

Building a Credible Carbon Offsets Portfolio

Summary by David Gottesman

Panelists

James Heath, *Principal and Head of Origination, EcoSecurities Group PLC*

Katherine Hamilton, *Carbon Manager, Katoomba Group's Ecosystem Marketplace*

Derek Murrow, *Director of Policy Analysis, Environment Northeast*

Moderator

Bradford Gentry, *Senior Research Scholar, Yale School of Forestry & Environmental Services, and Co-Director, Center for Business and the Environment at Yale**

*Workshop organizer

Bradford Gentry opened the workshop by addressing the variability in prices that Yale encountered when it was shopping for renewable energy credits (RECs). What does it mean if one REC is priced at \$38 per ton of CO₂ equivalent while another one goes for \$10/ton of CO₂ equivalent, for example? Gentry suggested that the wide variety of green technologies available may account for this disparity, which begs the question of which ones are the best investments, the most effective or the most credible. He also underscored the importance of selecting RECs that address the goals of a particular institution in offsetting its carbon emissions.

DEVISING A CARBON OFFSETS PROGRAM

Jim Heath described EcoSecurities' role in the post-Kyoto Protocol era. The firm sources, develops and trades carbon credits worldwide. Its current portfolio includes 17 technologies in 26 countries. Internationally, EcoSecurities employs a dual-pronged approach: clean development mechanisms (CDMs), which are certified emissions reductions in developing countries that trade for between 6 and 16 euros, and joint implementation, which consists of emission reduction units that are less advanced than CDMs, but trade for 5 or 6 euros.

Among EcoSecurities' most notable projects are methane capture in a Brazilian landfill, small scale hydropower generation in China and Latin America, and biomass use in Asia. In its wastewater treatment projects, the firm employs anaerobic digesters that harvest methane from agricultural wastewater streams. The methane-rich biogas

produced is sold back to the factory or facility as fuel, which is used to produce electricity in place of fossil fuel. Overall, this process reduces a plant's energy consumption and subsequent CO₂ emissions, all the while mitigating the plant's methane production.

Heath went on to discuss the considerations investors must keep in mind in building offset portfolios. The first point is strategy: there must be a concerted effort to first reduce emissions and then offset what remains; ignoring this first step is counter to the spirit of the Kyoto Protocol. Second, price is a key factor. Third, the sustainability of the project must be considered, particularly in the context of local definitions. Fourth is additionality – does this project exceed the “business as usual” method? Would it have been built without Emission Reductions (ER) investment? Fifth, and last, is longevity: for how long will the project last?

Figure 1 Methane capture at a Brazilian landfill



The discussion commenced with a question about purchasing ERs: is it a one-time purchase or does it entail annual investment? Heath responded that the financing of a particular ER would depend on the details of that project. For example, installing the aforementioned wastewater treatment system requires a one-time capital investment, whereas operating monitoring equipment requires a longer term commitment. When the topic turned to ER structure and reporting, Heath explained that since EcoSecurities has a variety of technologies in many countries, an ER can be tailored to an institution's specific needs; the same applies to reporting. Lastly, in response to a question about the credibility of non-for-profit vs. for-profit firms, Heath asserted that EcoSecurities is a for-profit firm that creates and trades ERs to meet compliance markets.

GREENHOUSE GAS OFFSETS: NORTHEAST U.S. REGULATORY FRAMEWORKS AND QUALITY ISSUES

Derek Murrow presented on the criteria his firm uses in assessing offsets. He started by defining an offset as “an off-system emissions reduction project” and explained that it is easier to provide an offset in a voluntary market than in a regulatory market, as doing so in the latter often depends on irregularly-defined boundaries. For example, because of the regulatory system, the Northeast Regional Greenhouse Gas Initiative (RGGI) offsets must be outside the northeast electric sector. Murrow then delineated his five offset criteria:

First, a project must be real in that it “must be able to quantify an actual and measurable reduction in emissions.”

Second, offset projects “must be additional or surplus to reductions in emissions that would occur under business as usual activities.” Since it is difficult to prove that a given emissions reduction project would not have been undertaken if not for the offsets funding, RGGI requires a baseline performance standard. Generally, “most projects and programs use a project-specific review and development of a baseline.”

Third, an offset project must be verifiable. This means that adequate measurement and documentation are necessary so that independent auditors can judge a project’s eligibility and performance.

Fourth, the permanence of an offset project must be guaranteed. As such, emissions reductions “must not be capable of being reversed at some future point in time.” This requirement lends itself well to direct emissions reduction projects, such as combustion efficiency and offsetting the use of fossil fuels. However, proving that sequestered carbon – in biomass or soils, for example – will remain sequestered presents a challenge that could be addressed by conservation easements or insurance policies.

Finally, enforceability is of great importance. If states are not able to enforce compliance, they must be able to require the offset credit to be returned.

STRATEGIES FOR CONDUCTING A CARBON-NEUTRAL EVENT

Kate Hamilton spoke about her experience building the carbon offset portfolio for the Yale School of Forestry & Environmental Studies’ 2006 graduation. The portfolio, which “compensated for the emissions from electricity and travel of family and friends” at the graduation included offsets from renewable energy credits, native forestry planting projects in the Mississippi River Valley, and off-grid solar projects in Nigeria. Before researching portfolio options, it is necessary to determine the type of activity to be offset (which calls for an emissions calculation) as well as decision criteria and stakeholder interests, and the values of the organization purchasing offsets. Echoing Murrow, Hamilton spoke about the range of options and lack of

transparency organizations face when comparing offset projects in the voluntary market, particularly with respect to project type, size, certification, and environmental and social co-benefits. She also noted the benefits and challenges of utilizing a portfolio approach to manage risks and balance organizational values.

DISCUSSION

While the session focused primarily on offsetting carbon emissions, participants also discussed reducing emissions by curtailing consumption, particularly as universities expand and require more energy. Before any new building is constructed, a life cycle assessment should be undertaken to see if the new space is necessary or if existing facilities could be creatively employed to offer extra space. Specifically, the timing of classes and labs might be streamlined to avoid the need for a new science lab. If it is found that a new building is required, it should be constructed according to LEED standards.

Some universities, particularly those without the benefit of lofty endowments, will likely encounter difficulties in funding their carbon offset projects. Participants offered a few solutions to this problem. First, since many donors like to contribute to specific university initiatives, institutions can solicit donations for their offsets. Furthermore, the financial strength of investments in alternative energy can be used to both attract and generate capital. Second, universities in the Northeast U.S. can take advantage of the relative cleanliness of the area's energy grid to maximize the impact of their investments in offsets. One-third of the region's power comes from nuclear energy, another third from natural gas and the balance from hydropower and (to a lesser extent) coal. Offsets from these sources are relatively lucrative and can be sold to regions where offsets are less expensive. This pricing differential can be used to sell one REC that derives from the Northeast's clean technologies and purchase a larger number of cheaper RECs that are based on cheaper renewable energy technologies elsewhere. In this way, universities in the Northeast region can help drive the cheapest carbon sequestration possible.

At the same time, one must be careful to approach the offset-trading market with the goal of reducing overall emissions, not financial gain. For example, one participant commented that in Germany, the number of coal power plants has increased in recent years because those plants get the cheapest offsets available by offsetting one of the dirtiest technologies. Concerning business models, another participant argued that carbon dioxide is beginning to be classified as a waste or inefficiency, which is equated to a loss of profit. As more businesses adopt this model, it will become easier to reduce CO₂ emissions.