



Ongoing Evaluation of the Potential for Sector-Based Offset Credits in California's Cap-and-Trade Program

April 5, 2016

Workshop Materials & Submitting Comments

- ❑ Presentation posted at:
<http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm>
- ❑ Background materials available at:
<http://www.arb.ca.gov/cc/capandtrade/sectorbasedoffsets/sectorbasedoffsets.htm>
- ❑ Written comments on this workshop may be submitted until 5pm (Pacific Time) on Friday, April 22, 2016 at:
<https://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm>
- ❑ During this workshop, email questions to:
auditorium@calepa.ca.gov

Workshop Agenda

- ❑ Introduction
- ❑ Topics
 - ❑ Reversal Risk and Permanence
 - ❑ Leakage Risk
 - ❑ Offset Tracking Registries
 - ❑ Verification
- ❑ Potential Next Steps
- ❑ Adjourn

Technical Discussion Topics

Reversal Risk & Permanence

❑ Definitions—

- ❑ Reversal – regulatory definition adopted to jurisdictional approach:

a GHG emission reduction or GHG removal enhancement for which a jurisdictional sector-based offset credit has been issued that is subsequently released or emitted back into the atmosphere due to any intentional or unintentional circumstance

- ❑ In other words, stored carbon is emitted after crediting, reversing the climate benefit and impacting permanence of credit.
 - ❑ Human-caused (i.e., intentional). Ex: Emissions from deforestation rise above reference level due to increased cattle ranching; data ultimately is found to be inaccurate; etc.
 - ❑ Natural Disturbance (i.e., unintentional). Ex: Drought and wildfires cause widespread tree mortality across a region

Reversal Risk & Permanence

- ❑ Permanence
 - ❑ AB 32 requires any offset credit to be permanent
 - ❑ Reversal risk must be mitigated to ensure permanence of credits surrendered for compliance with Cap-and-Trade
- ❑ Potential approaches to manage reversal risk
 - ❑ Jurisdictional approach
 - ❑ Buffer Pool
 - ❑ Insurance
 - ❑ Discount from future years
- ❑ Additional Replacement Liability (i.e., for invalidation)
 - ❑ Buyer liability
 - ❑ Jurisdiction liability

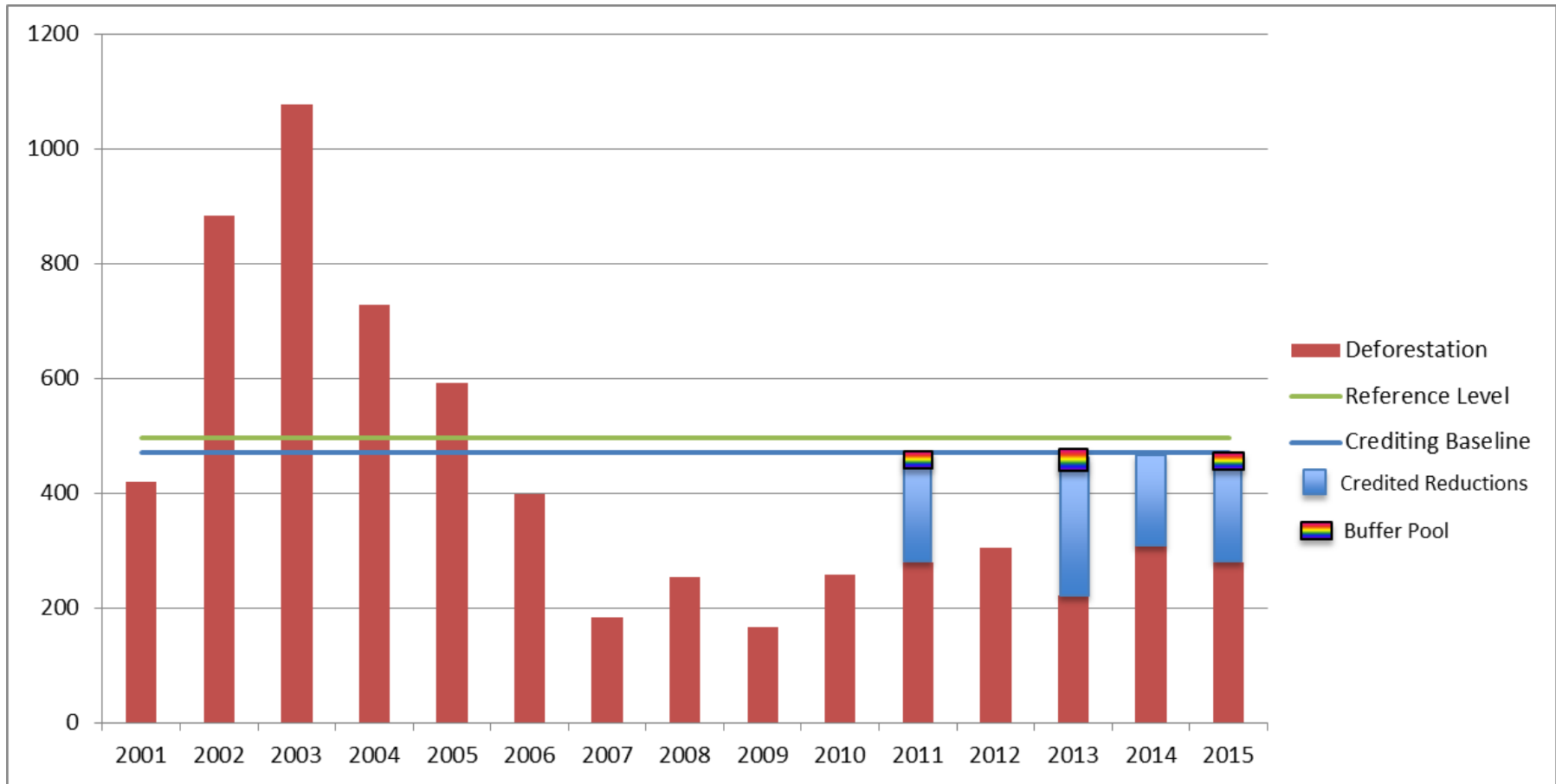
Reversal Risk Management (1)

- ❑ (1) Jurisdictional Approach
 - ❑ Requires policy and economic reform in partner jurisdiction
 - ❑ Large geographic scope diversifies reductions, reduces risk
 - ❑ Higher probability of some disturbance, lower total impact

- ❑ (2) Buffer Pool
 - ❑ Discount credits from baseline
 - ❑ Keep in forest buffer account
 - ❑ In case emissions increase beyond reference level, buffer pool credits permanently retired
 - ❑ Seeking input on:
 - ❑ What percentage of credits could be set-aside in buffer pool?

Reversal Risk Management (2)

Buffer Pool



Reversal Risk Management (3)

- ❑ (3) Insurance
 - ❑ Third-party organization insures issued credits against the risk of reversal
 - ❑ Risk premium paid on each credit
 - ❑ In case of loss, insurer replaces reversed emissions with equal number of eligible compliance instruments
 - ❑ Ex: If emissions from deforestation rise above the reference level by 1000 tonnes, insurer would deliver 1000 tonnes of eligible allowances or offsets to the jurisdictional partner or to the entity that submitted the credits for compliance to ARB
 - ❑ Alternative: partner jurisdiction assumes liability for covering any losses due to reversals (and/or to invalidation)
 - ❑ Seeking input on:
 - ❑ Whether and how insurance mechanism could complement potential regulatory amendments

Reversal Risk Management (4)

- ❑ (4) Future year discounting
 - ❑ Discount credited emissions reductions in the future
 - ❑ Ex: If emissions from deforestation exceed reference level by 1000 tonnes in year 1, then credited reductions in year 2 are reduced by 1000 tonnes
 - ❑ Seeking input on:
 - ❑ How could future year discounting be combined with other risk management mechanisms?

Questions?

Leakage Risk

Leakage Defined

- ❑ Per the Cap-and-Trade Regulation, **leakage** means “increased GHG emissions or decreased GHG removals that result from the displacement of activities or resources from inside the offset project’s boundary to locations outside the offset project’s boundary as a result of the offset project activity.”
- ❑ Leakage in sector-based context means GHG emission changes resulting from activities within the partner jurisdiction’s forest sector being displaced to locations outside the jurisdiction’s forest sector.

Leakage Risk at Jurisdictional Level

- ❑ Under a jurisdictional approach, leakage would only be possible if it occurred outside the partner jurisdiction's boundaries
 - ❑ Within the partner jurisdiction, changes in location of forest activities would be part of GHG flux and be captured in emissions reductions from deforestation
- ❑ Managing leakage risk would likely be necessary for leakage outside of the jurisdiction but within the country

Leakage Risk at Jurisdictional Level (Cont.)

- ❑ Partner jurisdiction would need to address leakage
- ❑ Question: how could partner jurisdiction show that emissions from deforestation have not simply shifted to a neighboring state(s)?
 - ❑ Two potential options
 - 1) Measure change in production of commodities driving deforestation
 - 2) Partner jurisdiction could demonstrate an increased production of deforestation-driving commodities to maintain production levels against decreasing deforestation
- ❑ Question: would crediting need to be discounted to account for leakage?

Leakage Risk Management (1)

- ❑ Approach #1
 - ❑ Measure the loss of production from decreased deforestation
 - ❑ Multiply the lost production by the amount of land that such production typically takes
 - ❑ Multiply the proxy amount of land by emissions factor which partner jurisdiction uses to determine emissions from deforestation
 - ❑ Jurisdiction would need to report on the result; Discount the result from crediting
- ❑ Example:
 - ❑ In-state cattle production decreases by 5% after sector-based program implemented
 - ❑ 5% cattle production requires 1000 hectares of forest; 1000 hectares of forest sequesters 10,000 tonnes of CO₂e
 - ❑ Reduce crediting by 10,000 tonnes per year in which cattle production decreased

Leakage Risk Management (2)

- ❑ Approach #2
 - ❑ Partner jurisdictions could demonstrate increased production through more sustainable management and improved techniques on already-cleared lands
 - ❑ Clear description of programs to increase sustainable agricultural efficiency
 - ❑ Measurement of annual production of commodities
- ❑ Example:
 - ❑ Jurisdiction invests in program to improve pasture management
 - ❑ Partner jurisdiction monitors and publishes results of this program
 - ❑ Results demonstrate increased production and decreased deforestation

Leakage Risk Management (3)

- ❑ ARB staff is seeking input on the following:
 - ❑ The two approaches described for managing leakage risk
 - ❑ What other ideas or approaches should staff consider?
 - ❑ How can leakage risk best be managed, or discounted, from any potential future crediting?

Questions?

Jurisdictional Offset Tracking System

What is a Jurisdictional Offset Tracking System?

❑ What is a Jurisdictional Offset Tracking System?

- ❑ Critical part of infrastructure of a jurisdictional sector-based crediting program which tracks and maintains:
 - ❑ verified jurisdictional GHG reductions/removals
 - ❑ issuance of sector-based offset credits
 - ❑ all information necessary to ensure that the jurisdiction meets the provisions of any ARB regulatory provisions and an ARB-jurisdictional linkage agreement
 - ❑ descriptive project details and reports if jurisdiction includes nested projects
 - ❑ ensures publicly-available information so independent 3rd parties, ARB, and members of the public can review emissions reports, verification reports, and other program (and project, if applicable) data
 - ❑ publicly-available information would ensure independent 3rd party could execute audits of data

What information would be in the system?

- ❑ **What would be issued in a Jurisdictional Offset Tracking System?**
 - ❑ A jurisdictional offset tracking system is the system in which the jurisdiction directly (or through an approved 3rd party) issues jurisdictional sector-based offset credits generated by that jurisdiction's program
 - ❑ The offset tracking system would track issued credits
 - ❑ Credit must be real, additional, quantifiable, permanent, verifiable, and enforceable
 - ❑ Credit eligible for transition to ARB's program would only be those issued from the approved jurisdictional sector-based crediting program
 - ❑ The offset tracking system would publicly track issuance, trading, retirement, removal, or cancelation of any issued credits
 - ❑ Proof of permanent retirement would be necessary for issuance as an ARB sector-based offset credit that could be used for compliance

Who manages the system? (1)

- ❑ **Who would manage the jurisdiction system?**
 - ❑ ROW recommended that partner jurisdictions should be responsible for designing and establishing their own systems
 - ❑ ARB staff thinking is that any system should be designed to avoid potential conflicts of interest between administrators and maintain the highest data and access integrity for credit conversion to ARB sector-based offset credits
 - ❑ Systems may need to be fully compatible with national registries, if one exists

Who manages the system? (2)

- ❑ **Could a jurisdiction use more than one Offset Tracking System?**
 - ❑ A jurisdiction would make the determination as to whether one or more jurisdictional Offset Tracking Systems will serve the sector-based crediting program
 - ❑ ARB staff expects the use of a single system may facilitate ease of implementation and data security
 - ❑ ARB staff's current thinking is that we would establish minimum standards for jurisdictional offset tracking systems in any potential regulatory proposal

Potential minimum standards (1)

- ❑ **Potential minimum standards for jurisdictional offset tracking systems**
 - ❑ Designed with stringent security measures to prevent unauthorized access
 - ❑ System could be audited annually by independent party
 - ❑ Transparent and publicly available free of charge to allow stakeholders to review data and reports

Potential minimum standards (2)

- ❑ **Potential minimum standards for jurisdictional offset tracking systems**
 - ❑ Include updates and regular reports on GHG emission/removal and deforestation/degradation trends, taking into account the jurisdiction's reference level and crediting baseline
 - ❑ Provide information and credits attributable to specific avoided deforestation programs within the jurisdiction
 - ❑ Contain information on jurisdictional policies and measures in the state – linking reductions/removals with those policies and measures; where feasible, including information on all projects that are nested to ensure the integrity of the accounting system

Possible minimum standards (3)

- ❑ For jurisdictions with nested projects within its jurisdictional program, the offset tracking system would also likely need to:
 - ❑ Provide information and credits that are trackable to specific projects
 - ❑ Be traceable back to the location credits originated from; data sets and all associated equations and calculations publically available
 - ❑ Record and make available estimates for each carbon pool's GHG reductions/removals and associated data for nested projects
 - ❑ Include clear and established procedures, including submittal deadlines for each step projects must follow for project registration, listing, and credit issuance

Questions?

Monitoring, Reporting, & Verification (MRV)

- ❑ **Monitoring:** the ongoing collection and archiving of all relevant and required data for determining an emissions baseline, actual emissions, and quantifying GHG reductions or GHG removal enhancements that are attributable to the reduction or removal enhancement activities
- ❑ **Reporting:** the process used to translate information resulting from monitoring into an agreed on format
- ❑ **Verification:** the process of independently ensuring the quality and robustness of the reported information against the methodologies which produce the information

ARB Staff Current Thinking

- ❑ As discussed previously, ARB staff is interested in developing a set of quality standards to assist jurisdictions in designing an MRV program and against which to assess jurisdiction programs
- ❑ This allows jurisdictions to tailor their program to their own capabilities and situation
- ❑ This avoids placing undue burden on jurisdictions that are already in the process of developing robust MRV programs

Overarching Principles

- ❑ Jurisdictional sector-based crediting programs would have to be fully transparent, with sufficient information provided on methods and underlying uncertainty estimations to permit full evaluation and verification
- ❑ Methodologies could be validated as part of the program's design at the onset of the program, and potentially through periodic evaluations thereafter

Verification Process (1)

The verification process generally includes:

- ❑ An internal review by the agency that conducts the monitoring and reporting to ensure monitoring and reporting were conducted according to the program's adopted MRV requirements
- ❑ External verification of the reported information by an independent, accredited, third-party verification entity
- ❑ Exchanging of additional information and identification of errors
- ❑ Opportunity to correct errors
- ❑ Preparation of a verification report that documents the process, results of verification, and possibly provides feedback for potential improvements
- ❑ Certification that reported information are accurate as measured against the program's methodologies

Verification Process (2)

Standards could address:

- ❑ MRV Methodology (Defined (and validated) at outset of developing the jurisdiction's program)
- ❑ Scope and objectives of internal and external verification
- ❑ Frequency of verification
- ❑ Verification body Qualifications
 - ❑ Accreditations and verification team member qualifications
 - ❑ Conflict of interest assessments
 - ❑ Verifier program audits
- ❑ Procedures for addressing errors and potential improvements
 - ❑ Material misstatement thresholds

Verification Process (3)

Current staff thinking:

- ❑ Required verification methodologies would be developed by the jurisdiction as part of the program design
- ❑ The jurisdiction would likely need to develop internal QA/QC procedures
- ❑ Independent 3rd party verification entities would conduct verification pursuant to the program methodologies
 - ❑ These verification entities would also likely need to develop their own plans to propose to the jurisdiction on how to meet the program methodologies
 - ❑ These plans would need to analyze and avoid conflicts of interest
 - ❑ Cost of verifications need to be balanced with achieving real, permanent, additional offsets

Verification Standards (1)

ARB staff recognizes existing standards and guidelines of verification already exist:

- ❑ ARB's Domestic Offset program: verification body and services requirements are included directly in Regulation, protocols allow for less intensive verification after initial full verification and provides additional verification detail, rotation of verification body requirements
 - ❑ Consistent with ISO standards 14064 (verification process) and 14065 (verification body accreditation)
- ❑ Québec Offset program: include ISO standards for verification body (14065), rotation requirements of the verification body, and specific verification report requirements

Verification Standards (2)

Additional standards include:

- ❑ WCI Offset Committee: recommendations include validation prior to verification and ISO 14065 requirement for verification bodies
- ❑ Warsaw Framework for REDD-plus (COP 19 held in 2013) provides key decisions related to REDD+ MRV program development
 - ❑ Decision 13/CP.19 provides procedural guidelines for the technical assessment of reference levels proposed by jurisdictions, including:
 - ❑ Scope of assessment, procedural timelines of assessment, composition of assessment team

Verification Standards (3)

Additional existing standards:

- ❑ VCS Jurisdiction and Nested REDD (JNR) guidelines: include public stakeholder consultation and expert panel peer review under certain situations; verification body must be accredited under sectoral scope 14 (agriculture, forestry, and land use) and has completed at least 5 projects under sectoral scope 14
- ❑ IPCC GPG LULUCF: provides detailed approaches for comparing inventories and data sets, remote sensing, using higher tier methods, modeling, and direct measurement; general guidance on verification process and objectives; general verification reporting guidance; QA/QC system guidelines

Input sought

ARB staff is seeking input on:

- ❑ Whether a regulatory amendment proposal is necessary to define the verification procedures and methodologies, or the verification body requirements?
- ❑ If a regulatory amendment proposal is necessary, would it be similar to the regulatory verification language for domestic offsets?
- ❑ Whether existing verification standards documents could be referred to or incorporated and still meet ARB rigor?
- ❑ Whether additional requirements are needed?

Questions?

Possible Next Steps

- ❑ ARB staff looks forward to stakeholder feedback on these topics, and requests written comments by 5:00 PM Pacific on Friday, April 22, 2016. Comments may be submitted at <http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm>.
- ❑ An additional technical workshop is *tentatively* scheduled for:
 - ❑ April 28, 2016 (covering linkage process and social and environmental safeguards)
- ❑ A listserv notice would be issued to announce this meeting once details and topics become final