

**State of California
AIR RESOURCES BOARD**

LINKAGE READINESS REPORT

November 1, 2017

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Linkage Readiness Report

I. Summary

California, Québec, and Ontario have each committed to timely and effective action to reduce emissions of greenhouse gases (GHGs) that are contributing to climate change. Each jurisdiction has enacted legislative requirements to reduce economy-wide GHG emissions. California has codified its GHG targets of returning to its 1990 emissions levels by 2020 and at least 40 percent below 1990 levels by 2030. Québec has a GHG target of 20 percent below 1990 levels by 2020 and 37.5 percent below 1990 levels by 2030. Ontario also has codified GHG targets of 15 percent below 1990 levels by 2020, 37 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. To achieve these emission reductions, each jurisdiction is implementing a portfolio of programs, including a comprehensive cap-and-trade program.

California and Québec (Linked Jurisdictions) have been implementing successful linked cap-and-trade programs since 2014 (the Linked Program).¹ Subsequently, the Ontario program was designed in collaboration with California and Québec to be compatible for linking. In July 2016, Ontario's cap-and-trade program regulation took effect.

As part of the most recent amendments to the Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms (the California Cap-and-Trade Regulation or the California Program), California Air Resources Board (CARB or Board) staff included an appendix to the regulatory staff report detailing the status of Ontario's program at that time, as well as proposed regulatory amendments that, if approved, would link California's program with Ontario's program.² Senate Bill 1018 (SB 1018) requires that, prior to linking the California Program with another jurisdiction, CARB notify the Governor of the proposed link, and that the Governor issue specified written findings concerning the proposed link after considering the advice of the Attorney General. On January 30, 2017, CARB notified the Governor of the proposal to link with the Ontario program, and requested that he make the findings required in SB 1018 (Government Code Section 12894(f)). In order to support the findings, CARB provided documentation detailing staff's assessments of how the Ontario program met the SB 1018 requirements.³

In response to the CARB request, on March 16, 2017, Governor Brown found that the Ontario program meets all SB 1018 requirements for linking with the California Program.⁴ In his findings, the Governor directed CARB to continue working with Québec and Ontario

¹ For California's linkage process and readiness assessment of the Québec program, see <https://www.arb.ca.gov/cc/capandtrade/linkage/linkage.htm> and https://www.arb.ca.gov/cc/capandtrade/linkage/arblinkage_readiness_report.pdf.

² See Staff Report: Initial Statement of Reasons (2016), Appendix D, at <https://www.arb.ca.gov/regact/2016/capandtrade16/appd.pdf>; see also, Proposed Regulatory Order, section 95943(a)(2), <https://www.arb.ca.gov/regact/2016/capandtrade16/appa.pdf>.

³ See CARB, Discussion of SB 1018 Findings Ontario (2017), at https://www.arb.ca.gov/cc/capandtrade/linkage/sb1018_findings_ontario.pdf.

⁴ The Governor's findings are available at: <https://www.arb.ca.gov/cc/capandtrade/linkage/linkage.htm>.

to test and evaluate the systems used by the Linked Program for auction administration and compliance instrument tracking to ensure they are ready to support the addition of Ontario to the Linked Program. Consistent with the process for linking with Québec, the Governor also directed CARB to prepare a report detailing the progress of the above efforts and identifying any impediments to linkage. The report is due to the Secretary of the California Environmental Protection Agency and to the Governor's Office by November 1, 2017.

On July 27, 2017, the Board adopted Board Resolution 17-21, which approved the proposed regulatory amendments to link with Ontario. The proposed amendments were approved by the Office of Administrative Law on September 18, 2017 and became effective on October 1, 2017. Linkage with Ontario will be effective on January 1, 2018. Additionally, Board Resolution 17-21 directed CARB's Executive Officer to complete pre-linkage activities prior to January 1, 2018. The pre-linkage activities include a review of processes, procedures, and systems utilized by Ontario's program to ensure implementation consistency and compatibility with the Linked Program. As required by the Governor, and as directed in the Board Resolution, this report describes the progress made by the jurisdictions to expand and operationalize the Linked Program to include Ontario. This report employs the same evaluation procedures that were followed prior to linkage with Québec. The assessments contained herein are organized in three main parts: readiness to coordinate the linked programs to maintain harmonization and to resolve differences that may arise; readiness to enable cross-jurisdictional transfer of compliance instruments; and readiness to jointly auction emission allowances.

Based on this review, CARB staff has concluded the Linked Program is ready to include Ontario (Table 1). With respect to readiness to maintain program harmonization, Ontario's program includes procedures for ongoing coordination with the Linked Program and a public process for proposing changes to maintain program stringency and integrity. Ontario also has a mandatory reporting program that is consistent and compatible with the reporting programs adopted by the Linked Jurisdictions. Ontario is working with the Linked Jurisdictions to update joint procedures and processes for conducting specific program activities in a linked program. These procedures and processes are expected to be finalized prior to January 1, 2018.

CARB staff has found the tracking system capable of transferring compliance instruments between the three jurisdictions starting January 1, 2018. Ontario's program utilizes the same tracking system (the Compliance Instrument Tracking System Service, or CITSS) used in the Linked Program. In preparation for linking with Ontario, staff have re-tested tracking system functionality and concluded the tracking system is ready to enable transfers of compliance instruments between the three jurisdictions. Staff also reviewed the Ontario program and found the processes and procedures for activities related to issuing, tracking, and monitoring the trading of compliance instruments are consistent and compatible with the Linked Program. In addition, mandatory reporting regulations across all three jurisdictions ensure consistent reporting and rigor, and help ensure comparable stringency of the emissions data underlying any linkage.

The preparations necessary to include Ontario in joint allowance auctions with Linked Jurisdictions are also on track to be completed prior to January 1, 2018. Ontario's

program shares the same auction platform as the Linked Program; the auction platform development has been completed, tested, and deployed to ensure that it is able to perform the functions required to include Ontario in joint allowance auctions with the Linked Jurisdictions. The joint auction procedures are currently being updated to reflect linkage with Ontario; staff expects those procedures will be in place prior to January 1, 2018. If readiness for Ontario to participate in joint allowance auctions with Linked Jurisdictions is not confirmed by the end of 2017, CARB will inform the Governor of the results of those preparations.⁵ However, based on the efforts to date, staff recommends that joint auctions with Ontario proceed starting with the February 2018 auction.

Table 1: Summary of Readiness Assessment and Recommendations

Readiness Area	Assessment Results	Recommendations
Readiness to Coordinate Linked Programs	Procedures and processes are in place. Linking Agreement signed.	Ready to proceed with linking on January 1, 2018.
Readiness for Cross-Jurisdictional Transfer of Compliance Instruments	<p>Procedures and processes are consistent and compatible between the jurisdictions.</p> <p>Mandatory reporting regulations adopted by the jurisdictions are effective and equivalent.</p> <p>Joint procedures and processes have been developed and will be finalized prior to January 1, 2018.</p> <p>Corporate Association Groups (CAGs) will be updated starting on January 1, 2018.</p>	<p>Finalize joint procedures. Ready to proceed with cross-jurisdictional transfer of compliance instruments on January 1, 2018.</p> <p>Jurisdiction monitoring staff will identify the CAGs and monitor holdings until disclosures and updates are complete.</p>
Readiness for Joint Auctions	The auction platform has been fully developed and tested to support joint auctions among California, Québec, and Ontario. Joint auction procedures are being finalized.	Finalize joint auction procedures. Ready to proceed with a joint auction supporting California, Québec, and Ontario in February 2018 after linking on January 1, 2018.

⁵ In the unlikely event that joint auction readiness cannot be confirmed prior to January 1, 2018, the jurisdictions would proceed with California and Québec continuing to hold joint auctions while Ontario would hold separate auctions until all preparations are complete for joint auctions among the three jurisdictions. This same bifurcated approach was followed with the California and Québec linkage, where the first joint auction between California and Québec did not occur until the final auction of 2014.

II. Background

The California Cap-and-Trade Regulation was developed in response to the California Global Warming Solutions Act (Assembly Bill 32; Stats. 2006, Chapter 488) (AB 32), as amended by recently enacted Assembly Bill 398 (Stats. 2017, Chapter 135) (AB 398). AB 32 authorizes CARB to implement a comprehensive market-based compliance program to reduce GHG emissions in a technologically feasible and cost-effective manner. AB 32 also directs CARB to continue California's leadership in climate change mitigation. Adopted by the Board in 2011, the California Cap-and-Trade Regulation complements other measures to reduce GHG emissions and was developed to facilitate integration with other similarly designed programs.⁶

In December 2012, Québec finalized its cap-and-trade program regulation to allow the linking of the Québec and California programs. Linking, or linkage, refers to the formal relationship between the California Program and another program that allows compliance instruments to be traded and used interchangeably across the linked programs. Linking programs expands the market, enhancing the flexibility such programs provide. Linking also allows for centralizing administrative functions, thereby improving efficiencies and offering the potential to reduce governmental costs. The success of any linkage depends on the responsible regulatory agencies employing equivalent rigor in designing and implementing their respective programs, including requiring accurate emissions reporting and maintaining effective controls on the issuance of compliance instruments. Since linking in January 2014, California and Québec have been operating an effective joint program, providing a viable regional model for other jurisdictions to join.

Over the last several years, Ontario has been working to harmonize its own regulatory program to link with California and Québec. In July 2016, Ontario's cap-and-trade program went into effect with the intent to join the Linked Program starting in January 2018. Linked Jurisdictions and Western Climate Initiative, Inc. (WCI, Inc.),⁷ which coordinates administrative and technical support for the Linked Program, have been working with Ontario to ensure all regulatory requirements for the jurisdictions are met and program operations harmonized to support successful linkage.

As part of the process for linking the California Program to other programs, SB 1018 requires that the Governor review any program to which California proposes to link, and with advice from the Attorney General, assess whether the proposed link satisfies four requirements:

⁶ The California Cap-and-Trade Regulation was developed based on the design principles recommended by the Western Climate Initiative (WCI), a collaboration of independent jurisdictions working together to identify, evaluate, and implement emissions trading policies to tackle climate change at a regional level. California, Québec, and Ontario are among the 11 jurisdictions that collaborated to develop the design for the WCI Regional Program, released in July 2010. Information on WCI and the design document are available at <http://www.wci-inc.org/program-design.php>.

⁷ Western Climate Initiative, Inc. (WCI, Inc.) is a non-profit corporation formed to provide administrative and technical services to support the implementation of state and provincial greenhouse gas emissions trading programs. The Board of Directors for WCI, Inc. includes officials from the provinces of Quebec, British Columbia, Ontario, and the State of California. Information on WCI, Inc. is available at <http://www.wci-inc.org/>

1. The jurisdiction with which the state agency proposes to link has adopted program requirements for greenhouse gas reductions, including, but not limited to, requirements for offsets, that are equivalent to or stricter than those required by the California program.
2. Under the proposed linkage, the State of California is able to enforce its program and California law against any entity subject to the regulation, and against any entity located within the linking jurisdiction to the maximum extent permitted under the United States and California Constitutions.
3. The proposed linkage provides for enforcement of program requirements that are equivalent to or stricter than those required in California.
4. The proposed linkage and any related participation of the State of California in Western Climate Initiative, Inc., shall not impose any significant liability on the state or any state agency for any failure associated with the linkage.

Similar to the process CARB undertook pursuant to SB 1018 when proposing linkage with Québec,⁸ on January 30, 2017, CARB formally requested that the Governor make the required findings regarding Ontario's cap-and-trade legislation and provide those findings to the Legislature. This request was submitted as CARB was considering amendments to the Cap-and-Trade Regulation that would facilitate linkage with Ontario. If the required SB 1018 findings were made and the Board adopted the amendments, California's Cap-and-Trade Program would link with Ontario's program beginning January 1, 2018.

On March 16, 2017, Governor Brown found that the Ontario program meets the four requirements for linking with the California Program.⁹ In addition, the Governor provided the following direction to CARB:

After adoption of the regulation and before the effective date of the linkage, ARB, Québec and Ontario will test and evaluate their auction platforms and trading systems to ensure that they are fully compatible and ready to be implemented.

Before linkage becomes effective, ARB should follow the same procedures that were followed prior to the linkage with Québec, including a report to the Secretary of the California Environmental Protection Agency and to the Governor's Office, by November 1, 2017, on the progress of the above efforts and whether there are any impediments to linkage occurring in January 2018.

In July 2017, the Board heard and adopted amendments to the regulation that provide for the linking of the California Program and the Ontario program to be effective as of January 1, 2018. The amended regulation was approved by the Office of Administrative Law in September 2017. The amended regulation went into effect on October 1, 2017, and the linkage provisions go into effect on January 1, 2018. Additionally, Board Resolution 17-21

⁸ See California Air Resources Board, Cap-and-Trade Program, Linkage Web page, <https://www.arb.ca.gov/cc/capandtrade/linkage/linkage.htm>.

⁹ Transmittal Response to CARB on Findings Under SB 1018. <https://www.arb.ca.gov/cc/capandtrade/linkage/linkage.htm>.

directs CARB's Executive Officer to complete pre-linkage activities prior to January 1, 2018, including a review of processes, procedures and systems of all three cap-and-trade programs to ensure consistency and compatibility.

This report is prepared in response to the direction from the Governor and as specified in the Board Resolution.

III. Methodology

As required by the Governor, and as directed in the Board Resolution, this report describes the progress made by the jurisdictions to expand and operationalize the Linked Program to include Ontario.

Consistent with the 2013 Linkage Readiness Report,¹⁰ this assessment considers the full scope of the Ontario program because any weak or incomplete element in its program would indicate that additional work is required prior to linking. Recognizing that challenges may occur in a linked program, the report also considers the capacity of staff to consult constructively to address unexpected challenges. This report employs the same evaluation procedures that were followed prior to linking with Québec. Staff in the Linked Jurisdictions worked with Ontario to test and review its systems, processes, and procedures that are critical to the functioning of the linked program. Staff reviewed these critical functions and processes for ensuring linked program integrity for completeness, accountability, accuracy, and auditability.

This report is organized in three sections: readiness to coordinate linked programs; readiness to enable cross-jurisdictional transfer of compliance instruments; and readiness to jointly auction emission allowances. Each section is intended to answer the following questions:

- Are the procedures and systems being used to implement the Ontario program compatible with the Linked Program and do they ensure the integrity of the linked program?
- Are the procedures and systems that need to be conducted jointly by the linked jurisdictions well defined and in place to support linking with Ontario's program?
- Does Ontario's program have procedures to work collaboratively and constructively with the Linked Jurisdictions to maintain the harmonization of the linked programs and to resolve differences that may arise?

To assess the readiness for coordinating the linked programs, staff reviewed the linking agreement that defines how the jurisdictions will manage their working relationship. Staff also documented the ongoing work group process by which the linked programs develop program procedures and specifications for the CITSS and the auction platform.

To assess readiness to enable cross-jurisdictional transfer of instruments, key system functionalities were identified and re-tested. The relevant procedures used in each jurisdiction's respective program were also reviewed jointly.

¹⁰ Linkage Readiness Report, Linkage with Quebec Cap-and-Trade System.
<https://www.arb.ca.gov/cc/capandtrade/linkage/linkage.htm>.

Finally, to assess the readiness to include Ontario in joint allowance auctions with the Linked Jurisdictions, staff examined the auction platform and auction procedures used in Ontario's program and reviewed the auction procedures performed jointly by the jurisdictions.

IV. Readiness to Coordinate Linked Programs

Effective coordination between the jurisdictions is required to ensure that the linked programs operate as one. To assess the readiness for Ontario to join the Linked Program, staff examined in detail the manner in which Ontario's program is being implemented, and identified any additional activities required once the programs are linked. As part of this assessment, staff examined the processes and procedures that the linked jurisdictions have in place for coordinating program implementation, making program changes, and enabling coordinated releases of program information to the public.

A. Collaborating on Program Implementation and Changes

As recognized by the Governor in his Findings, the Linked Jurisdictions and Ontario intended to leverage the successful framework for harmonization and integration of the programs formalized in the *Agreement Between the California Air Resources Board and the Government of Québec Concerning the Harmonization and Integration of Cap-and-Trade Programs for Reducing Greenhouse Gas Emissions*¹¹ (2013 Linking Agreement) by entering into a new linkage agreement between California, Ontario, and Québec (2017 Linkage Agreement). On September 22, 2017, the Governor signed this 2017 Linkage Agreement along with the Premiers of Ontario and Québec, and this new linkage agreement will support the linkage between the three jurisdictions.¹²

Similar to the 2013 Linking Agreement, the 2017 Linkage Agreement provides a framework for the jurisdictions to work collaboratively toward the harmonization and integration of their mandatory greenhouse gas emissions reporting and cap-and trade programs. The 2017 Linkage Agreement specifies processes and procedures for coordinating the implementation of and making changes to the linked programs, including: a consultation process, regulatory harmonization, development of offset protocols, mutual recognition of compliance instruments, trades, joint auctions, common program registration and auction platform development, program enforcement and administrative support, development of transparent accounting, and a process for new jurisdictions to join. Table 2 provides a summary of highlights of the 2017 Linkage Agreement for addressing coordination between jurisdictions.

¹¹ California Air Resources Board and Le Gouvernement de Québec, Agreement Concerning the Harmonization and Integration of Cap-and-Trade Programs for Reducing Greenhouse Gases (September 2013), available at:

http://www.arb.ca.gov/cc/capandtrade/linkage/ca_Quebec_linking_agreement_english.pdf [hereafter 2013 Linking Agreement].

¹² See Press Release, California, Québec and Ontario Sign Agreement to Link Carbon Markets (Sept. 22, 2017), <https://www.gov.ca.gov/news.php?id=19963>.

Table 2: Highlights of the 2017 Linkage Agreement

Topic	Description
Program Monitoring and Reporting	Establish a consultation committee to monitor the coordination of the programs.
Regulatory Harmonization	Consult regularly and constructively to harmonize the regulations for the mandatory reporting and cap-and-trade programs.
Regulatory Changes	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
Program Coordination	As provided for in the respective program regulations: recognize compliance instruments from each other's programs; enable compliance instruments to be traded across programs; hold joint auctions of allowances; 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; inform each other and coordinate on public announcements.
Administrative Systems	Work together to develop and use common program registry and auction platforms; continue to coordinate administrative and technical support through the Western Climate Initiative, Inc.
Accounting Mechanism	Work together to ensure transparent carbon accounting and accounting of compliance instrument trades, avoid double counting of reductions.
New Members	Includes a process for new jurisdictions to join the existing linkage agreement.

The procedures and processes detailed in the *2013 Linking Agreement* have already proven to be effective for coordinating program implementation and regulatory changes between the Linked Jurisdictions. Since linking in 2014, California and Québec have successfully held joint auctions and maintained harmonization and integrity of linked programs through regulatory changes. The *2017 Linkage Agreement* will build on the provisions of the *2013 Linking Agreement* and will serve as a guide for the linked programs of California, Québec, and Ontario.

In addition to the processes formalized in the *2013 Linking Agreement* and the *2017 Linkage Agreement*, staff in the Linked Jurisdictions, with the administrative support of WCI, Inc., have established four staff-level work groups to address implementation issues concerning tracking system development and operation, auction management, market monitoring, and the overall management and coordination of linked programs. Staff in each work group meet regularly to discuss and resolve implementation issues as they arise. These work groups have demonstrated the ability to address implementation challenges and to operate the linked programs effectively and consistently. In preparation for linking, Ontario has participated in several of the work groups for the

past two years and contributed to discussions concerning tracking system development, auction platform development, management level program coordination, and technical staff coordination. Ontario will be fully incorporated into the monitoring work group once the three programs are linked.

Furthermore, the Linked Jurisdictions and Ontario have a long history of collaborating on their respective program regulations and regulatory changes. California, Québec, and Ontario were among the eleven jurisdictions that collaborated in the development of the design for the WCI Regional Program recommendations for emissions trading programs and they have been participants in the regulatory actions that followed in each of the three jurisdictions. Adopted in 2016, the Ontario program has been designed with advice and support from the Linked Jurisdictions. In addition, Ontario and Québec participated in the regulatory discussions as the California Program revised its requirements during the 2016 regulatory amendment process. The constructive engagement of the jurisdictions is instrumental for ensuring that key aspects of all three programs will continue to align.

Since linking in 2014, the Linked Jurisdictions have maintained the harmonization of their linked programs throughout regulatory changes to update program requirements. Ontario has demonstrated the same level of engagement in the development of program and regulatory changes within the Linked Jurisdictions. Most recently, Ontario proposed regulatory changes to harmonize the Ontario program with California's most recent amendments by establishing 2021-2030 caps (utilizing the same methodology it used for setting the 2017-2020 caps); recognizing compliance instruments from the Linked Program (as of January 1, 2018); aligning holding limits with the Linked Program; and ensuring clear requirements for holding joint auctions with the Linked Program.¹³ Subject to approval in Ontario, these regulatory amendments are expected to be in effect by December 1, 2017.¹⁴

B. Release of Program Information Publicly

Effective operation of market-based programs such as cap-and-trade requires that program participants have access to accurate and timely program information. The regulations adopted by each jurisdiction specify that certain information will be made available to the public. Staff in the Linked Jurisdictions, with input from stakeholders and advice from the Emissions Market Assessment Committee (EMAC),¹⁵ established a process for coordinating the release of Linked Program information, including market-sensitive materials (e.g., auction notices and results), to enable equal public access to the

¹³ See Ontario Amendments to the Cap and Trade Program and Reporting Regulations & Service Regulation & Administrative Penalties Regulation, September 22, 2017, available at <http://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTMzNTQx&statusId=MjAzMDcx&language=en> (including a link to the proposed amendments here: http://www.downloads.ene.gov.on.ca/envision/env_reg/documents/2017/013-1457_Amendment.pdf).

¹⁴ Although not part of this linkage readiness report, it is important to note that as California begins the process of considering regulatory amendments to conform with the requirements of AB 398, CARB will coordinate this process with Québec and Ontario in the same manner that has been used for past regulatory amendments as the jurisdictions maintain harmonization of the linked programs.

¹⁵ Information on the Emissions Market Assessment Committee is available at: <http://www.arb.ca.gov/cc/capandtrade/emissionsmarketassessment/emissionsmarketassessment.htm> (Accessed October 17, 2013).

information at the same time. Ensuring equal public access to market-related information ensures that no individual or entity is advantaged or disadvantaged by obtaining information earlier or later than other market participants. The same process for synchronizing the release of program information to the public will be extended to include Ontario starting January 1, 2018. The topics on which information release will be coordinated include the following:

- List of covered entities and their reported emissions, which form the compliance obligation for each entity.
- Aggregate allowance allocation data.
- CITSS Registration data, listing the entities registered in CITSS.
- Compliance account balance data, summarizing the number of compliance instruments held across all CITSS compliance accounts.
- Compliance instrument retirement data, listing the compliance instruments retired for compliance purposes.
- Offset project listing, offset project data, and offset credit issuance data.
- Auction and reserve sale summaries.

V. Cross-Jurisdiction Transfer of Instruments

Compliance instruments (emission allowances and offset credits) are fundamental to the design and operation of cap-and-trade programs. The primary operational aspect of linking is that compliance instruments issued by one jurisdiction can be used for compliance in the other jurisdictions. To assess the readiness to enable transfer of compliance instruments between the three jurisdictions starting January 1, 2018, the functional capability of the tracking system for transferring compliance instruments was re-tested. As part of this assessment, staff also reviewed the process used by Ontario's program that could affect the efficacy of compliance instruments in the tracking system, its enforcement of registration requirements for program participants, or its ability to enforce market rules to support market monitoring activities.

A. Compliance Instrument Tracking System Service

CITSS is an online tracking system designed collaboratively by the Linked Jurisdictions and Ontario to support the implementation of cap-and-trade programs as required by the regulations in each jurisdiction. CITSS provides account registration for program participants and tracks ownership of compliance instruments from issuance, through transactions, and ultimately retirement. CITSS also supports market oversight by providing monitoring staff in each jurisdiction with access to accounts and transfer data.

California and Québec have successfully utilized CITSS in the Linked Program since 2014. Ontario has been utilizing CITSS in its stand-alone cap-and-trade program since 2016. In anticipation of program linkage in January 2018, staff in the Linked Jurisdictions and Ontario successfully re-tested CITSS functionality for transferring compliance instruments between the three jurisdictions. Staff also tested other CITSS functions, including application of holding limits, confirming functionality of corporate association groups within and across the participating jurisdictions, and data reporting to support

market monitoring. Staff completed the testing and did not identify any issues that remained to be addressed.

Staff will continue collaborating with the CITSS development and operations contractor to prepare a deployment plan for updating CITSS to support linking on January 1, 2018. As CITSS is designed to accommodate linked programs, and because testing is complete, this update is considered routine and will be executed with oversight from the work group focused on the tracking system (discussed above).

B. Ensure the Efficacy of Compliance Instrument Issuance

Because Ontario's program also utilizes CITSS, the tracking system enforces consistency and reproducibility in the processes for issuing and managing compliance instruments in the linked programs. For example, all issuance and transactions performed in CITSS utilize a two-step process, which requires the individuals authorized to initiate these functions to be separate from the individuals authorized to approve the completion of the functions. Consequently, no single individual is able to perform these functions alone. Additionally, CITSS retains an audit trail at each step, recording the identities of the individuals who initiate and approve actions in CITSS. CITSS also includes special safeguards that prevent modifications to the number of allowances issued.

As part of this assessment, staff reviewed the processes internal to the Ontario program that are required to ensure appropriate review and approval by management before authorized individuals take action in CITSS (e.g., staff calculations for proposed allowance transfers to and from jurisdiction accounts). In addition to the CITSS audit trail of activities, Ontario's program has processes, including checklists and work flow forms, for CITSS actions that must be approved by senior managers before an action is taken. Ontario's program also has in place information security procedures and record retention policies, providing an independent audit trail of the work that underlies the actions.

As part of this assessment, staff also reviewed the process for issuing and managing offset credits. While CITSS provides a consistent set of procedural requirements for all three programs, issuing offset credits requires substantial work outside of CITSS. This work includes:

- receiving and reviewing offset project reports and data, including verification reports and verification opinions;
- maintaining a pool of accredited offset project verifiers and ensuring for their proper oversight;
- making available for public review the reports and data on offset projects.

Ontario's offset program is currently under development, with a draft regulation posted for public comment on October 4, 2017.¹⁶ The draft regulation builds on Ontario's

¹⁶ See Regulation Proposal Notice, Ontario Offset Credits regulation under the Climate Change Mitigation and Low-carbon Economy Act, 2016, made available October 4, 2017, available at <https://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTMzNTQz&statusId=MjAzMDc1&language=en>.

underlying statutory and regulatory authority and is consistent with offset programs adopted by the Linked Jurisdictions. Ontario intends to finalize its offsets regulation, including an offsets protocol for landfill gas, by the end of 2017. Staff will continue to review the processes concerning offset credits once Ontario adopts offset protocols.

C. Effective Mandatory Reporting

Accurate and timely emissions reporting by covered entities is required for an effective cap-and-trade program. As part of considering program linkage, the mandatory reporting requirements adopted by Ontario were evaluated for equivalency with the reporting regulations adopted by the Linked Jurisdictions. Like the Linked Jurisdictions, Ontario has adopted a reporting program closely patterned on recommendations developed during the WCI collaboration, customized for Ontario's particular industrial sector makeup. Staff has found that Ontario has an effective and equivalent mandatory report program that will support linked programs starting January 1, 2018.

Highlights of the reporting program requirements include:

- Reporting thresholds. Ontario has adopted a reporting regulation that is consistent with WCI's Essential Requirements document.¹⁷ Ontario's reporting regulation requires reporting at a 10,000 MTCO₂e threshold and more rigorous requirements related to reporting above 25,000 MTCO₂e, which is the threshold at which entities become mandatorily subject to the Cap-and-Trade Program.
- Boundaries for reporting entities as facilities are defined at a common location and affiliated with the same company. Each jurisdiction uses its own specific terms to describe the boundaries based on the common usage of terms in each jurisdiction.
- Reporting accuracy. Ontario's reporting program requires instrument calibration to ensure accuracy. Ontario reporting entities are required to verify quantification and emissions in accordance with International Standards Organization (ISO) standards, which provide an additional incentive to maintain accurate devices so as to preserve their certification. Similar to the Linked Jurisdictions, Ontario's reporting regulation requires a ±5% accuracy standard for sampling, analysis, and measurement instruments. Ontario's reporting regulation also prescribes methods for estimating data that is missing, for example due to a malfunctioning meter, and require that the substituted data are conservatively chosen based on operating conditions in the periods immediately before and after the missing time period, albeit using slightly different strategies than in California.
- Third-party verification. Once an entity prepares its annual emissions report, all three jurisdictions require certain reports (such as those subject to the Cap-and-Trade Program) to be verified by an accredited third-party verifier to ensure data quality. The verification programs are based on ISO standards and are consistent with WCI's Essential Requirements.

¹⁷ WCI Essential Requirement documents are available at <http://www.westernclimateinitiative.org/component/rempository/Reporting-Committee-Documents/> (see specifically "Final Harmonization of Essential Reporting Requirements in Canadian Jurisdictions" (2010), available at [http://www.westernclimateinitiative.org/document-archives/Reporting-Committee-Documents/Final-Essential-Requirements-of-Mandatory-Reporting-for-Canadian-Jurisdictions-\(Overview\)/](http://www.westernclimateinitiative.org/document-archives/Reporting-Committee-Documents/Final-Essential-Requirements-of-Mandatory-Reporting-for-Canadian-Jurisdictions-(Overview)/)).

If a report receives an adverse verification statement due to a material misstatement in the reported emissions, the cap-and-trade compliance obligation is not calculated based on the reported quantities. Staff assigns an emissions level based on available information from which a reasonable estimate can be derived, missing data substitution procedures that are designed to produce conservatively high emissions numbers, or additional information provided by the reporting entities during the post-verification phase of the process.

In addition, Ontario has enforcement procedures that are used when reporting entities submit inaccurate emissions, misreport information, are in non-compliance with the rule provisions, fail to submit a report or to obtain verification service, or miss deadlines. Jurisdictions use this enforcement capability as leverage to incentivize timely compliance.

D. Ensure Requirements for CITSS Registrants are Effectively Applied

Ontario's cap-and-trade regulation includes essentially identical requirements for entities to register in CITSS as are required by the Linked Program. Because CITSS is used by the Linked Jurisdictions and Ontario, the requirements are implemented in nearly identical fashion across the programs. Registration in CITSS provides for the following:

- Confirmed Identity of Individuals: The identity of all individuals with access to CITSS are confirmed with a thorough “Know Your Customer” (KYC) process. This process substantially eliminates the risk of individuals participating in the program under false identities.
- Confirmed Authorization: To have access to accounts within CITSS, a registered individual must be properly authorized by the account holder (which may be a company). This authorization ensures that not only is the individual responsible for any actions he or she takes on behalf of the account holder, but the account holder accepts responsibility for the authorized individual’s actions as well.
- Legal Presence in the Jurisdiction: Each account holder is required to have a legal presence in the jurisdiction (e.g., in California for the California Program) to ensure that the jurisdiction can legally serve the account holder.
- Disclosure of Corporate Associations: Each company with accounts in CITSS is required to disclose its corporate associations as defined in the program regulations. Corporate associations include parent companies, subsidiaries, and other arrangements that provide for common control of company activities. Associated entities with a direct corporate association (i.e., greater than 50% common ownership or control) are required to share limits on allowance holdings and allowance purchases at auctions imposed by the regulations on all program participants. Understanding a registered company’s corporate structure also allows the jurisdictions to monitor market activity across related carbon and energy markets in which the registered entity may also be a participant through a parent or subsidiary.
- Subject to the Jurisdiction Authority: Individuals and companies that register in CITSS acknowledge and agree that they are subject to the program requirements and recognize the authority of the jurisdiction to enforce those requirements.

These registration requirements enhance the security of CITSS and ensure that regulatory authorities have the ability to identify individuals and companies and hold them accountable for their activity in CITSS. These strict requirements also increase public confidence in the program by demonstrating that the regulatory authorities have the information and authority to enforce the program requirements on all participants.

For this assessment, staff also reviewed internal procedures used in the Ontario program to verify the information provided by individuals and companies prior to approving the registrations.

Consistent with the processes adopted by the Linked Jurisdictions, Ontario staff maintain strict physical control of the registration and application material, and access to the documentation is limited to those team members involved in validating registration information. Using data appropriate to Ontario, the documents and information are verified. Any discrepancies are noted and resolved directly with registrants. The completeness of the registration information and the internal verification process is reviewed by staff who did not conduct the verification. The complete package is then reviewed and approved by management prior to accepting the registration. The documents are retained in a secure location for the program, along with documentation of the verification performed and signed review and approval forms.

As part of this review, staff focused on the required disclosure of corporate associations by registered entities. Prior to linking, an entity's holding limit is shared among entities with direct corporate associations within each individual program and across programs. Any entities with direct corporate associations with entities in another program are required to disclose these relationships to the Linked Jurisdictions and to Ontario, according to each jurisdiction's regulatory requirements. Entities with direct associations will be required to share their holding limits, as well as their purchase limits in joint auctions. Staff in the Linked Jurisdictions are also working with the market monitoring contractor, who has confirmed the corporate association information provided to each program individually, and is in the process of combining the data to ensure that a comprehensive corporate association data set is maintained for the linked programs, including Ontario. Each entity will be contacted and will be required to update their holding limit and purchase limit allocations so that the updated information can be entered in CITSS starting January 1, 2018.

California staff began contacting California entities after the new regulation amendments for California's Cap-and-Trade Regulation became effective on October 1, 2017, to remind them of the disclosure requirements. Staff has reminded entities that they should complete the disclosures as soon as possible because delay could cause them to become ineligible for the February 2018 joint auction. Some California entities are already aware of the requirements of linkage, and staff in the California program have already received some disclosures of relationships with Ontario entities, even though these changes cannot be entered into CITSS until January 1, 2018, after they have been confirmed by their Ontario counterparts.

E. Comprehensive Market Monitoring

Well-functioning markets for allowances and offset credits are fundamental to the implementation of a cap-and-trade program. To ensure that these markets are free of abuse and disruptive activity and that they appropriately reflect the supply and demand for compliance instruments, all three programs are conducting market surveillance and analysis. Consistent with the regulations adopted by the Linked Jurisdictions, Ontario's program regulation has identical market rules, including purchase and holding limits, disclosure of corporate associations, and recording of all holdings and transfers of allowances and offset credits in CITSS. The Ontario program also has the authority and resources needed to investigate suspected market abuses and take enforcement actions if needed.

To prepare for program linking, the Linked Jurisdictions are collaborating with Ontario on market surveillance and analysis. Ontario is working with the same market monitoring contractor employed by the Linked Program. This approach ensures that the contractor and program staff in all three jurisdictions have access to the full set of activities in the entire market serving the linked programs. Also, because all holdings and transfers are recorded in CITSS, the programs have access to the same comprehensive market monitoring reports generated by CITSS.

In conjunction with mechanisms for sharing confidential and market sensitive information in the Linked Program, the Linked Jurisdictions will include Ontario on regular market monitoring conference calls with the market monitoring contractor. Through this process, the programs can ensure that market information is fully examined in all three programs and responses to any market issues will be coordinated. This process also provides the mechanism for collaborating on market-related enforcement. As discussed above, to ensure that market rules are applied consistently across the linked program, enforcement of those requirements must also be consistent. This market monitoring process enables issues to be identified jointly that warrant consideration for enforcement.

As discussed above, the market monitoring contractor is also assisting to confirm and maintain the corporate association data received from entities registered in CITSS. Using these data, the market monitoring contractor and staff in all three jurisdictions review market activity to identify any coordinated activities among associated entities that may be of concern.

As part of this assessment, staff also reviewed and concluded that Ontario has comparable procedures maintaining the security of confidential and market sensitive information as the Linked Program. For example, Ontario's program has procedures for separating the relevant data into secure systems and maintaining records in secure locations with strict access control. Consistent with the security process implemented in the Linked Program, Ontario's program also verifies the identities of staff with access to program data and provides added information security to the underlying data by using CITSS for registration and compliance instrument tracking.

VI. Conduct Allowance Auctions

Auctions are integral to the design and implementation of a cap-and-trade program, providing effective price discovery and enabling covered entities to obtain allowances needed for compliance. Once the programs are linked, allowances from linked jurisdictions can be offered for sale at auctions conducted jointly. Prior to holding joint auctions, the programs must have a fully tested auction platform that supports joint auctions and the procedures for conducting a joint auction must be complete.

Staff in the Linked Jurisdictions and Ontario have worked together to specify the requirements for the auction platform (including financial services) and to develop the system to ensure that it supports joint allowance auctions with Ontario. The auction requirements in the Ontario program regulations are harmonized with the Linked Program requirements. Consequently, the auction platform supports a comprehensive set of auction processes and procedures, including:

- Accepting auction application data exported from CITSS on program participants.
- Accepting financial services data, including bid guarantee data, exported from CITSS for auction participants.
- Conduct of the auction, including accepting bids from approved auction participants and enabling authorized jurisdiction market monitoring staff and the market monitoring contractor to oversee the conduct of the bidding.
- Evaluation of the bids and application of program requirements, including holding limits, purchase limits, and bid guarantee limitations.
- Determination of the auction clearing price (settlement price) and identification of the successful bids and bidders.
- Generation of auction reports for review and analysis by the market monitoring contractor and the authorized jurisdiction staff.
- Certification of the auction results by authorized jurisdiction staff.
- Notification to successful bidders of the auction results.
- Financial settlement after auction certification and reporting required data to support the transfer of purchased allowances to entity CITSS accounts.

The system has been fully tested and deployed for California and Québec joint allowance auctions, including the 12 joint allowance auctions that have been held to date. Ontario has tested the platform with three auctions of its own. The system has also been fully tested for joint auctions with Ontario. Additional updates are anticipated for late 2017 or early 2018. Staff is working to complete the final joint auction procedures to reflect linkage with Ontario. Staff expects those procedures will be in place prior to January 1, 2018. If readiness for Ontario to participate in joint allowance auctions with the Linked Jurisdictions is not confirmed by the end of 2017, CARB will inform the Governor of the results of those preparations. However, based on our efforts to date, staff recommends that joint auctions proceed starting with the February 2018 auction.

VII. Recommendations and Next Steps

Based on extensive discussion and review of program materials, this report finds that:

- Ontario's program has in place procedures for ongoing coordination with the Linked Program.
- Ontario's program has a public process for proposing changes to maintain Linked Program stringency and integrity.
- Ontario's program has processes and procedures for all activities related to issuing, tracking, and monitoring the trading of compliance instruments that are consistent and compatible with the Linked Program. Ontario also has in place an effective and equivalent mandatory reporting program to ensure consistent reporting and rigor, and help ensure comparable stringency of the emissions data underlying any linkage. The jurisdictions are updating joint procedures and processes for conducting specific program activities, and are on track to finalize these procedures and processes prior to January 1, 2018. These procedures and processes include:
 - Exchanging confidential and market sensitive information between program staff.
 - Identifying and resolving any duplicate registrations in CITSS for the same entity or user across the three programs.
 - Updating the holding limits based on the annual allowance budgets for the three jurisdictions using the existing functionality in CITSS.
 - Testing CITSS to ensure that it supports linking of the three programs.
 - Testing the Auction Platform to ensure that it supports a joint auction among California, Québec, and Ontario.
- The jurisdictions will continue to update data on corporate associations and enter the data into CITSS starting on January 1, 2018.
- The preparations necessary to conduct joint allowance auctions with Ontario continue to advance and are expected to be fully complete by January 1, 2018. The auction platform development has been completed, tested, and deployed to ensure that it can perform the functions required for a joint auction including three jurisdictions. As the changes from two to three jurisdictions are minimal, a practice auction is not required to test and stress the auction system and procedures under real world conditions with market participants.

Based on this review, staff has concluded that the programs are prepared to link by enabling compliance instruments to be transferred between participants in the three programs as of January 1, 2018, as called for in the program regulations. Staff recommends proceeding with linking the programs to allow for the transfer of compliance instruments between Linked Jurisdictions and Ontario. Proceeding on schedule with linking enables compliance instruments from all three programs to be used for compliance in the linked jurisdictions. Staff recommendations are summarized in Table 3.

Table 3: Summary of Readiness Assessment and Recommendations

Readiness Area	Assessment Results	Recommendations
Readiness to Coordinate Linked Programs	Procedures and processes are in place. Linking Agreement signed.	Ready to proceed with linking on January 1, 2018.
Readiness for Cross-Jurisdictional Transfer of Compliance Instruments	<p>Procedures and processes are consistent and compatible between the three jurisdictions.</p> <p>Mandatory reporting regulations adopted by the jurisdictions are effective and equivalent.</p> <p>Joint procedures and processes have been developed and will be finalized prior to January 1, 2018.</p> <p>Corporate Association Groups (CAGs) will be updated starting on January 1, 2018.</p>	<p>Finalize joint procedures. Ready to proceed with cross-jurisdictional transfer of compliance instruments on January 1, 2018.</p> <p>Jurisdiction monitoring staff will identify the CAGs and monitor holdings until disclosures and updates are complete.</p>
Readiness for Joint Auctions	The auction platform has been fully developed and tested to support joint auctions among California, Québec, and Ontario. Joint auction procedures are being finalized.	Finalize joint auction procedures. Ready to proceed with a joint auction supporting California, Québec, and Ontario in February 2018, after linking on January 1, 2018.