It's Not Easy Being Green:

Reflections on the American Carbon Offset Market

*by Laurie A. Ristino**

Introduction

Over the past few years, the U.S. carbon offset market has experienced tremendous growth.[1] This expansion can be attributed to several factors, including the creation of regional greenhouse gas ("GHG") initiatives, the anticipation of federal regulation, and growing public concern regarding climate change. In the absence of a national system of carbon offset standards, a confusing myriad of methodologies governs the creation of offsets. The media has repeatedly questioned the credibility of carbon offsets, likening them to papal indulgences for environmental sins committed.[2] Indeed, the emphasis on offsets to mitigate climate change has distorted their appropriate role in any future national framework to address climate change and may distract from the more fundamental changes needed to address climate change. Likewise, the ease at which some offsets are acquired to reduce emissions serves to over-simplify the comprehensive, national response that is necessary to address climate change.

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On the other hand, high quality offset projects can play a role in the near term to mitigate climate change by reducing net carbon emissions in a cost-effective manner.[3] Additionally, the growth of the carbon market reflects, in part, American society's genuine desire to address climate change, and this impetus should be preserved and encouraged. Assuming the enactment of a federal cap-and-trade system, rigorous requirements for the creation and maintenance of carbon offsets will be needed to ensure market certainty and emissions reductions.

An Overview: Carbon Offsets

Under a cap-and-trade regime, a limited percentage of a regulated industry's emission reduction requirement may be met with the purchase of carbon offsets. Offsets are different from on-site reductions because they mitigate regulated source emissions by reducing emissions through an unregulated sector GHG reduction project. Some offset projects remove GHGs from the atmosphere; other projects are designed to reduce future emissions. Offset projects include terrestrial carbon sequestration, such as afforestation or reforestation, improved range management, no-till practices on agricultural lands, as well as projects that invest in renewable energy, methane capture, and energy conservation.

Additionality

The reduction in emissions achieved with offsets is called "additionality." Additionally is defined as emission reductions that occur solely as the result of voluntary or regulatory GHG market incentives, not reductions that would have occurred anyway.[4] A deceptively simple concept, additionality in practice can be difficult to assess, but it is critical to viable carbon credit creation. Achieving additionality requires policy clarity, rigor, and transparency.

Regulatory & Voluntary Offsets

There are two general categories of offsets: regulatory and voluntary. The former are regulated by emerging state and regional cap and trade frameworks like the Regional Greenhouse Gas Initiative ("RGGI") or mandated by law such as Oregon's requirement that all new power plants in that state offset part of their carbon dioxide emissions.[5] The latter include offsets that are purchased by individuals, organizations, government, and corporations voluntarily seeking to reduce their carbon footprint. Voluntary offsets are purchased either through the Chicago Climate Exchange ("CCX"), America's only legally binding commodities market for emissions trading and offsets, or through over-the-counter ("OTC") transactions. Since both categories of offset projects purport to result in emissions reductions, similar standards for verifying and monitoring should apply.

Each trading system establishes its own standards for offset project creation, including verification, monitoring, baseline determination, and permanence, resulting in an inconsistent array of methodologies. For example, under RGGI, which is comprised of 10 Northeast and Mid-Atlantic states, only afforestation projects on land that has not been forested for ten years are eligible forest offset projects, and the carbon sequestered must be protected through a permanent conservation easement.[6] In contrast, under CCX, afforestation projects undertaken on sites

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unforested as of January 1, 1990 are eligible.[7] Instead of a conservation easement to ensure project permanence, CCX holds in reserve twenty percent of all CCX afforestation offsets to insure against catastrophic losses. Landowners must indicate in writing their intent to maintain forest for at least fifteen years.[8] As is generally the case in the voluntary market, CCX has a broader array of eligible offset project types, such as agricultural soil carbon sequestration, when compared to RGGI. Regulated markets tend to be more restrictive to ensure a greater confidence level in offset credibility.

In contrast, OTC offsets are not governed by any regulatory or legally binding regime. The public is generally more familiar with OTC offsets, which include many of the popular retail-type offsets offered by both for profit and non-profit entities. For example, Expedia, Orbitz, and Travelocity offer individuals the opportunity to offset their travel emissions by adding the cost of offsets to the travel bill. These offsets are provided by different partners, e.g., Carbonfund, Terapass, and The Conservation Fund, each with different offset prices and policies.[9]

The quality of retail offsets is uneven, and there is no standard certification of offsets upon which consumers can rely. To address this information gap, Clean Air-Cool Planet commissioned a 2006 report as an effort to evaluate carbon offset providers to the retail market. The report ranked, on a scale from 1-10, thirty retail offset providers based upon several criteria and found that only eight of the thirty providers had a score of five or more.[10] In addition, there have been voluntary efforts to develop offset standards such as the Voluntary Carbon Standard. Recently, the Federal Trade Commission ("FTC") has been reassessing its consumer protection guides related to environmental marketing claims (carbon credits and renewable energy certificates) to help prevent false or misleading claims to the public. However, FTC's review focuses on its consumer protection role, not on establishing environmental performance standards.[11]

Offsets: Something for Everyone?

The U.S. carbon offset market has been marked by an exuberant entrepreneurialism informed, in part, by a desire to do environmental good on the one hand and, on the other, tap into a significant revenue and funding stream.

Businesses are participating in the offset market for a variety of reasons, including demonstrating corporate responsibility, hedging against future regulation, and gaining market experience. Companies are both purchasing offsets to reduce their carbon footprint and acting as offset project proponents. As is the case with individuals purchasing offsets, the media has questioned the environmental efficacy of these offsets.[12] In anticipation of GHG emissions regulation, businesses, especially power companies, have established offset projects. For example, twenty-five power companies established Powertree Carbon Company ("Powertree") to invest in carbon offset projects in the Southeast with various partners, including the federal government, The Nature Conservancy, and Ducks Unlimited. Powertree retains the rights to emission reductions associated with the project and distributes the credits to its member companies. In addition, there is an emerging industry associated with carbon offsets, including credit brokers, aggregators, providers, and verifiers.

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The agricultural sector has embraced offsetting for its potential to generate $8 billion in revenue.[13] The American Farm Bureau Federation has stated that agriculture and forestry should have unlimited access to the offset market.[14] In 2007, Iowa Farm Bureau launched a wholly owned subsidiary, AgraGate Climate Credits Corporation, to expand its existing offset aggregating business. AgraGate pools together carbon offset credits produced from offset projects on farms, ranches, and forests and then offers the credits for sale on the CCX. To date, the company has enrolled more than a million acres of land.[15]

Non-profits are using carbon offsets projects to fund conservation. Ducks Unlimited, for example, is currently offering to purchase carbon credits from landowners in the prairie pothole region (the Dakotas, Iowa, Minnesota, and Montana) who place U.S. Fish and Wildlife Service ("FWS") grassland easements on their property.[16] The carbon credit payment is in addition to the easement payment. Ducks Unlimited transfers the credits to an environmental asset manager, which sells the credits to investors. The organization's website does not explain how paying for the carbon credits in addition to the payment for the conservation easement, which protects the land from conversion, meets the test of additionality. Ducks Unlimited uses the revenues from the credits sold to purchase more easements.

Likewise, the federal government has experimented with the carbon offset market as a funding stream. Federal land management agencies' budgets have increasingly been directed toward firefighting[17] with the budget in other programs areas reduced.[18] Partnerships with non-profit organizations have provided much needed funding to restore areas previously burned by catastrophic wildfire. In 2007, the Forest Service signed an agreement with the National Forest Foundation ("Foundation"),[19] under which the Forest Service identifies and makes available appropriate National Forest System lands for reforestation projects, and other lands within National Forest Systems for acquisition and afforestation. In return, the Foundation collects and provides funds to carry out reforestation, afforestation, and acquisition. No carbon credits are created or traded. The Foundation established the Carbon Capital Fund through which individuals and organizations wishing to offset their emissions may donate funds to support these reforestation efforts.

Some of the funding generated by the Forest Service's partnership with the Foundation was used to reforest acreage burned by fires and damaged by tornados on national forests in Idaho and Montana. Forest Service Chief Gail Kimbell has stated that

these reforestation efforts are not necessarily intended to replace all the carbon released by wildfire but to have those sites begin storing carbon at a good rate as soon as possible.[20]

For several years now, the Department of Interior has been using the funding that carbon offset projects generate to restore existing public lands and acquire new lands. In August of 2002, the FWS, which administers the National Wildlife Refuge System, dedicated the Red River National Refuge. FWS was able to do so with the financial assistance of Entergy Corporation and The Conservation Fund.[21] Entergy is a major global energy company that, among other things, delivers electricity to over two million customers in the Southeast. The company had planted more than 180,000 trees to restore native bottomland and sequester carbon.

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Offsets in Perspective

This enthusiastic participation in, and promotion of, the burgeoning offset market has, arguably, inflated the appropriate role of offsets in any national strategy to address climate change. Similarly, the focus on offsets as an environmental panacea has distracted from the comprehensive approach that is necessary to begin mitigating climate change. The reality is that addressing climate change requires fundamental changes to American infrastructure and assertive public policy to support such changes, of which carbon offsets will play a limited role.[22]

In a cap-and-trade system, offsets are only a part of the equation. Under the RGGI Model Rule, for example, initially only 3.3 percent of a source's compliance obligation may be met by offsets.[23] This ensures that bona fide emissions reductions are achieved by the regulated entity. The use of carbon offsets represents a policy choice to use regulated industries to fund GHG reductions for unregulated activities, in lieu of public incentives and standards to achieve such reductions. Given the challenges of creating credible offsets as well as other public policy concerns, an initial inquiry should be made whether an offset approach is best to effectuate reductions in a particular sector of emissions sources.

One instance where using an offset mechanism to address emissions may not be optimal, at least in the United States, are those projects seeking to prevent future occurrences resulting in GHG emissions, such as deforestation. In these cases, the regulated industry is essentially meeting its current emission reduction requirement by helping prevent additional emissions from another source sometime in the future. There are technical hurdles associated with avoidance of deforestation projects, including determining a baseline from which additionality is then measured. This is because project proponents have to essentially estimate when such forests *might* be deforested.

That is not to say that such projects should not be part of a climate change mitigation strategy. In a 2007 report, the Global Canopy Programme described the immense contribution of GHG emissions from deforestation. According to the report, deforestation accounts for eighteen to twenty-five percent of global emissions, mainly from developing countries.[24] Underscoring the complexity of climate change mitigation, there is some evidence that all avoided deforestation and reforestation projects do not provide equivalent mitigation benefits. In particular, preservation in the tropics may be more beneficial than in snowy climes because forests dampen the reflectivity of the snow, known as the albedo effect, and trap heat.[25]

In the United States, the use of public funds, including existing easement acquisition programs, to protect private forested lands meeting specific carbon sequestration criteria and management goals may be a more rational public policy response to prevent emissions from forest degradation. Public incentives provide greater transparency regarding what is really being paid for: ecosystem services. This approach would reflect society's determination that the continued ecosystem services these lands provide, such as clean water, wildlife habitat, and carbon sequestration, are vital public goods, and society will pay for them.

There are other categories of non-regulated emissions sources that may not result in robust or efficient offsets, and therefore, alternative strategies may be considered to address those sectors. For example, carbon offsets from sectors that already receive government financial assistance so that receiving payment for offsets results in "double-dipping;" projects for which extant public programs already provide a mechanism to require GHG reduction practices; offsets from categories of projects that are difficult or expensive to verify and/or quantify; and offset projects involving resources where there is a legal requirement to manage those resources sustainably.

Along the lines of using existing infrastructure to maximize carbon sequestration, a Pew Center for Climate Change report addressing agricultural and forest lands carbon sequestration concluded that agricultural and forest lands can play a key part in climate change mitigation and that much of the infrastructure needed to increase carbon sequestration on those lands is already in place, mainly in the form of conservation programs authorized by the 2002 farm bill.[26] The report proposed that a variety of tools can be used by the Federal government to increase sequestration, including education, incentives, and results-based system of payments that encourages local innovation. [27]

Another example of using public programs to incentivize emissions reductions is in the federal grants context. Recently, the U.S. House of Representatives passed "The College Opportunity and Affordability Act," H.R. 4137, which reauthorizes loans, grants and assistance programs to make education more accessible to students. The bill also ties several of the grants to how much universities reduce their carbon footprint and requires new campus buildings to meet or exceed certain energy efficiency standards.[28]

Conclusion

Addressing climate change requires a robust, national response, including making fundamental changes to American infrastructure, incentivizing the use of existing renewable and clean technologies, fostering technology development and deployment, and reducing consumption in order to create a more sustainable America. Climate change can be a tremendous driver for innovation, and progressive public policy can facilitate this process.

Carbon offsets have the potential to play an effective, interim role as part of an overall comprehensive federal framework that uses multiple strategies to address climate change. However, a national regulatory framework that takes a disciplined approach to offset creation is needed to ensure high quality offsets resulting in real climate mitigation. Such an approach will also help provide needed credibility to the offset market and more effectively harness for the good of the environment the significant investments being made in the offset market. [29]

Endnotes: It's Not Easy Being Green

[1] *See, e.g.,* Katherine Hamilton, Ricardo Bayon, Guy Turner & Douglas Higgins, *State of the Voluntary Carbon Market: Picking Up Steam*, Ecosystem Marketplace (July 2007), at 5, *available at* http://ecosystemmarketplace.com/pages/article.news.php?component_id=5107&component_version_id=7497&language_id=12 (last visited Mar. 14, 2008).

[2] *See, e.g.*, Andrew C. Revkin, *Carbon-Neutral Is Hip but Is It Green?*, N.Y. Times, Apr. 29, 2007, *available at* http://www.nytimes.com/2007/04/29/weekinreview/29revkin.html?_r=1&oref=slogin (last visited Mar. 1, 2008).

[3] *See, e.g.*, Robert Stavins & Kenneth Richards, *The Cost of U.S. Forest-based Carbon Sequestration*, The Pew Center on Global Climate Change (Jan. 2005), *available at* http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/News/Press_Releases/Global_warming/PCGC_sequest_0104.pdf (last visited Mar. 1, 2008).

[4] Clean Air-Cool Planet, A Consumer's Guide to Retail Offset Providers vii (Dec. 2006), *available at* http://www.cleanair-coolplanet.org/ConsumersGuidetoCarbonOffsets.pdf (last visited Mar. 1, 2008).

[5] *See* H.B. 3283, 1997 Leg. (Or. 1997).

[6] *See* Regional Greenhouse Gas Initiative Model Rule ,§ XX-10.5 (c)(1)(i)-(2)(iii) (Final with Corrections 2007), *available at* www.rggi.org/modelrule.htm (last visited Mar. 3 2008) [hereinafter RGGI Final Model Rule].

[7] Chicago Climate Exchange, CCX Forestry Carbon Offsets (June 2006), *available at* https://www.carbon.sref.info/registering/ccx-forest-offsets.pdf (last visited Mar. 4, 2008).

[8] Chicago Climate Exchange, *id*.

[9] *Offset Offerings: A Breakdown*, Wash. Post, June 10, 2007, at P7, *available at* http://www.washingtonpost.com/wp-dyn/content/article/2007/06/08/AR2007060801131.html (last visited Mar. 1, 2008).

[10] Clean Air-Cool Planet, *supra* note 4, at iv.

[11] *See* FTC Guides for the Use of Environmental Marketing Claims; Carbon Offsets and Renewable Energy Certificates; Public Workshop, 72 Fed. Reg. 66094, 66097 (Nov. 27, 2007) (to be codified at 16 C.F.R. pt. 260).

[12] *See, e.g.*, Ben Elgin, *Little Green Lies*, Bus. Wk., Oct. 29, 2007, at 45-52.

[13] Jim Elgin, *In curbing global warming, the devil is in the offsets*, The Hill, Apr. 4, 2007, at 13.

[14] Elgin, *id*.

[15] About AgraGate, AgraGate website, http://www.agragate.com (last visited Mar. 3, 2008).

[16] *See* Ducks.org, Protecting 2,000,000 Acres of Grassland for Tomorrow, http://www.ducks.org/Page49.aspx (last visited Mar. 4, 2008).

[17] *See, e.g.*, *To Consider Scientific Assessments of the Impacts of Global Climate Change on Wildfire Activity in the United States*, *Hearing Before S. Comm. on Energy & Natural Resources,* 110th Cong. 5 (2007) (statement of Ann Bartuska, Deputy Chief Research & Development, Forest Service), *available at* http://energy.senate.gov/public_new/index.cfm?FuseAction=Hearings.Testimony&Hearing_ID=9a58bd66-3950-4e57-ae63-509ce6bf1337&Witness_ID=0058453b-4eba-44c8-bca2-5c6112aea795 (last visited Mar. 1, 2008) (stating that global warming is resulting in an increase in the intensity and scope of fires on public lands).

[18] Dan Berman, *Another round of cuts proposed for non-fire programs*, Greenwire, Feb. 4, 2008.

[19] *See* 16 U.S.C. § 583j (2000) (authorizing the Foundation as a non-profit organization to serve as fundraising source for the benefit of the Forest Service in carrying-out its programs).

[20] Dan Berman, *Lawmakers seek answers on Forest Service's carbon credit plan*, Greenwire, Aug. 17, 2007.

[21] The Honorable Gale Norton, Secretary of the Department of Interior, Address at the National Wildlife Refuge Association Friends (Feb. 3, 2003), *available at* http://www.doi.gov/secretary/speeches/030203speech.htm (last visited Mar. 4, 2008).

[22] *See, e.g*, Michael Maniates, *Going Green*: *Easy Doesn't Do it*, Wash. Post, Nov. 22, 2007, at A37.

[23] RGGI Final Model Rule § XX-6.5 (a)(3)(i) (Jan. 2007).

[24] Andrew W. Mitchell, Katherine Secoy & Niki Mardas, *Forests First in the Fight Against Global Climate Change,* Global Canopy Programme, June 2007, at 1, *available at* http://www.globalcanopy.org/themedia/file/PDFs/Forests%20First%20June%202007.pdf (last visited Mar. 1, 2008).

[25] Ken Caldeira, *When Being Green Raises the Heat*, N.Y. Times, Jan. 16, 2007, *available at* http://www.nytimes.com/2007/01/16/opinion/16caldeira.html (last visited Mar. 1, 2008).

[26] Kenneth R. Richards, R. Neil Sampson & Sandra Brown, *Agriculture and Forestlands: U.S. Carbon Policy Strategies*, Pew Center on Global Climate Change 8 (Sept. 2006), *available at* http://www.pewclimate.org/global-warming-in-depth/all_reports/ag_forestlands (last visited Mar. 1, 2008).

[27] See Richards, *id*. at 27.

[28] Michael Burnham, *House ties higher-ed grants to campus energy and emissions reductions*, Greenwire, Feb. 8, 2008.

[29] *See, e.g.*, Editorial, *Junk the Term 'offsets' for carbon credits,* The Sacramento Bee, Nov. 29, 2007, *available at* http://www.sacbee.com/110/story/528597.html (last visited Mar. 1, 2008) (providing a rebuttal to The Washington Post's criticisms of Congress's purchase last year of offsets to neutralize its omissions and outlined a strategy to avoid squandering the opportunities presented by voluntary investments being made in offsets).