



Southern Growth Policies Board
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Opportunities for Forestry in Emerging Carbon Markets

What are Carbon Offsets and Carbon Offset Markets?

Carbon offsets are a financial tool whereby one party receives payment from another for reducing the amount of greenhouse gases emitted into the atmosphere or for increasing the amount of greenhouse gases stored through terrestrial or geologic sequestration practices. These reductions can be achieved in a number of ways: through the use of renewable or clean energy sources; through changes in land use management; and through the capture and reuse of greenhouse gases. Carbon offset markets are mechanisms for the buying and selling of carbon offsets.

For forestry, carbon offsets are based on the amount of carbon dioxide that is naturally stored in trees and soil through a process called carbon sequestration. The Chicago Climate Exchange (CCX), Voluntary Carbon Standards (VCS) and the Climate Action Reserve (CAR) are carbon offset markets that all recognize carbon offsets from forest management and conservation projects, as well as from reforestation and afforestation projects.

The basic process for developing forestry-based carbon offset projects involves three steps:

- **Developing or updating** a forest management plan. Most carbon trading schemes require that the forest management plan be certified by an independent third-party such as the Forest Stewardship Council, the Sustainable Forestry Initiative, or the American Tree Farm certification systems to guarantee maximum carbon storage potential.
- **Inventorying** the forest to establish its baseline carbon sequestration capacity and calculate its future carbon sequestration capacity. Forest inventories and carbon storage estimates can be prepared by the landowner, forester, or carbon project developer using one of any number of calculation tools available on the Internet, or by an independent consultant.
- **Verifying** the carbon storage capacity of the project. This step is executed by independent, third parties—individual forestry consultants and organizations—to ensure credibility and maintain the integrity of the carbon offset market.

Generally, once they have been verified, carbon credits are registered with one of the market mechanisms and are made available for purchase. Credits are quantified in metric ton increments and prices are set on a per metric ton basis.

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Opportunities in the South

The forests of the American South have played a key role in the region's economy for centuries and continue to play a dominant role in the United States timber industry. Voluntary and regulated markets for carbon offsets from forestry projects represent an economic opportunity for the private, non-industrial landowners who own 72% of the forestland in the Southern United States.

Offset markets essentially offer landowners money in exchange for managing their forests to maximize carbon storage: letting their trees grow, and selectively harvesting them. Income from carbon offset sales can be an important source of complementary or additional income for landowners. One example in the South comes from the Mountain Association for Community Economic Development (MACED), a nonprofit organization based in Berea, Kentucky.

In October 2009, MACED announced that it had disbursed \$65,000 to seven forest owners as payment for the 14,500 metric tons of carbon sequestered on their 5,006 acres of forestland in 2007. The offsets were purchased by the Blue Moon Fund, a private foundation wishing to offset the emissions created by their staff's business travel.

Because they came from forests whose management is certified as sustainable by an independent forest certification system, this set of offsets sold for \$5.05 per metric ton—a price much higher than the market bears currently.

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The Economics of Forestry Offsets

Financial market insecurity and uncertainty over climate change legislation has driven carbon offset prices down in the past year, so it is difficult to generalize the costs and revenues that a forest carbon offset project could reasonably expect. For example, the current price per metric ton of carbon is only \$0.10 on the Chicago Climate Exchange—but in 2008, the average annual per ton price was \$4.43. Some economists predict that the effect of pending climate legislation could drive carbon prices up to \$15 per ton. Regardless, there are several key takeaways on the economics of carbon forestry projects:

- The cost of entry into carbon markets can be prohibitive for small landowners acting alone. Hiring a consultant to conduct a forest inventory has a baseline cost of approximately \$1,300. For small landowners, the cost per acre of this activity will necessarily be higher, and as a result, the potential returns will be less attractive.
- The cost of the transactions necessary for market entry can be lowered if individual landowners join together in cooperatives or through an intermediary organization that acts as an aggregator of carbon offset credits or a project developer.
- As the MACED case above illustrates, not all carbon offsets are created equal. Forest conservation and sustainable management are recognized as producing greater biodiversity benefits and therefore, higher quality credits.

Resources and Links

- Katoomba Group, Ecosystem Marketplace: www.ecosystemmarketplace.com
- Mountain Association for Community Economic Development (MACED) Forest Opportunities Initiative: <http://www.maced.org/foi/carbon.htm>
- Stockholm Environmental Institute, Carbon Offset Research and Education: www.co2offsetresearch.org
- United States Department of Agriculture Forestry Service: <http://na.fs.fed.us/ecosystemservices/carbon/index.shtm>
- Woodlands Carbon: <http://www.woodlandscarbon.com/>