdiction can withdraw from being a **participating jurisdiction.**” The bylaws do state, however, that a jurisdiction remains a participating jurisdiction so long as at least one Class A director from that
jurisdiction has been named or designated a Class A director, has given notice of his/her acceptance and continues to serve. Therefore, it appears that a jurisdiction can withdraw by having their Class A directors resign and/or discontinue serving. No notice is required.  

Participating jurisdictions can be removed by amending the bylaws which requires the affirmative vote of two thirds of the Board.  

The contract between California and WCI, Inc. which commits California to funding WCI, Inc. in exchange for services, provides that either party may cancel the contract at any time, upon 30 days written notice to the other party. In addition, the contract has a budget contingency clause providing that, if the Budget Act of any year covered under the contract does not appropriate sufficient funds for the program, the contract will have no further force and effect.  

**The Regional Organization (WCI, Inc.)**  
WCI, Inc., established in November of 2011, is a nonprofit corporation located in Sacramento, California, that provides administrative and technical assistance to support the implementation of state and provincial GHG emission trading programs. WCI, Inc. has no policy making, regulatory, or enforcement authority with respect to the jurisdictions’ cap and trade programs. WCI, Inc.’s role is limited to operational support, such as design and implementation of the auction and tracking systems and on-board preparation for jurisdictions that will be using their services. WCI, Inc. manages the Compliance Instrument Tracking Service System (CITSS), administers allowance auctions, and facilitates independent market monitoring of allowance auctions. It is currently staffed by four employees, including an executive director. WCI, Inc. carries out its responsibilities as directed by the Board and with support from jurisdiction staff, relying largely on contractors for technical services. See Fees and Services Provided below.

WCI, Inc. is managed by a Board composed of two Class A directors from each of the participating jurisdictions. At this time the Board is composed of 8 directors, two from each of the following jurisdictions: California, British Columbia, Quebec and Ontario. All directors are employees or officers of their respective state or province. Each jurisdiction determines who their directors will be (i.e. from what office or department). The bylaws do not mandate who will appointment the Board directors within each jurisdiction; again, each jurisdiction decides this. All of this information is memorialized in the WCI, Inc. bylaws.  

WCI, Inc. operates according to bylaws which were developed by the Board and can be amended by the Board.

The WCI, Inc. budget is determined and approved by the Board. It is funded by annual member fees from participating jurisdictions called “participation dues.” Each jurisdiction contracts with WCI, Inc. for services. The payment required is based, in part, on each jurisdiction’s proportion of the total GHG emissions budget. See Fees and Services below.
Amending the Linking Agreement, Bylaws or Program Design. Amendments to the Linking Agreement shall be in writing and require the unanimous consent of the parties to the Linking Agreement. For example, when Ontario links their cap and trade program with California and Quebec, the current parties must consent in writing, presumably with an amendment to the Linking Agreement signed by all parties.

The bylaws can be amended by an affirmative vote of two-thirds of the entire Board at any Board meeting at which a quorum is present (or the entire Board if it consists of fewer than three class A directors).

The Detailed Program Design and other WCI Design Documents from 2008-2010 serve as guideposts for program design. These documents do not get amended or updated. Jurisdictions review and adjust their cap and trade programs as prescribed by the rules and laws of their respective state or province; the reviews can be scheduled for specific points in time or performed on an as-needed basis. Currently, a significant review is underway in California, and changes for California’s program are being proposed through this process. This is described in the Program Evolution section below. Linked jurisdictions work closely with each other when contemplating or implementing program changes, in accordance with their obligations contained within the Linking Agreement.

See Table 1 for highlights of the Linking Agreement.

Table 1: Highlights of the Linking Agreement between California and Québec

<table>
<thead>
<tr>
<th>Consultation Committee:</th>
<th>Establish a consultation committee to monitor the coordination of the programs and report at least annually.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory Harmonization:</td>
<td>Consult regularly and constructively to harmonize the regulations for the mandatory reporting and cap-and-trade programs.</td>
</tr>
<tr>
<td>Regulatory Changes:</td>
<td>Notify each other and work together on potential regulatory changes, with the objective of retaining harmonization. Respect each other’s regulatory procedures, including public review and comment.</td>
</tr>
<tr>
<td>Program Coordination:</td>
<td>As provided for in the respective program regulations:</td>
</tr>
<tr>
<td>•</td>
<td>Recognize compliance instruments from each other’s programs.</td>
</tr>
<tr>
<td>•</td>
<td>Enable compliance instruments to be traded across programs.</td>
</tr>
<tr>
<td>•</td>
<td>Hold joint auctions of allowances.</td>
</tr>
<tr>
<td>•</td>
<td>Work cooperatively to prevent fraud, abuse and market manipulation and share information to support each other’s effective analysis, supervision and enforcement of the applicable laws and regulations.</td>
</tr>
<tr>
<td>•</td>
<td>Inform each other and coordinate on public announcements. Administrative Systems:</td>
</tr>
<tr>
<td>•</td>
<td>Work together to develop and use common program registry and auction platforms.</td>
</tr>
<tr>
<td>•</td>
<td>Continue to coordinate administrative and technical support through the Western Climate Initiative, Inc.</td>
</tr>
</tbody>
</table>
**How Other Business is Conducted.** Other business of WCI, Inc. is conducted by **Board action.** A majority of the entire Board, including at least one class A director from each participating jurisdiction constitutes a quorum for the transaction of business.\(^{52}\) A vote of a majority of the entire Board, if a quorum is present, constitutes an act of the Board. A few circumstances require a two-thirds majority: the approval or substantial modification of the budget; approval of a contract in excess of $50,000; appointing a WCI, Inc. executive director; and the amendment of WCI, Inc.’s bylaws. The Executive Committee can act for the Board between meetings, with some exceptions.

The **Executive Committee** consists of at least four directors: the Chair, who serves as chairperson of the Executive Committee; all Vice Chairs; the Treasurer; and the Secretary. The Board appoints additional Class A directors to the Executive Committee to ensure the Executive Committee includes at least one Class A director from each participating jurisdiction. The Executive Committee cannot act on the following items: filling vacancies on the Board or any standing committee; creating or eliminating a standing committee; the amendment, repeal or adoption of bylaws; the amendment or repeal of any Board resolution; and fixing the compensation of directors.\(^{53}\)

WCI, Inc. operates according to the **bylaws** adopted by the Board. The bylaws can be amended (which includes repealing or adopting new bylaws) by a two-thirds majority Board action as described above.

Program development and policy in regard to harmonization of jurisdictional programs is conducted between states and provinces directly and does not fall under the umbrella of WCI, Inc.

**How Allowance Budgets are Set.** Each participating jurisdiction implements its own cap and trade program and sets its own GHG emission reduction targets and annual allowance budgets. The regional budget is the sum of the participant budgets.

Conceptually the process is as follows. The participating jurisdiction sets a 2020 GHG emission reduction target. The first year that the jurisdiction is covered under the program, the cap (allowance budget) is based on business as usual predicted emissions for that year. Every year thereafter the annual cap is set to reduce emissions on a straight line trajectory, with the emission reduction target being met in 2020.\(^{54}\) Both reductions from the cap and trade program and policies for uncapped sources are applied to meet the 2020 target. All three jurisdictions have performed analyses that incorporated actual reported data to set emissions budgets.\(^{55}\)
The California, Quebec and Ontario targets are set in relation to 1990 emissions levels. See Table 2 below. The WCI Design Recommendations include a recommendation for an economy-wide GHG reduction goal for 2020 that meets a region-wide stringency minimum. California’s target is to achieve 1990 emission levels by 2020 and California can only link with jurisdictions with equivalent or stricter standards. This does not mean that each jurisdiction is required to have a 2020 target that is at or below 1990 levels per se. To be at least as stringent, consideration is given to the jurisdiction’s current circumstances and the level of effort (or total change) required to reach the target. Post 2020 targets will be set at least 3 years in advance. In April 2015, California set, by executive order, a target of 40 percent below 1990 emission levels by 2030.

Table 2. GHG Reduction Targets for 2020 and 2030.

<table>
<thead>
<tr>
<th>Target Year</th>
<th>California</th>
<th>Québec</th>
<th>Ontario</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>Equal to 1990</td>
<td>20% below 1990</td>
<td>15% below 1990</td>
</tr>
<tr>
<td>2030</td>
<td>40% below 1990</td>
<td>37.5% below 1990</td>
<td>37% below 1990</td>
</tr>
</tbody>
</table>

Source: Public Hearing to Consider the Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms, CARB, Staff Report: Initial Statement of Reasons (August 2, 1026) at 18.

The Detailed Program Design provides that programs implement “a binding and annually declining aggregate total GHG emissions cap that limits the quantity of allowances that can be issued and covers one or more economic sectors.” In assessing consistency and stringency, primary consideration is given to gases covered, sectors covered, the threshold for inclusion of a source, and whether annual allowance budgets are established in a similar manner. Currently, the California, Quebec and Ontario programs cover seven GHG gases (carbon dioxide, methane, nitrous oxide, nitrogen trifluoride, sulfur hexafluoride, hydrofluorocarbons and perfluorocarbons), sources that emit 25,000 metric tons or more of CO2e annually, and multiple sectors including electricity and electricity imports.

Guidance for establishing annual allowance budgets for each participating jurisdiction is detailed in the Guidance for Developing WCI Partner Jurisdiction Allowance Budgets. The Guidance recommends methodologies for establishing each jurisdiction’s allowance budget. It was developed by the WCI Cap Setting and Allowance Distribution Committee in 2010. The annual allowance budgets for California, Quebec and Ontario are provided in Table 3 below.
Table 3. Annual Allowance Budgets for California, Québec, and Ontario through 2020.

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Allowance Budget (million metric tons CO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>California</td>
</tr>
<tr>
<td>2013</td>
<td>162.8</td>
</tr>
<tr>
<td>2014</td>
<td>159.7</td>
</tr>
<tr>
<td>2015</td>
<td>394.5*</td>
</tr>
<tr>
<td>2016</td>
<td>382.4</td>
</tr>
<tr>
<td>2017</td>
<td>370.4</td>
</tr>
<tr>
<td>2018</td>
<td>358.3</td>
</tr>
<tr>
<td>2019</td>
<td>346.3</td>
</tr>
<tr>
<td>2020</td>
<td>334.2</td>
</tr>
</tbody>
</table>

*In California, transportation fuel and distributed natural gas are covered beginning in 2015.

Source: Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation, CARB (August 2, 2016) Appendix D, Summary of the Cap-and-Trade Program in Ontario, Canada, Table D-1 at 4.53

**How Allowance Prices are Established.** Allowance prices are set by a bidding process at auction. There is a minimum or floor bid price called the “auction reserve price.” The auction reserve price was set at $10 in 2012, and increases annually by 5% plus the rate of inflation.64 The 2016 auction reserve price is $12.73 U.S.65 and this was the clearing price at the September 2016 auction. There is also an upper price trigger. When the auction cost hits the trigger price, allowances from a reserve pool can be released for sale by each jurisdiction. Sales are limited to emitters in those jurisdictions. In California, this is called the Allowance Price Containment Reserve (APCR); in Quebec, the Minister’s Reserve.66 This is intended to moderate the price increase when demand is higher than expected. The reserve price is set in three tiers. Initially category A was $40, category B was $45, and category C was $50. Since 2014, the price increases annually 5%, plus the rate of inflation. To date, allowance prices have not reached the trigger level. These values (minimum and maximum) are made obligations in each jurisdiction’s regulations.

To provide context, the carbon price in the WCI auction for 2014 was $12.08/ton and in 2015 $12.76/ton, while the carbon price in the Regional Greenhouse Gas Initiative (RGGI) for 2014 was $5.21/ton and in 2015 $7.50/ton.67 The European carbon price was EU €6/ ton in 2014 and EU €7.7 /ton in 2015.68 Although this is not a one-to-one comparison because of program differences—importantly RGGI covers only electricity not including imports—it does provide some perspective. See Figure A below for a comparison of WCI and RGGI prices over time.
Figure A. RGGI and WCI quarterly auction allowance prices through 2015.


Note: The first joint auction with Quebec was in November of 2014. At the beginning of 2015, the sectors covered by California’s C& T program expanded to include transportation and residential, commercial, and industrial fuels.

**Trading: Allowance Allocation and Auction Overview.** Each jurisdiction offering GHG allowances for sale in an auction retains the authority to make its own regulatory determinations in conducting the auction. Allowance auctions are conducted in accordance with the statutory and/or regulatory authority of each jurisdiction offering GHG allowances for sale in that auction.

Each state and province issues allowances equal to their annual budget for each year and each allowance represents 1 short ton of carbon or carbon equivalent. See Table 3 for annual allowance budgets. Allowances issued by linked jurisdictions are fungible. Buyers cannot choose allowances from a specific jurisdiction; allowances are sold in lots of 1,000 that combine allowances from all jurisdictions that have contributed allowances to the auction.\(^70\) Regulated entities must acquire one allowance for every ton of CO\(_2\)e that they emit.

The WCI Design Recommendations include the following: a minimum auction level of 10% at the start of the program, increasing to at least 25% by 2020; each jurisdiction may auction a higher percentage if it so chooses; and jurisdictions will to use a portion of the allowance value for purposes with region-wide benefits, such as energy efficiency and low-carbon technology development.\(^71\) The general sense of the group that made the recommendation (see Overview) was that priority should be given to auctioning as large a portion of the allowances as possible. Generally, California and Quebec have far exceeded the minimum auction amounts in the Design Recommendations.\(^72\)
Also, a portion of the annual emission budget is set aside in reserve by each jurisdiction to be used if auction prices exceed a price ceiling, i.e., California’s APCR and Quebec’s Minister’s Reserve.73 The proportions reserved each year by each jurisdiction are as follows: 1% in 2013 and 2014; 4% in 2015, 2016 and 2017; and 7% in 2018, 2019 and 2020. These allowances, if sold, are sold through a separate process. This can be done up to four times each year.

Linked jurisdictions can choose to freely allocate the remainder of the allowances from within their allowance budgets. For instance, a linked jurisdiction could “give” allowances to the emitters operating within its jurisdiction, “auction” the allowances to willing buyers, or provide for some combination of the two. For example, allowances could be given to entities that export renewable hydroelectricity outside participating jurisdiction in order to acknowledge the importance of renewable energy in reducing GHG emissions.74 In California allowances are given to electricity deliverers, but in return they are required to submit all those allowances into the auction pool and use the proceeds exclusively for the benefit of retail ratepayers (e.g., rebates).

Unilateral Linkage: The Current System and Two New Proposals. Only allowances issued by linked jurisdictions can be bought or sold on the WCI, Inc. auction. There is no restriction on who can own these emission allowances; they can be sold between and among covered entities or third parties and buying on the auction is not restricted.75 In general, only states and provinces can sell allowances on the WCI, Inc. auction platform. However, there are some program-specific carve outs. For example, California electricity deliverers are allocated allowances by the State and are required to consign them to auction. Currently, allowances not issued by a linked jurisdiction are not recognized by the linked jurisdictions (and cannot be used for compliance in those jurisdictions). Some of this may change in the near future. CARB has released for comment a proposal for two forms of unilateral linkage: “retirement-only limited linkage” and “retirement-only agreement;” these are described below.76

Participation as a buyer in the WCI auction is not limited to buyers from linked or participating jurisdictions. Compliance (regulated) and non-compliance entities as well as individuals can participate in the auction as long as they register 30 days prior to auction, meet the financial regulatory requirements and post bid guarantees.77 Therefore entities, such as brokers, non-profits or individuals may purchase allowances in the WCI, Inc. auction. Once purchased, allowances can be re-sold, used for compliance, banked or voluntarily retired by the owner.

Allowances must be sold in lots of 1,000. There is a limit to how many lots can be purchased at each auction, based on who the purchaser is. The limit ranges from 4-40% of the units up for bid. For example, emitters who qualify for free emission units are limited to 15% of the units up for bid; emitters who do not qualify are limited to 40%; and participants who are not emitters are limited to 4%.78
The WCI Design Documents include provisions that contemplate unilaterally linking and mutual recognition of allowances; two forms of coordination that do not require jurisdictions to fully harmonize their programs. The former would allow, for example, covered entities in Quebec to use compliance instruments from a program that is not linked. The latter would allow this usage to go both ways. The Design Documents include two requirements: (1) the same criteria used to assess if a program meets the requirements for linking with WCI jurisdictions would be applied in determining whether to approve allowances from the external trading program; and (2) the WCI jurisdiction must develop a suitable mechanism to ensure the validity of external compliance units and to make sure those units can only be used once for compliance in any program.79 The Design Documents also contemplate limits on how many of these allowances can be used for compliance.80 Currently, neither Quebec nor California have regulations that permit this, however, California is proposing such regulations now.

CARB recently released a proposal for regulatory amendments defining two forms of unilateral linkage that will be permitted if the proposals are approved and adopted: retirement-only limited linkage and retirement-only agreement. These two forms of linking would not require complete integration of programs or regulatory harmonization. First, retirement-only limited linkage describes a process by which California covered entities could use instruments from other cap and trade programs (i.e., not linked through the WCI) for compliance with California’s program. It would require CARB Board approval that specifies the types of compliance instruments issued by another GHG emission trading systems (ETS) that California entities could retire and apply towards their California obligations, any types of restrictions including offset use limits, and a process developed with the linked GHG ETS to facilitate and track retirements and inform ARB of the retirements. Retirement-Only Limited Linkage would require the four SB 1018 linkage findings prior to Board approval, and would require that the other program be compatible for linking.

Second, retirement-only agreement would allow entities in other jurisdictions to purchase and retire California compliance instruments in their GHG programs. At this time, there is no restriction on who can buy allowances issued by California on the WCI, Inc. auction or through a third party. However, there is the potential for increased demand from non-linked jurisdictions, for example, from Washington’s recently implemented Clean Air Rule, which allows compliance entities in Washington to use allowances from approved programs in other jurisdictions. This type of demand could increase if the Clean Power Plan (CPP) comes into effect. The implementation of a Retirement-Only Agreement would mirror Retirement-Only Limited Linkage, although SB 1018 findings would not be required. ARB Board approval would be required to specify approved jurisdictions, the types of compliance instruments involved, and any restrictions on the use of such instruments. ARB would create an External GHG Program Holding Account. An entity in an external GHG program with an approved Retirement-Only
Agreement with California would acquire California compliance instruments or would arrange with an entity registered with California to acquire compliance instruments on its behalf. The entity registered with California would transfer the instruments to the External GHG Program Holding Account, and would provide the appropriate identification code for the entity that will be using the instruments in the other jurisdiction. CARB would check the entity identification to ensure it was from an approved jurisdiction and then transfer the compliance instruments to the Retirement Account. When the approved jurisdiction needs documentation of retirements in California by its entities, CARB would use the tracking system extracts to provide that information.\textsuperscript{81}

The proposals are part of a larger report that is scheduled for CARB Board review on September 22, 2016. See Program Evolution Below.

\textbf{Fees and Services Provided.} WCI, Inc. is fully funded by fees from participating jurisdictions. Three factors are used to determine the contribution from each jurisdiction receiving WCI, Inc. services. Currently, those jurisdictions are California, Quebec and Ontario. First, the WCI, Inc. administrative costs are divided equally between all jurisdictions. Second, costs associated with work done solely for one jurisdiction are assessed to that jurisdiction. This is typically a very small portion of the budget, if any. Third, the remainder of the budget is allocated to each jurisdiction based on that jurisdiction’s proportion of the total annual GHG emissions allowance budget for all jurisdictions. This serves as a proxy for program size and is typically the largest portion of each jurisdiction’s contribution.\textsuperscript{82} In exchange for their contribution, states and jurisdictions receive administrative support and technical services. Table 4 below shows the 2016 annual budget and 2017 expected expenditures for WCI, Inc.

Table 4: Total Budget for WCI, Inc. for 2016 and Projected Expenditures for 2017

<table>
<thead>
<tr>
<th></th>
<th>2016 Budget</th>
<th>2017 Projected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cap-and-Trade Services</td>
<td>3,438,156</td>
<td>3,260,340</td>
</tr>
<tr>
<td>Personnel and Direct Operations</td>
<td>1,082,142</td>
<td>1,099,150</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$4,520,298</strong></td>
<td><strong>$4,359,490</strong></td>
</tr>
</tbody>
</table>

Source: WCI Budget for Calendar 2016 and projected Expenditures for 2017 (Nov., 20, 2015)

To see how this works, using the figures in Table 3 and California’s contribution in 2016 and 2017 of $2,000,000 each year,\textsuperscript{83} California’s portion of the 2016 and 2017 total allowance budget is 86.2% and 64.8%, respectively (assuming Ontario is linked in 2017), while California’s share of the WCI, Inc. budget and expected expenses for those years is 44.2% and 45.9%, respectively. The difference between the program size and proportion of the budget allocated to California is explained by the equal split of administrative costs between all three jurisdictions and jurisdiction-specific work that may have been done for California, Quebec or Ontario.
The requirements for cap-and-trade services are defined by staff from participating jurisdictions based on the support needed. This in turn is used to define the work for contractors. Table 5 below is an example of the cap and trade services provided by contractors managed by WCI, Inc.  

Table 5: 2016 Cap-and-Trade Services Budget and 2017 Projected Expenditures

<table>
<thead>
<tr>
<th>Service</th>
<th>2016 Budget</th>
<th>2017 Projected</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITSS Development, Support, and Hosting</td>
<td>$1,470,000</td>
<td>$1,220,000</td>
</tr>
<tr>
<td>CITSS Help Desk</td>
<td>$15,000</td>
<td>$15,000</td>
</tr>
<tr>
<td>Auction Services</td>
<td>$938,594</td>
<td>$839,803</td>
</tr>
<tr>
<td>Financial Administrative Services</td>
<td>$502,000</td>
<td>$748,000</td>
</tr>
<tr>
<td>Market Monitor</td>
<td>$212,562</td>
<td>$137,537</td>
</tr>
<tr>
<td>Support for Planning and Analysis</td>
<td>$300,000</td>
<td>$300,000</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$3,438,156</strong></td>
<td><strong>$3,260,340</strong></td>
</tr>
</tbody>
</table>

At the direction of the Board, WCI, Inc. staff, with support from jurisdiction staff, conducts planning and analysis. For example, in the 2016/2017 budget cycle they anticipate that Participating jurisdictions will be amending their programs, including specifying activities for the post-2020 period, and there may be a need to support additional participating jurisdictions. Therefore, they will be examining the following: potential changes to technology requirements for continued use and potential expansion; potential changes to contractor and jurisdiction processes, such as working groups, to include more jurisdictions; and streamlining linking processes and coordinating linking to reduce costs and improve efficiencies.

A review of California’s 2016-2017 contract with WCI, Inc. provides additional examples of the type of service WCI, Inc. provides for participating jurisdictions (primarily through subcontractors):

- Participation in WCI, Inc.
- Access to administrative systems being developed and administered to support the implementation of state and provincial GHG trading programs
- Access to administrative systems including development and administration of the Cap-and-Trade Compliance Instrument Tracking System Service (CITSS)
- Administration of a CITSS help desk
- Development and administration of an allowance auction platform
- Coordinated auction financial administration
- Analyses supporting market monitoring performed by each jurisdiction of allowance auctions and allowance and offset credit trading.
Program Evolution. Program evolution (not related to the WCI, Inc. technical services) takes place through the review and amendment processes in the linked and participating jurisdictions. For example, there is no regular review and update of the WCI Detailed Program Design, but rather participating and linked jurisdictions working through their administrative and regulatory processes develop, propose and adopt program amendments to their programs as needed or as otherwise required by their regulations. Before a jurisdiction proposes or adopts an amendment, the jurisdiction typically has already been consulting with the other linked jurisdictions. There are program coordination and harmonization obligations included within the Linking Agreement (see Table 1). Further, California, for example, has a public process that is open to participating or linked jurisdictions and these jurisdictions can participate fully as a proposed amendment makes its way through the State’s regulatory process.

CARB, the regulatory entity responsible for implementing and enforcing California’s cap and trade program, proposes changes to the California program. There have been a number of amendments over the years to address, for example, program implementation issues that arise or linking with additional jurisdictions. In October of 2015, CARB staff began a public process to propose substantial amendments for Board consideration. The proposed amendments would:

- Extend the Program beyond 2020 by establishing new emissions caps, enabling future auction and allocation of allowances, and continuing all other provisions needed to implement the Program after 2020;
- Link the Program with the new cap-and-trade program in Ontario, Canada beginning January 2018;
- Continue Program linkage with Québec, Canada beyond 2020;
- Continue to prevent emissions leakage in the most cost-effective manner through appropriate allowance allocation for a post-2020 program;
- Ensure that quantifiable and verifiable GHG emissions are captured by the Program;
- Continue the allocation of allowances to the utilities on behalf of rate-payers;
- Provide for California compliance with the federal Clean Power Plan;
- Clarify compliance obligations for certain sectors; and
- Simplify participation in the Program by streamlining registration, auction participation, information management, and issuance of offset credits.

As described earlier in this paper, California has defined two forms of unilateral linkage as part of the proposed amendment package.

An extensive stakeholder process has been underway since October of 2015, when the kickoff workshop took place. CARB staff has developed and released a number of discussion and research papers. On August 2, 2016, staff released the proposed amendments in a report that was considered by the CARB Board on September 22, 2016. CARB will continue to consider stakeholder feedback throughout the regulatory adoption process, including up to the adoption of
the final regulation. The expectation is that the final regulation will be adopted by August of 2017.

C. Policy Implications

With the EPA’s development of the CPP Guidelines, there has been an increased interest in cap and trade as a tool for reducing carbon emissions. Given the potential benefits from participating in larger carbon markets, states could consider participating in WCI by linking with the other jurisdictions using the WCI, Inc. auction and tracking services (i.e., California, Quebec and in 2017 Ontario) fully, or participating in a more limited way.

In addition to the general policy implications included in the technical brief: Linking to Obtain the Potential Benefits of Broader Carbon Markets: Considerations for Western States, Western States may want to consider the following:

Reduce barriers and increase incentives to participation in the WCI. There are substantial differences among the states in the West in regard to the resources available to develop and implement a carbon reduction program (e.g., state staff and funds) and expertise and experience with cap and trade. Some smaller states (as measured by population and revenues) may be interested in exploring cap-and-trade as a potential tool to meet state and federal policies, but resource limitations could present a barrier to exploring and potentially developing such programs.

Linked jurisdictions using the WCI, Inc. auction and administrative services could develop a product summarizing the regulations that a new entrant would need to “harmonize” with in order to link. Currently the linked jurisdictions are California, Quebec, and in 2017, Ontario. A new entrant must harmonize its cap and trade regulations with the regulations of all three jurisdictions in order to link. This product could take the form of a primer, a model rule, or a summary of the relevant regulations for each jurisdiction, for example, and the product could be updated to reflect changes in state or jurisdictional regulations.

The WCI, Inc. Board could consider expanding support services to include more state program support. For states in which resource limitations are a barrier to considering cap and trade as a tool for addressing emission reduction policies, outsourcing some of the work required for designing, implementing and operating a state cap and trade program is a potential solution. WCI, Inc. is uniquely positioned to provide some of these resources, similar to the resources RGGI, Inc. provides to states. However, it is currently limited by its bylaws to providing operational (or on-board) services to states.
Consider new options for participation in the market serviced by WCI, Inc. as they develop. California is currently considering a proposal that defines two forms of unilateral linking that will be permitted if the proposal is approved and implemented. The first form would allow California covered entities to use instruments from other (not linked) cap and trade programs. The second form would allow entities in other (not linked) jurisdictions to purchase and retire California compliance instruments in their GHG programs.

Interested Western states may want to engage with CARB to understand the proposals and their implications for non-linked programs, monitor the progress of the proposals, and/or potentially participate in the public process as the proposals move toward adoption. If the proposals are adopted, States could to consider how both options for unilateral linkage might potentially fit into their strategies for reducing carbon emissions or complying with a state or federal regulation.

End Notes

1 For example, six Western states have specific GHG emission reduction targets and a number of Western states are continuing to explore options for compliance (at a more macro level) in the event the federal Clean Power Plan (CPP) Rule comes into effect. See Alaine Ginocchio, Linking to Obtain the Benefits of Broader Carbon Markets: Considerations for Western States (Draft), WIEB (October 2016, not yet released) at 4-5 (hereinafter “Linking Considerations, WIEB”). Appendix A of Linking Considerations provides details and information sources for state policies recently adopted or under consideration in the West. Id. at Appendix A.


3 Linking is a formal recognition by a greenhouse gas (GHG) mitigation program in one jurisdiction of emission reductions undertaken in another jurisdiction for the purpose of complying with the first jurisdiction’s mitigation program. It can be unilateral (one-way recognition) or bilateral (mutual recognition).

4 For similar information regarding the Western Climate Initiative, see Linking to Obtain the Benefits of Broader Carbon Markets: Requirements of the Regional Greenhouse Gas Initiative (RGGI) (Draft), WIEB (October 2016, not yet released).

5 Ontario’s power marked is indirectly covered as explained later in this paper.

6 There are a number of resources with good descriptions of the program design, including but not limited to: International Emissions Trading Association (IETA), et al., California: An Emissions Trading Case Study (April 2015) (hereinafter “California Case Study, IETA”); WCI Design Summary, WCI (July 2010) (hereinafter “Design Summary, WCI”) available at: http://www.westernclimateinitiative.org/component/remository/general/program-design/Design-Summary/.
7 Design for the WCI Regional Program, Detailed Design, WCI (July 2010) §1.1 at DD-2 (hereinafter, “Detailed Design, WCI”).

8 Ontario’s first compliance period will be four years in order to synch up with the current 3-year periods and avoid a 1-year compliance period in the first year. Summary of the Cap-and-Trade Program in Ontario, State of California Air Resource Board (CARB) (August 2, 2016) (hereinafter (“Ontario Program Summary, CARB”) at 6-7 (Appendix D to the Statement of Reasons for Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms, Staff Report: Initial Statement of Reasons, CARB (August 2, 2016) (hereinafter, “2016 Proposed Amendments, CARB”).

9 Until late 2011, the initiative included an observer class. The observers included at various times Alaska, Colorado, Idaho, Kansas, Nevada, Wyoming, the province of Saskatchewan, and the Mexican states of Baja California, Chihuahua, Coahuila, Nuevo Leon, Sonora and Tamaulipas. Center for Climate and Energy Solutions (C2ES) webpage, Multi-State Climate Initiatives available at: http://www.c2es.org/us-states-regions/regional-climate-initiatives (hereinafter “C2ES webpage”).

10 This is true for all of the current participating jurisdictions except British Columbia. See Note 25.

11 By-Laws of the Western Climate Initiative (revised May 8, 2013) (hereinafter “WCI By-laws”), Art. III.

12 WCI By-laws, Art. XI By affirmative vote of the Entire Board if it consists of fewer than three Class A directors. Id.

13 WCI Bylaws, Art. III.

14 Detailed Design, WCI, §1.2 at DD-2.

15 Detailed Design, WCI, §1.2 at DD-2; Ontario Program Summary, CARB at 2.


17 The consultation committee is composed of one representative from each jurisdiction that is a party to the agreement. It is currently composed of the Executive Director of CARB and the Assistant Deputy Minister for Climate Change, Air and Water from Quebec. It monitors implementation of harmonization measures and undertakes to resolve differences if differences arise between parties regarding how to maintain the harmonization and integration of their programs. Linking Agreement, Art. 12.

18 Linking Agreement, Art. 17.

19 California was the first member to have an operational cap and trade program. The regulation took effect in October 2011 and the first allowance auction occurred in November 2012. The first compliance period began January 1, 2013. 2016 Proposed Amendments, CARB at ES-4.

20 Compliance instruments could be transferred between the two jurisdictions enabling compliance instruments from both programs to be used for compliance in both programs. However, California and Quebec continued to hold separate auctions until preparations were complete for joint auctions. 2016 Proposed Amendments, CARB at ES-4; Linkage Readiness Report, CARB (November 1, 2013) at 3-4 (CARB’s assessment of Quebec’s program).

21 California Case Study, IETA at 3.

22 Ontario has adopted cap and trade regulations. Ontario Posts Final Cap and Trade Regulation: Province Reducing Greenhouse Gas Pollution, Creating Jobs, Ontario Ministry of the Environment and Climate Change (May 19, 2016). However, Ontario is in the process of making the changes necessary to link with California and Quebec. Ontario Government webpage, Cap and Trade Program Overview, #6 Western Climate Initiative, Inc.,

Originally B.C. was going to combine a carbon tax with a cap and trade program. The emissions from transportation and residential, commercial, and industrial fuels would be covered by a carbon tax in lieu of a cap and the carbon tax would be integrated with the cap-and-trade programs such that reductions incented by the tax, in combination with the cap on industrial sources, would achieve BC’s GHG reduction goal. *Guidance for Developing Partner Jurisdiction Allowance Budgets*, WCI (July 8, 2010) at 1, FN 1 (hereinafter “Allowance Budget Guidance, WCI”). However, in 2008 B.C. implemented an economy-wide carbon tax. Diane Toomey, *How British Columbia Gained by Putting a Price on Carbon*, Environment 360 (April 30, 2015). B.C. continues to be a WCI participating jurisdiction with representation on the Board. WCI By-laws, Art. III.

Ontario Program Summary, CARB at 2; *The Quebec Cap-and-Trade System and the WCI Regional Carbon Market: A Historical Overview*, Government of Quebec at 6 (hereinafter, “Historical Overview, Quebec”).

Ontario Program Summary, CARB at 2.

In Ontario, generators do not have a direct compliance obligation, however increased fuel costs impact electricity generation in a similar way as explained in this section.


Ontario Program Summary, CARB at 4. These provisions cover requirements regarding eligibility for auction participation, publication of auction-related information, process for tie breaks in an auction, settlement for an auction, purchase limits by auction participant type, bidding process, dates for auctions, and financial requirements. Id.

Ontario Program Summary, CARB at 2l; *Historical Overview*, Quebec at 6.


See e.g., *Ontario Program Summary*, CARB.

*CARB Chair Mary Nichols letter to California Governor Edmund G. Brown, Jr.* (November 1, 2013) (regarding follow up to Governor’s findings); *California Case Study*, IETA at 3.

See Linking Agreement.

See *Linkage Readiness Report*, CARB (describes the final steps for linkage with Quebec).

Linking Agreement, Art. 16.

WCI By-laws, Art. III.

WCI By-laws, Art. XI.


WCI By-laws, Art. XII.
42 C2ES webpage.

43 WCI By-laws, Art. IV.

44 WCI By-laws, Art. IV, §§4.1 and 4.2. The By-laws also provide for Class B Directors (two from each participating jurisdiction) who are entitled to notice of and to attend and be heard at Board meetings. They are not counted in determining if a quorum is present and not entitled to vote. It is at the discretion of the participating jurisdictions whether to appoint any Class B Directors. Id., Art. IV, §4.2.

45 The approval of at least 2/3 of the Board, if a quorum is present is required to approve or substantially modify the budget. WCI By-laws, Art. IV, §4.11. The Finance Committee shall advise the Board as to the budget. Id., Art. VI, §6.3. The Finance Committee is composed of at least two Class A Directors, one is the Treasurer who is also the Committee Chair. Id. The Executive Committee can act for the Board between meetings of the Board and budget approval is not listed as an exception this authority, although the Executive Committee cannot amend or repeal any resolution of the Board. Id., Art. VI., §6.2

46 CA-WCI contract, Exhibit A at 1.

47 Linking Agreement, Art. 17.

48 Bylaws, Art. XI.

49 A summary of changes to California’s program that have been adopted since the original regulation took effect can be found in 2016 Proposed Amendments, CARB at ES-4.

50 Linking Agreement, Art. 3 Consultation Process, Art. 4 Regulatory Harmonization (any proposed changes or additions to those programs shall be discussed between the parties), Art. 11 Coordinated Administrative and Technical Support and Art. 12 Consultation Committee.

51 Source: Linking Readiness Report, CARB at 11.

52 WCI By-laws, §4.10. However, if a quorum cannot be achieved because of the absence of Class A directors from a Participating Jurisdiction, then such meeting may be adjourned to a later date. If no Class A director from that Participating Jurisdiction unrepresented at the initial meeting attends the adjourned meeting, then no Class A director from that Participating Jurisdiction shall be necessary to constitute a quorum at the adjourned meeting. Id.

53 WCI By-laws, §6.2.


55 Ontario Program Summary, CARB at 3 (California and Ontario).


57 Michael Gibbs, Assistant Executive Officer, California Air Resources Board, comments (September 30, 2016).


59 Detailed Design, WCI, §9.1.1 at DD-44

60 Ontario Program Summary, CARB at 3.

61 Initially California’s program covered the electricity sector and large industrial and commercial sources; in 2015 it was expanded to cover emissions from transportation and other residential, commercial, and industrial fuel users.
Ontario and Quebec have similar broad coverage. C2ES, California Cap and Trade webpage: http://www.c2es.org/us-states-regions/key-legislation/california-cap-trade (January 2014) text and Table 2; Ontario Program Summary, CARB 3.


63 Ontario Program Summary, CARB at 4 (California data: Section 95841 of the Cap-and-Trade Regulation; Quebec data: Government of Québec 2012; Ontario Data: Government of Ontario 2016c).

64 California Case Study, IETA at 13.

65 Californian and Quebec develop a single reserve price as follows: On linked auction days, the minimum joint GHG emission unit price will be the higher of the minimum Quebec and California prices and is calculated on the basis of the U.S./Canadian dollar exchange rate on auction day. The Quebec Cap-and-Trade System for Greenhouse Gas Emission Allowances: Frequently Asked Questions Q&A, Government of Quebec (hereinafter “Quebec FAQ”) at 13, #33.

66 Quebec FAQ at 15-17; California Case Study, IETA at 13.

67 These represent the contract weighted average price for allowances of that vintage year. Thomson Reuters, Carbon Market Monitor (January 11, 2016) (hereinafter “Reuters”) at 10.

68 Reuters at 3. The conversion rate in August 2015 was 1.12 USD: 1 Euro; in August 2014, 1.36 USD:1 Euro, as calculated by x-rates, http://www.x-rates.com/.


70 This does not apply to reserve auctions. Quebec FAQ at 13, #38. Allowances are combined in proportion to each jurisdiction’s share of the allowances contributed to the auction. Id.

71 WCI FAQ at 3.

72 Michael Gibbs, comments (October 5, 2016).

73 In California, since 2015, additional allowances have been made available for the reserve in two additional ways. California Case Study, IETA at 13.

74 Detailed Design, WCI, §6, DD-27

75 Design Summary, WCI at 6.

76 2016 Proposed Amendments, CARB at 19.

77 Approved offset registries, verification bodies, and offset verifiers are not allowed to hold allowances and thus are not eligible to participate. AB32 Cap-and-Trade Auction Frequently Asked Questions, Environmental Defense Fund (October 2012) (hereinafter, “EDF FAQ”) at 1.

78 Quebec FAQ at 15; Cap and Trade Guidance, Chapter 5: How Do I Buy, Sell, and Trade Compliance Instruments? CARB (December 2012) §5.1.6 at 16. There are also holding limits that can impact how many allowances can be purchased in an auction. Quebec FAQ, #43.

79 No more than 49% of the total emission reductions from 2012 – 2020. DD-46, §9.3.
80 Detailed Design, WCI, §9.2 at 10.
81 2016 Proposed Amendments, CARB at 19.
82 Michael Gibbs, comments (September 30, 2016).
83 CA-WCI contract Exhibit B.
85 WCI 2016 Budget at 6.
86 WCI 2016 Budget at 6.
87 Linking Agreement, Articles 3 (consultation process), 4 (regulatory harmonization, 11 (coordinated administrative and technical support) and 12 (consultation committee).
88 For a concise description of amendments to date see 2016 Proposed Amendments, CARB at ES-4.
89 2016 Proposed Amendments, CARB at ES-5.
91 2016 Proposed Amendments, CARB at title page.
92 2016 Proposed Amendments, CARB at 7.
93 Alaine Ginocchio, Linking to Obtain the Benefits of Broader Carbon Markets: General for Western States (Draft), WIEB (October 2016, not yet released).