

# 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](mailto: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:
- 1<sup>st</sup> & 2<sup>nd</sup> Compliance Periods—2% of total obligation
  - 3<sup>rd</sup> 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 CO<sub>2</sub>e 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](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
  - 3<sup>rd</sup> 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](http://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