

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

California Air Resources Board
October 28, 2015

Workshop Materials and Submitting Comments

- Presentation is posted at:
<http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm>
- Staff white paper and background material are available at:
<http://www.arb.ca.gov/cc/capandtrade/sectorbasedoffsets/sectorbasedoffsets.htm>
- Written comments on the workshop and white paper may be submitted until 5 pm (Pacific Time) on Monday, November 16, 2015:
<http://www.arb.ca.gov/lispub/comm/bclist.php>
- During this workshop, e-mail questions to:
auditorium@calepa.ca.gov

Workshop Agenda

10:00am – 12:00pm

- Morning Presentation
 - Opening Remarks
 - Overview of white paper topics
 - Introduction to the Under 2 MOU

1:00pm - 2:30pm

- GCF Jurisdictions and Community Leaders Discussion
 - GCF government representatives
 - Indigenous and local community leaders

2:30pm - 3:30pm

- Monitoring, Reporting, and Verification
 - Presentation by Dr. Greg Asner
 - Discussion

3:30pm – 4:00pm

- Potential next steps

Outline of Morning Presentation

- I. Review of Cap-and-Trade Program to date
- II. Background on Sector-Based Offset Crediting
- III. California's interest in tropical forest sector
- IV. California work to date
- V. What other jurisdictions and organizations are doing
- VI. Overview of REDD Offset Working Group Recommendations
- VII. Potential next steps
- VIII. Under 2 MOU
- IX. Discussion (Q&A)

Cap-and-Trade Program to date (1)

- Cap-and-Trade Program began covering emissions on January 1, 2013.
- Reporting and verification of emissions and product data since 2008
- First compliance period (2013 and 2014 emissions) surrender deadline is on Nov. 2
 - Second compliance period commenced on Jan. 1, 2015 with inclusion of transportation fuels and natural gas
- 12 auctions conducted to date
 - 8 California only
 - 4 joint auctions with Québec
- ~ \$2.9 billion auction proceeds to the State to be invested in programs to reduce GHG emissions in California
- Successful linkage with Québec

Cap-and-Trade Program to date (2)

- Robust domestic offsets program
 - 6 approved domestic compliance offset protocols
 - ~30 million offsets issued so far
 - Includes 17 million+ U.S. forest offset credits
 - Sufficient to meet 8% limit for first compliance period
- Partnering with policymakers around the world to share best practices on climate measures, including carbon pricing, and to leverage larger-scale reductions

International Engagement



California Agreements with States and Regions throughout the World



Background on Sector-Based Offset Crediting (1)

- Sector-based Offset Credit Program – Jurisdiction-wide crediting program in subnational jurisdiction in developing country
 - GHG emission reductions measured across a whole sector within a jurisdiction's geographic boundary, rather than within a single project boundary.
 - Cap-and-Trade Regulation allows sector-based offset credits issued by approved sector-based offset credit programs for compliance if the Board finds they meet rigorous criteria
 - Criteria for sector-based offset credits are the same as for domestic project-based offset credits
 - Real, quantifiable, verifiable, quantifiable, permanent, enforcement, additional (AB 32 and Cap-and-Trade Regulation)

Background on Sector-Based Offset Crediting (2)

➤ Benefits:

- Developing jurisdiction-wide, sector-based program incentivizes low-emissions planning throughout jurisdiction (helps mitigate emissions leakage)
- Jurisdiction-wide planning may lead to reductions in other sectors within jurisdiction
- Crediting begins after meeting sectoral performance standard, ensuring additionality
- Cost-containment for California covered entities within existing 8% offset quantitative usage limit

➤ Sector-based offset limit:

- 1st & 2nd Compliance Periods—2% of total obligation
- 3rd Compliance Period—4% of total obligation

Why the tropical forestry sector?

- Focus: Reducing Emissions from Deforestation and Forest Degradation (REDD) Programs
- Addresses significant portion of global emissions (roughly 11%-14%)
- Tropical forest sector is a heavily studied sector
- California program already includes domestic forestry offsets
- Multiple co-benefits, including:
 - Link to California precipitation
 - Biodiversity
 - Forest-dependent community livelihoods
 - Water management
 - Soil conservation

Why is California interested in REDD?

- AB 32 calls for California to take leadership role in environmental policy
- International recognition that climate change cannot be addressed without addressing deforestation, including tropical deforestation
- Many co-benefits of reducing deforestation
 - Benefits to preserving California's forests
 - Research indicates link between tropical deforestation and reduced California precipitation
- Important for cost-containment for Cap-and-Trade covered entities
- Cost-effective mitigation mechanism
- Engages developing countries in low-carbon growth
- Called out in 2008 AB 32 Scoping Plan and again in 2014 First Update to the AB 32 Scoping Plan

Cap-and-Trade Cost-Containment

- ARB has issued sufficient offsets to meet the 8% limit in the first compliance period
- Potential shortfall of offsets for second compliance period with existing compliance offset protocols
- Predicted shortfall of offsets for the third compliance period
- Challenge to identify eligible domestic offset project types
- Lack of sufficient offsets could increase offset prices *and* allowance prices – increased cost of compliance with Cap-and-Trade

Current REDD work in California

- **Governors' Climate and Forests Task Force (GCF)**
 - Formed in 2008
 - Information and best practice exchange between 29 subnational jurisdictions to date
 - Each jurisdiction is enacting legal structures to improve forest management
 - Annual meetings to share experiences between members who are developing jurisdiction-level REDD programs
 - Rio Branco Declaration – goal of 80% reduction in tropical deforestation by 2020, contingent on financing

Current REDD work in California (2)

- MOU signed with Acre, Brazil and Chiapas, Mexico
 - Established in 2010
 - Established REDD Offset Working Group (ROW)
 - Assessment of technical design and implementation nuances of programs in Acre and Chiapas
 - Technical and policy experts worked for two years to develop set of recommendations for California, Acre, and Chiapas
 - Recommendations presented in July 2013
 - Recommendations are assessed in ARB staff white paper

Current REDD work in California (3)

- Ongoing engagement with U.S. Department of State
 - Federal climate negotiators welcome California's REDD work
 - Continued coordination to facilitate shared understanding and discussions with other jurisdictions
 - USAID has consulted with California regarding that agency's efforts on REDD

Regulatory Requirements for Sector-Based Offset Crediting Programs

- Cap-and-Trade Regulation includes placeholder provisions for sector-based crediting, and for REDD
- Sections 95991-95995
 - Sector plan
 - Transparent MRV system
 - Transparent performance metric system
 - Offsets are real, quantifiable, permanent, verifiable, enforceable, and additional
 - Public participation and consultation required in the program design process
 - If jurisdiction allows nested projects, projects must fit within program accounting and include additional project-level MRV requirements

What are other jurisdictions doing? (1)

United States of America

- Spends ~\$130 million per year on REDD readiness/capacity building
- Financing vehicles through State Department / USAID
 - Ex: USAID's BIOREDD+ program works with Afro-Colombian and indigenous communities in developing REDD programs in Colombia
 - Ex.: Support for the Governors' Climate and Forests Task Force Fund (GCF Fund)

Kingdom of Norway

- Norway's International Climate and Forest Initiative supports the development of REDD around the world with \$517 million per year
 - \$1 billion for Brazil's Amazon Fund
 - \$1 billion results-based payments over a decade to Indonesia
 - Support for the GCF and the GCF Fund

What are other jurisdictions doing? (2)

Germany

- Proof-of-concept of sector-based offsets through first performance-based payment for a jurisdiction-wide, sector-based program
 - Acre delivered and retired 8 million tons of CO₂e for €19 million from the German Development Bank KfW

United Kingdom

- Deforestation is a priority – over £500 million allocated to REDD+ programs

Brazil

- Largest share of tropical forests of any country in the world
- Committed to reducing deforestation rate
- Developing National REDD strategy

What are other jurisdictions doing? (3)

Peru

- Deforestation is #1 source of GHG emissions in Peru
- Goal: Zero net deforestation by 2021
- National Forest Strategy includes REDD as important contributor to emissions reductions

Mexico

- Developing National REDD Strategy
- REDD early action in five states: Jalisco, Chiapas, Campeche, Yucatan, Quintana Roo

Many Others

- Dozens of tropical forest countries are progressing towards REDD Readiness
- Subnational efforts, including GCF jurisdictions

What are other organizations doing? (1)

United Nations

- UN-REDD program being implemented by the FAO, UNDP, and UNEP
 - Over 60 partner countries, fully-funded national REDD+ readiness programs in 23 countries
 - REDD+ readiness generally refers to initial capacity building
- UNFCCC adopted the Warsaw Framework for REDD+, providing guidelines for different aspects of REDD, from carbon accounting to social safeguards
- COP 21 in Paris may include final approval of REDD+ guidelines developed throughout UNFCCC process

What are other organizations doing? (2)

World Bank

- Forest Carbon Partnership Facility (FCPF) – Partnership of 47 developing countries.
 - Disbursed \$850 million for REDD readiness and performance-based payments
- Forest Investment Program (FIP) – Collaboration between World Bank, African Development Bank, Inter-American Development Bank, Asian Development Bank, and the European Bank for Reconstruction & Development
 - \$785 million supporting REDD+ implementation
 - Includes \$50 million Dedicated Grant Mechanism for Indigenous Peoples and Local Communities

What are other organizations doing? (3)

REDD Offset Buyers

- Market has shown comfort with REDD credits
 - \$64.1 million spent by voluntary buyers purchasing REDD credits from Amazon basin in 2013.
 - \$15.4 million spent purchasing East African sourced REDD credits
 - Total of ~25 million REDD credits transacted in 2013

Source: Forest Trends, State of the Forest Carbon Markets 2014 (http://www.forest-trends.org/documents/files/doc_4770.pdf)

Civil Society – NGOs and Communities

- Many non-governmental organizations have initiated work with communities on REDD projects, REDD programs, and other work
- Indigenous peoples and other communities have begun developing standards and programs for implementing REDD initiatives
- Communities are working with subnational and national governments to ensure these standards are included in larger scale REDD programs

Why is California leadership needed now?

Capacity Building → Compliance

- “REDD Readiness” funding common to many of those organizations
- Important initiatives have begun, but there still exists an ambition and financing gap to longer-term design and implementation
- Next-Step: Recognition in Compliance Markets

Why is California leadership needed now?

- California is well-positioned:
 - Existing Cap-and-Trade Program
 - Historic engagement in this sector
 - Predicted offset shortfall, so a need within California's program
 - Already includes international offset credits (e.g., offsets issued by Québec)
 - Can set robust standards others will follow
 - Overall climate leadership – recent example being the Under 2 MOU

ROW Recommendations (1)

ROW Recommendations published in 2013 examined three questions:

- 1) What mechanisms are required for California to recognize international REDD-based emission offsets for compliance purposes?
 - What does California need?
- 2) What policy considerations should a sectoral REDD program address for California to recognize the REDD-based offsets for compliance purposes?
 - What do the partner jurisdictions need?
- 3) How should carbon removals from forests be measured?
 - How does crediting work?

ROW Recommendations (2)

➤ Policy Considerations

- Require robust community engagement and social safeguards, such as
 - United Nations, REDD+ Social & Environmental Standards
 - Include transparency & grievance process
- Effective government enforcement and oversight
 - Buffer/insurance mechanism in case of unintentional reversal
 - 3rd party verifiers with robust conflict of interest policies
 - Maintain buyer liability in California program
- Legal framework
 - Linkage agreement in the same manner as with Québec (e.g., follow SB 1018 requirements)

ROW Recommendations (3)

➤ Technical Considerations

- Setting forest inventory baselines/reference level
 - Satellite/remote sensing mapping systems and on-the-ground inventory measures
 - Base on 10-year historic average
- Tracking system/registry
 - Separate registry for partner jurisdictions
 - California and partner jurisdiction to collaborate on registry design
- Ensuring real reductions
 - Leakage management mechanisms
 - Robust monitoring, reporting, verification
 - Solid accounting framework

Public Participation and Consultation in the Program Design Process

- Public participation in the design of the program
- Already required in California
- Required public process for any potential partner
- Research also shows that community involvement and buy-in is necessary for functional program
- ROW recommends two possible standard systems to ensure social and environmental benefits are included in the public participation, design, and implementation of a program:
 - REDD+ SES Initiative
 - UN-REDD/Forest Carbon Partnership Facility

Timing (1)

- 8% offset supply for first compliance period was met
 - Enough offset credits for 8% usage limit in 2013-2014
- Domestic Compliance Offset Protocol Review Process document notes that offset protocols must be beyond what is already required by law/regulation
 - Most emissions in California are already regulated
- ARB is striving for new domestic protocols that meet the regulatory criteria, but challenge is most emissions already regulated
- Result: offset supply expected to be insufficient to allow use of 8% quantitative usage limit in third compliance period

Timing (2)

- Years-long public policy process in California
- Cap-and-Trade Program is already planned through 2020, with work beginning to design post-2020 program
 - Third compliance period is 2018-2020
 - If sector-based crediting provisions are included in upcoming regulatory amendment package, amendments must be complete by Fall of 2017 to be effective in 2018
 - ~ 1.5 years to conduct stakeholder workshops, develop draft regulation language, conduct linkage findings, hold Board hearings, and finalize regulatory language

Timing (3)

- California helped found the GCF over 7 years ago
- Sub-national momentum is at a crucial point
 - Capacity building – REDD readiness has advanced tremendously
 - But, financing needed beyond mere capacity building
 - Next step requires broader-scale implementation and investment
 - Recognition in a market program could leverage such changes
 - Opportunity to set standards others will be able to use
- Part of California's strategy for COP 21 in Paris is climate leadership
 - >20% of the Under 2 MOU signatories are GCF members
- Potential to leverage substantial emissions reductions

Past concerns include

- Some commenters have expressed preference for limiting emissions reductions to California
 - Offsets are only eligible for use up to 8% of an entity's compliance obligation
 - Difficult to approve new domestic offset protocols - most emissions already being regulated in California
 - 100% of Cap-and-Trade proceeds spent on reducing GHG emissions in California
 - Many existing programs to address GHG emissions, as well as criteria and toxic air pollutants in California
 - Section 38564 of AB 32 specifically calls for California to consult with other jurisdictions to facilitate the development of integrated, cost-effective, international GHG reduction programs

Past concerns include

- Some commenters expressed concerns that REDD projects negatively impact rights of local people
 - Public participation and consultation at the local level is a regulatory requirement
 - California is only considering sector-based crediting programs at the jurisdiction scale – not one-off projects
 - ROW recommends using best-practice safeguard standards like REDD+SES or the UN-REDD program’s Social and Environmental Principles and Criteria
- Some commenters concerned about reversal
 - Similar to our domestic forestry protocol; manage risk through buffer pool, large jurisdiction, “own effort” provisions

Support for additional California action

Signatories to Letter Urging California to Adopt Sector-Based Offsets from Forest Conservation



Code REDD 2013 (www.coderedd.org)

Programs most ready for inclusion (1)

- All GCF partners are at varying stages of design & implementation
- Acre, Brazil
 - Advanced policy
 - SISA law – first operational legal/institutional framework for jurisdictional REDD
 - Social Safeguards – Indigenous rights to resource use, public participation by indigenous/local groups
 - Forest-dependent communities benefit from carbon revenue
 - Advanced technical considerations
 - Deforestation reference level and target level established
 - Carbon registry already operating (issuance, tracking, and retirement of credits)
 - German development bank bridge financing aiding to continue program until carbon revenue begins

Programs most ready for inclusion (2)

- All GCF partners are at varying stages of design & implementation
- Advanced programs
 - Brazilian states of Mato Grosso, Amazonas, and Para
 - Mexican states, engaging with national government
 - Highlights of these and other GCF states/regions will be discussed in the afternoon session

Potential Next Steps

- 1) Stakeholder workshops and technical meetings over the next year
 - Seeking written comments on ARB staff white paper
 - This exploration phase could be informed by California universities, GCF partner jurisdictions, and the U.S. federal government
 - Opportunity to work through technical and policy issues with stakeholders
 - Would include engagement and input from ARB's Environmental Justice Advisory Committee, as well as other technical experts and interested stakeholders

Potential Next Steps

- Topics for follow-on technical meetings and workshops could include:
 - Reference levels and acceptable uncertainty ranges
 - Addressing emissions leakage and reversals
 - Quantification and verification standards
 - Ensuring enforceability
 - Addressing additionality
 - Standards for registries
 - Ensuring robust social and environmental standards (e.g., safeguards)

Potential Next Steps

2) Continued coordination with partners

- Through the GCF, continue to engage subnational jurisdictions on REDD
- Continue to work with Québec and Ontario regarding any potential regulatory changes
- Continue coordinating with U.S. Department of State to facilitate shared understanding and discussions with other jurisdictions

Potential Next Steps

3) Administrative Procedures Act Requirements

- 45-day notice of proposed rulemaking
- Regulatory text and staff report, including relevant analyses (i.e., CEQA)
- Written comments from the public
- Staff presentation
- Board hearing(s)

Potential Next Steps

4) SB 1018 Governor Linkage Findings

- Jurisdiction's program must be equivalently stringent with enforceability and no liability for California
- Similar type of review as Québec linkage

Summary

- We cannot fully address climate change without addressing emissions from deforestation of tropical forests
- GCF jurisdiction partners are developing robust programs
- California recognition can set high standards and leverage further emissions reductions and co-benefits
- Limited domestic offset protocols because most emissions in California already regulated
- Offset credit shortfall predicted beginning in 2018
- Sector-based offset crediting provisions already exist in the Cap-and-Trade Regulation
- Continue to engage on technical design elements
 - Submit comments on white paper



Subnational Global Climate Leadership Memorandum of Understanding

October 28, 2015

Under 2 MOU Basics

- Initiative of California and Baden-Württemberg to bring together subnational governments willing to make ambitious long-term climate commitments aligned with goal of limiting warming to 2°C
 - Reduce GHG emissions 80-95% below 1990 levels by 2050, and/or
 - Limit GHG emissions to 2 tons per capita by 2050
- Builds momentum and collaboration amongst subnationals ahead of COP21, and encourages greater national ambition in the negotiations
- Builds on other California partnerships, such as GCF's Rio Branco Declaration and the ZEV Alliance

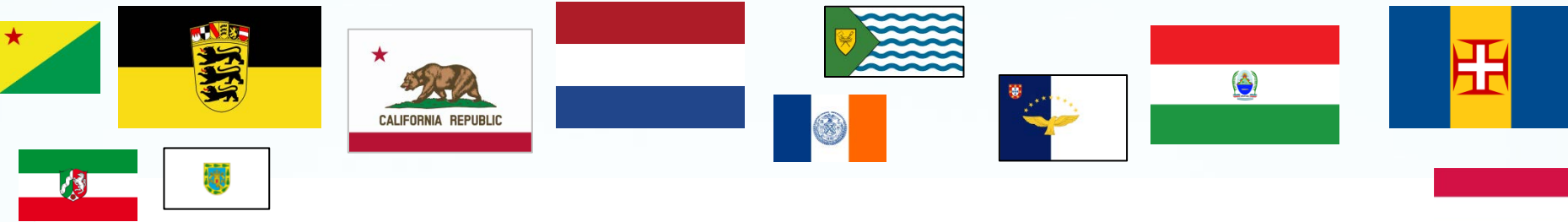


Signatories also commit to...

- Setting midterm targets needed to support long-term reduction goals
- Sharing technology, scientific research, and best practices
- Coordinating on issues of interest including:
 - Energy
 - Transportation
 - Natural resource protection
 - Technology
 - Short-lived climate pollutants
- Working towards consistent monitoring, reporting, and verification of emissions

Why subnationals?

- 50-80% of the mitigation and adaptation actions necessary to tackle climate change will be implemented at the subnational or local levels of governance (UNDP)
- Responsible for the development and implementation of policies that have the most impact on climate change
 - e.g. air quality; transportation; energy and energy efficiency; the built environment; natural lands; technology innovation, development, and transfer
- Laboratories for policy innovations later adopted at the national and even international level
- Critical link in the vertical integration of climate policies between national and local governments



Under 2 MOU and Forests

- 10 MOU signatories are also GCF members
- The MOU calls on parties to work together to reduce emissions from natural resources sectors
- Tropical deforestation accounts for 11% - 14% of global emissions
 - Cannot address climate change without addressing tropical deforestation

Additional Information

- California Cap-and-Trade Program webpage:
<http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>
- International Sector-Based Offset Crediting webpage:
<http://www.arb.ca.gov/cc/capandtrade/sectorbasedoffsets/sectorbasedoffsets.htm>
- Contact information:
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 - Aimee Barnes, Deputy Secretary, Cal/EPA
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Comments and Questions

Lunch Break

Afternoon schedule (begin at 1pm):

GCF Jurisdiction and Community Leader Discussion

Monitoring, Reporting, and Verification

Recap of potential next steps