



# Carbon Markets and Forests: What Does the Future Hold?

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## Introduction

Global efforts to reduce carbon emissions are ramping up and carbon markets will play an increasingly important role in limiting warming to the 2 degree C ceiling established by the Paris Climate Agreement. I participated in the largest annual North American carbon market conference in San Diego, CA, May 4-6, 2016. The California Cap and Trade system formed the backdrop for many of the sessions, but the conference drew international participants and presentations covered a range of global topics. Recurrent themes included the impact of the Paris Climate Accord, the future of the California carbon market, linkages between the California Cap and Trade system and other sub-national programs, the future of the Clean Power Plan, and possible inclusion of Reducing Emissions from Deforestation and Forest Degradation ([REDD](#)) projects in the California market.

What are the opportunities and ramifications for the forestry sector? What role will forests play in meeting the national commitments associated with the Paris agreement? This month's bulletin is an exploration of those questions as informed by the presentations and discussions at the conference.

## Key Themes from the Conference

### PARIS CLIMATE AGREEMENT

The ramifications of the December 2015 Paris Climate Agreement were discussed in several of the sessions. The general consensus is that the Agreement sends a positive signal for global expansion of carbon pricing, regulations, compliance markets, and voluntary markets in efforts to limit warming to the 2 degree C goal. The Paris Agreement establishes a bare bones framework for the creation of new international carbon markets and cooperative approaches to reducing greenhouse gas emissions. The high-level framing in [Article 6 of the Agreement](#) (see *hyperlink pg. 23*) must be fleshed out before the nature of the resulting markets and cooperative agreements becomes clear. It is too early to know what opportunities for the forestry sector might result.

### GLOSSARY

**Compliance Offset Credits:** Verified emission reduction or carbon sequestration credits, developed in non-capped sectors, which can be purchased to meet regulatory requirements for greenhouse gas emission reductions within capped sectors.

**Voluntary Offset Credits:** Emission reduction or carbon sequestration credits that can be purchased on a voluntary basis to offset corporate or personal greenhouse gas emissions.

**Green Bonds:** Debt security that is issued to raise capital specifically to support climate-related or environmental projects.

**Clean Power Plan:** Proposed U.S. EPA program to reduce greenhouse gas emissions from existing power generation facilities.

A related topic in these discussions was the tremendous need for additional capital to finance the conversion to a green economy. Additional regulation and/or establishment of a price on carbon were two methods discussed to drive capital towards needed solutions. Green bonds are also seen as a growth area with some early indications of investor preference for green bonds driving higher prices in the secondary market. China is poised to have a major impact as they establish a national cap and trade system in 2017 and become a major issuer of green bonds. Market commentators estimate that China's green bond market could be worth \$230 billion in the next five years.

## **STATUS AND FUTURE OF THE CALIFORNIA CAP AND TRADE SYSTEM**

The California Cap and Trade system appears to have addressed many of the fundamental flaws of earlier systems. A price floor in the offset market has created demand and stability. Rigorous project review on the part of the California Air Resources Board has created investor confidence, but has also created significant hurdles for offset project developers. Thus far, the bulk of the emission reductions in California have been driven by actions within capped sectors (to reduce emissions), rather than through purchase of offset credits from non-capped sectors such as forestry. The California system continues to function as a laboratory of innovation and will influence international efforts to fulfill the Paris Agreement.

The initial enabling legislation (AB32) established the program through 2020 and efforts to extend the cap and trade framework are underway in the California legislature. The general sense from the conference discussions is that that program will be extended, but will likely be modified in the process. The program also faces a lawsuit by the California Chamber of Commerce (CCC). A state judge rejected the assertion by the CCC that the program is an illegal tax, but an appeal is pending.

## **STATUS OF FOREST OFFSETS WITHIN THE CALIFORNIA SYSTEM**

Forest offset projects account for the majority of offset projects approved in the California Cap and Trade system so far. Three categories of forest offset projects are possible: (1) afforestation, (2) avoided conversion, and (3) improved forest management. Thus far, the majority of the approved projects are in the improved forest management category. Several sessions touched on the notion of "charismatic" carbon credits—projects that bring co-benefits such as flood control and water quality protection. It is not clear if this is a factor in the prevalence of forest offset projects in the compliance market.

One of the sessions included an in-depth discussion of areas of risk associated with forest offset projects and how parties attempt to allocate that risk in contract negotiations. The five areas of risk were: (1) the possibility of credit invalidation, (2) failure to deliver a successful project, (3) reversal of a project, (4) land restrictions associated with projects, and (5) price\*.

- **Invalidation** of a project is a risk during the first eight years of a project and could result from a material misstatement (greater than 5%) of the carbon sequestration value of a project, failure to comply with all relevant environmental, health and safety laws, or double dipping (selling the same offsets into multiple programs).

- **Project delivery failure** could be associated with multiple causes such as insolvency, failure to meet statutory deadlines, negligence, etc.
- **Reversal** could be due to unintentional causes such as fire or wind storm, or intentional causes such as negligence or willful intent. In the event of an unintentional reversal the credits are covered by a buffer pool maintained by the California Air Resources Board. In the case of intentional reversal the owner is responsible for replacing the credits.
- **Land restrictions** are primarily to meet the carbon sequestration goals associated with the contract. Harvesting is permitted as long as carbon sequestration goals are met. The land can be transferred but subsequent owners must assume all carbon responsibilities. A second category of land restrictions are those associated with compliance with the previously mentioned environmental, health and safety laws.
- **Price concerns** include both the market value of the credits and the contractual allocation of risk and financial reward among all of the parties involved in assembling an offset project.

\**Source*: From a presentation entitled: “The Art of the Deal: Legal Considerations with Carbon Projects” by Erika Anderson of Anderson Law on May 4, 2016 at the *Navigating the American Carbon World* conference in San Diego, California.

## EXPANDING CARBON MARKET OPPORTUNITIES

The California Cap and Trade system is a hub for a growing network of sub-national entities that are linking their markets. The Western Climate Initiative (WCI) was launched in 2007 to evaluate and implement policies to tackle climate change. Membership of the WCI includes California, Washington, Oregon, Arizona, New Mexico, Montana, Utah, British Columbia, Manitoba, Ontario, and Québec. Building on the WCI, California and Québec completed an agreement in 2013 linking their programs. Ontario has indicated that they will be next to link their program.

In a parallel effort, California began engaging on REDD through the creation of the Governors’ Climate and Forest Task Force in 2008. This subnational government initiative is a network and forum focused on forest conservation, climate mitigation, and exploring linkage between REDD programs and the California Cap and Trade system. This process resulted in development of a 2010 Memorandum of Understanding between California, Acre, Brazil, and Chiapas, Mexico to assess the details associated with program linkage. Technical and policy recommendations were developed by a team of experts and delivered to all three of the partners in 2013. It is not yet clear when this process might result in formal linkage of REDD projects with the California market or exactly what form that linkage would take.

## Challenges and Opportunities for the Forestry Sector

As signatory nations strive to meet the emission reduction goals associated with the Paris Agreement it is certain that afforestation, forest protection, and enhanced forest management will be key features of national programs. Given the prominent role that forest offset projects play in the California Cap and Trade system it is reasonable to assume that forest offsets will be included in other markets. Regulatory change and/or establishment of a price on carbon will likely increase the value of the climate regulation

services provided by forests. The following are my thoughts on the challenges and opportunities for the forestry sector based on the conference discussions.

- **Participation in the California offset market:** Barring a successful legal challenge to the program or significant regulatory change, the opportunity for forest offset projects in the California market will continue to be the most tangible and immediate opportunity for the forestry sector in the compliance market. Opportunities for offset projects will continue to exist in the voluntary market, but it is not likely that prices will rival those offered in the compliance market.
- **REDD offset market:** Early indications are that, if and when REDD projects enter the California market, the only project categories that will be approved are afforestation and reforestation. It is possible that enhanced forest management projects will eventually be included pending a successful pilot period with afforestation and reforestation projects.
- **Possible inclusion of biomass energy and/or forest offsets in programs that develop in response to the Clean Power Plan:** Given the legal challenges to the CPP it is difficult to know if the draft regulatory language will survive intact. If the existing framework does move forward it appears that the use of biomass energy will be available to states as one element of transition to renewable energy portfolios. The details of the carbon accounting and economics associated with biomass under the CPP are not known at this point. It does not appear likely that forest offset projects will be accepted by EPA as a substitute for reducing emissions from existing power generation facilities, but it is possible that carbon markets that develop in response to the CPP could include forest offsets in a broader context.
- **Regional Greenhouse Gas Initiative (RGGI) forest offsets:** A 2014 reduction in the RGGI emissions cap by 45% resulted in renewed interest in the market and allowance prices have increased from \$2.80 in March of 2013 to \$7.05 in December of 2015, with a drop to \$5.25 in March of 2016. These prices have not been high enough to foster demand for offset projects but that could change in the future if allowance prices rise.
- **Competitive advantage for wood building materials:** Regulatory change and carbon pricing will likely increase the expense of competing materials with a larger carbon footprint, such as concrete and steel.
- **Increased efforts to reduce deforestation in the tropics:** These efforts may reduce opportunities for commercial forestry operations in the tropics and could result in increased demand for forest products from temperate zones.
- **REDD and related projects:** New commercial opportunities may emerge for sustainable forestry and agroforestry as a component of REDD projects and other efforts to comply with the Paris Agreement.

Manomet will continue to monitor developments in the policy realm and carbon markets and will report back to Climate Smart Land Network members on an as needed basis.