

The forestry community has long anticipated carbon offset revenue as a feasible proposition for America's forest landowners. A decade of experimentation in voluntary carbon markets yielded important lessons for the development of a domestic compliance market. However, these early experiences also generated fatigue among many landowners, foresters, and service providers who invested their time and talent as the first compliance market for domestic forest offsets materialized. While some have concluded that forest carbon opportunities have passed, many potential paths available to landowners a few years ago have coalesced into one viable path to market today.

The recent experience of the domestic voluntary carbon market is important, because it provides a backdrop for and contrast to the current opportunity: California's greenhouse gas emissions trading program as administered by the state's Air Resources Board (ARB). From 2006 to 2010, the Chicago Climate Exchange's (CCX) voluntary forest carbon program was both the introduction and total experience of most US landowners and foresters entering the carbon market. The rise and fall of the CCX coincided with the global financial downturn, failure to develop a federal greenhouse gas (GHG) emissions trading program, and the concurrent development of California's regulatory GHG emissions trading program.

What makes the California market viable for the long haul lies in what the voluntary market is not. Voluntary offsets can be thought of as a corporate luxury good, with demand that is, therefore, ephemeral and unpredictable. In contrast, as of the first of this year, publicly owned utilities, transportation fuel refiners, and other large emitters in California must comply with a tightening mandatory GHG emissions cap. Regulated entities may meet their cap in three ways: pollution control technologies or the use of California carbon allowances (CCAs) or California carbon offsets (CCOs). Of these three emissions control alternatives, CCOs are the low-cost choice. Regulated emitters may use CCOs for up to 8 percent of their total compliance obligation.

The ARB adopted four offset project types from the Climate Action Reserve (CAR) for its emissions trading program: ozone depleting substances, agricultural methane gas destruction, urban forestry, and the three forestry categories: afforestation/reforestation, avoided conversion (AC), and improved forest management (IFM). Barclays, Reuters, and Bloomberg project total CCO demand will reach 230 million offsets (tons) by 2020, with a potential average price during this period of \$30 per offset. To date, fewer than 10 million compliance offsets have been generated and half of these have been retired. Because of the size of its population, economy, and associated GHG emissions, California is now the world's second largest regulated GHG emissions market.

For these reasons, California's cap-and-trade program has emerged as the most important opportunity today for American forest landowners to engage with the forest carbon market. The ARB's task is to implement an emissions program that is both credible and viable. So far, ARB has successfully played the centrist role between

stakeholders on extreme ends of the political and economic spectrum. Specifically, the ARB is under pressure to issue enough allowances and offset project types to contain costs, while not repeating the mistakes of the European experience, in which too many allowances were issued, resulting in dramatically depressed prices. There is some debate about whether the California market will be short of offsets due to the limited number of offset types and the complexity and relative economic infeasibility of certain project types, notably AC. The good news for United States forest landowners is that among offset project types, IFM carbon offset projects are by far the most available and scalable opportunity for market entry. The California market is the only domestic compliance program that allows both AC and IFM forest carbon projects and accepts projects developed anywhere in the United States. However, owing to the diversity of America's forest landowners, potential IFM offset supply is one of the California market's greatest unknowns.

Recent indicators of California market vigor include the steady increase of forest project development activity, increased demand and limited availability of carbon project verifiers, successful execution of verified emissions reduction purchase agreements, and the overcoming of recent legal challenges to the California GHG emissions trading program. Equally important are the results from the first ARB allowance auction, which occurred on November 14. While most CCAs were distributed at no cost to emitters, 23 million 2013-vintage CCAs were auctioned to catalyze the emissions trading program and help establish a market price. The auction for 2013 CCAs was fully subscribed, and the clearance price of \$10.09 exceeded the floor (minimum) price of \$10. Nearly all allowances (97 percent) were purchased by regulated emitters, demonstrating robust activity by businesses to meet their compliance obligations. Less than a month after the first auction, CCAs were trading near \$13. CCOs generally trade at a risk-adjusted 10 percent to 20 percent discount to CCAs; this offset price is in line with Finite Carbon's experience selling two recently registered California IFM projects.

#### A Forest Product

Forest carbon is fundamentally a forest product, and a forest carbon project may be thought of as a long-term supply agreement to maintain a minimum specified stocking level. Our project development experience and pipeline reveals that carbon is increasingly viewed as both an asset and a management strategy by all landowner types. Environmental NGOs and conservation-oriented family owners, as well as Timber Investment Management Organizations, Real Estate Investment Trusts, and other timberland investors, are now adopting the view that forest carbon can diversify timberland return on investment and significantly contribute to acquisition, management, and exit strategies. However, the costs and requirements of developing and maintaining a California-compliant forest offset project are not trivial. Full project due diligence is required, including an accurate and high-confidence evaluation of project feasibility by service providers

who understand carbon as a forest product among more conventional management objectives.

Our efforts to tear down the barriers for forest carbon projects in the United States have led our firm to develop several core strategies that assist landowners and their service providers in identifying and characterizing forest carbon projects designed to fit and complement a landowner's management approach. These strategies include helping landowners understand if and where carbon projects make sense on their ownership, recognizing and treating forest carbon as an untapped asset class (versus landowners having to adjust their management approach from conventional product to carbon management), finding and maximizing forest carbon volumes on special lands where harvest volumes are voluntarily below growth, and optimizing annual growth and returns between conventional products and forest carbon.

We've applied these strategies to evaluate more than three million acres of US timberlands and to develop the first two IFM projects registered outside California for the ARB program. These projects—the Downeast Lakes Land Trust (DLLT) 19,000-acre Farm Cove Community Forest in Maine [see "Maine Land Trust Registers First California CAR Carbon Project," November] and The Forestland Group's (TFG) 103,000-acre Champion Forest in New York's Adirondacks—represent very different landowner types. However, both have similar motivations for entering the carbon market: they concluded that forest carbon aligns with their management approach and strengthens their timberland investment portfolios. In the case of DLLT, its project will generate significant income for stewardship and expanded protection of additional forestland adjacent to its Farm Cove project. For TFG, the Champion Forest has been in a restoration phase, and forest carbon stocks provide a new revenue stream while conventional forest product classes and markets recover. Both projects will generate nearly a half million offsets in their first 10 years. With prices of more than \$10 per offset, carbon is a major new source of revenue for all landowner types and is well-aligned with a diversity of management goals.

It is difficult to predict the adoption and entry rate of America's forest landowners into the California program. Well-informed opinions vary on whether the California offset supply will be sufficient during the initial 10-year compliance period. What can confidently be said is that landowners from every demographic and region of the United States are now developing California forest carbon projects. For now, CCO demand far exceeds supply. CCO prices should steadily increase in the near term, but at what rate is uncertain. While \$20 per CCO is likely an important price point at which where market entry rates begin to tip from early- to mass-adopter, demand and price recovery for conventional wood products will play into that calculus. CCO prices are presently and should continue to be increasingly competitive with conventional forest products.



The wait-and-see period of compliance forest carbon protocol development and regulatory framework implementation is over. The sole path to market for most US forest carbon projects is now California's GHG emissions trading program. Several dozen of the nation's most prominent for- and nonprofit landowners have already evaluated the ARB opportunity and concluded that forest carbon aligns with their ownership goals. We see 2013 as the most important year to date for US carbon markets, as the nation's first GHG emissions program allowing AC and IFM projects leaves the station. Many US landowners are already on board and reaping the rewards of early action.

For a more in-depth review of the forest carbon market and project development cycle, please see our recent article in the 2013 issue of *The Consultant*, the quarterly magazine of the Association of Consulting Foresters, at: [www.finitcarbon.com/markets-and-industry](http://www.finitcarbon.com/markets-and-industry).

Dylan H. Jenkins, CF, is vice-president, portfolio development, for Finite Carbon. You can reach him at (570) 321-9090 or [djenkins@finitcarbon.com](mailto:djenkins@finitcarbon.com).

For more Forest Carbon Marketplace articles, visit the *Climate Change/Carbon* page on the SAF website at [www.efor-ester.org/fp/climatechange.cfm](http://www.efor-ester.org/fp/climatechange.cfm).

("Bragg" continued from page 5)

#### Can you give me an example?

One of the articles we're working on looks at field trials of the ecological forestry treatments in the Pacific Northwest that were developed by Jerry Franklin and Norm Johnson. Their emphasis was on helping federal agencies address some of the challenges that they face in trying to address all of the things that are being asked of them—timber management, wildlife habitat, ecosystem services—and presenting information about these practices in a form that people can learn from and perhaps adapt for their own use.

These will not be formulaic article types. They aren't your conventional replicated research studies, but case studies with unique circumstances. They're going to be flexible, yet still rigorous and peer-reviewed.

Hopefully, as people start seeing these new offerings in the *Journal*, they'll say, "Well, we're doing something similar" or "We're addressing this in a different way," and then they'll submit their own case studies. I see the Practice of Forestry papers as fostering dialogue. It's more than just a specific silvicultural technique on a specific patch of ground, but new approaches to how we move the field of forestry forward together. Things have to change for us to be able to do the things that we need to do in the forest, whether it's a public forest or private forest. The political environment is dynamic, the ecological and social environments are dynamic, the climate is dynamic—all of these things shape how we can manage our forests into the future. At the *Journal*, we have a responsibility to be flexible and respond to those changes.

Contact Bragg at [braggd@safnet.org](mailto:braggd@safnet.org).