CLIMATE CHANGE IQ

A SERIES OF BACKGROUNDERS

The Carbon Market

PART I

Carbon offsets

...anything less than an all-out assault on carbon in our economy will be rendered meaningless by the increasing momentum of global warming.

Bill McKibben Zmagazine

national union

THERE IS NO WAY around the fact that the carbon we release into the atmosphere with each flight, each tonne of coal, each tank of gas, is a "done deal". Today there is no taking back that carbon. In our atmosphere it has the effect of steadily warming the earth's climate. We need to dramatically reduce the carbon we're pumping into the air. One strategy is to put a price tag or tax on carbon emitted, to make us think twice about our greenhouse gas emissions (GHGs).

One strategy, to bring us into a world with deeply reduced GHGs and to meet our targets globally and fairly, is to implement some kind of carbon trading system. The National Union has chosen to explore the carbon market in two parts;

1) Carbon Offsets
2) Cap and Trade Systems and the Clean Development Mechanism (CDM)

PART ONE

CARBON OFFSETS

SOME CALL IT a "guilt offset". This is a reflection of the fact that an activity that releases GHGs is continuing to occur. For example, we may still drive our car to work everyday and perhaps we're required to fly to conferences every month. We know these activities release gases that are at the root of global warming. Perhaps it's done with no intention of stopping or even reducing these emissions. Yet paying for this indiscretion by buying offsets is promoted as a way out of stopping. It is promoted as an alternative way to take responsibility for your GHG emissions.

We fly—we feel guilty; we buy an offset—we've solved the problem. This is not the way in which we should approach offset purchasing. It should be considered a step along the path to a new way of doing things.

WHAT IS A CARBON OFFSET?

A carbon offset is an emission reduction credit measured in tons of CO_2 equivalents (CO_2e)—which include other more potent gases like halocarbons and methane. Generally an esti-

While voluntary offset programs should not be seen as a substitute for comprehensive government regulations to reduce greenhouse gases, such as the Kyoto Protocol, they are a step in the right direction, and an opportunity to demonstrate leadership on climate change.
Suzuki Foundation

mate of the tonnes of CO_2e associated with a particular activity is matched with a dollar value and those dollars are directed to an offset project. Essentially you are donating to a particular project that will offset your GHG emissions. There are a number of types of offset projects that one can purchase:

- renewable energy that displaces fossil fuels (wind, solar, geothermal, biomass energy)
- energy efficiency projects (building retrofits, light bulbs, etc.)
- capturing or sequestering CO_2e gases through methane capture, tree planting, halocarbon capture and others.

Each option needs to be evaluated based on the set of criteria described below and not necessarily on the project type.

RENEWABLE ENERGY OFFSETS

Renewable energy projects like wind farms, vast solar arrays (photovoltaic panels), biomass energy projects and others are often considered good offset choices because they actually displace fossil fuel options. The assumption is that, for example, when a wind farm moves into operation, the electricity once generated by the coal plant will now be generated by the wind farm, displacing the high emissions from the coal plant, with the zero emissions of the wind farm.

We can be confident that this is true only if other conditions are in place. Caps on carbon emissions promoting energy efficiency measures for households and industry should work to reduce the quantity of power required in any given community. If energy needs are systematically dwindling then we can confidently plan progressive shut downs of dirty energy utilities and utilize only clean, renewable options. But if efficiency is not pursued then all utilities available will be used by communities and industry, especially those whose economies and energy consumption are on the rise.

ENERGY EFFICIENCY OFFSETS

Energy efficiency offset projects include initiatives like the distribution of compact fluorescent light bulbs. Projects that retrofit homes and office buildings also fall into this category. These types of projects may result in the continued use of fossil

fuels, but in lesser amounts, resulting in fewer emissions.

CAPTURING AND SEQUESTERING CARBON

Carbon sequestering is still in the experimental stages and has not been proven effective in mass applications. Tree farms and other "carbon sink" techniques are presented as ways of tying up or storing carbon so it is not in our atmosphere contributing to global warming. The concern with forests as offsets are their impermanence. Forests may burn, releasing all their carbon into the atmosphere. Disease may eliminate a forest. Arable land may be withheld from communities in need of food security causing conflict and vandalism of forest projects.

Halocarbon capture has tremendous benefits since these gases are much more potent and have a greater influence on global warming than CO_2 does. But it has been speculated that trade, in the sequestering of them, will create a market in the production of them. These gases are destructive and should be eliminated from production as soon as possible and not involved in a market scenario. In some jurisdictions, legislation demands the sequestration of these gases, eliminating any additional offset benefit from these projects.

Some very useful and successful methane capture projects have been implemented around the world.

Some very useful and successful methane capture projects have been implemented around the world. Methane has a particularly potent effect on global warming, 61% more destructive than CO_2. When captured it can be used as a source of fuel. Projects are occurring in cities around the world as municipalities take responsibility to cap dumps or landfills to capture escaping methane. In several countries these projects are emerging as waste treatment projects having a multiplicity of benefits to communities and their economies.

QUALITY CRITERIA FOR OFFSETS

Since the dramatic growth of the carbon offset market and the concerns with the lack of regulation, certification and accountability, a non-profit organization, Clean Air-Cool Planet, commissioned an independent study to evaluate the legitimacy and effectiveness of various offset providers. The report, A Consumers' Guide to Retail Carbon Offset Providers provides some important insights into this market.

Corporations ready to cash-in on selling us carbon offset

An example highlighted in the Financial Times cautions of the potential for companies or brokers of offsets to take advantage of the lack of regulation and accountability in the offset market. "Dupont, the chemicals company, invites consumers to pay $4 to eliminate a tonne of CO_2 from its plant in Kentucky that produces a potent greenhouse gas called HFC-23 (a halocarbon). But the equipment required to reduce such gases is relatively cheap. Dupont refused to comment and declined to specify its earning from the project, saying it was at too early a stage to discuss."

Each project should be carefully judged on its own merit and with the criteria presented below.

Additionality is the single most important criteria

1. Additionality—This is the single most important criteria. It is defined in the Consumers' Guide as projects that create a net benefit for the climate. That is to say are they projects that would not have happened otherwise. The point of paying for an offset is to counteract the CO_2e or GHG emissions that you are putting into the atmosphere. So if a project would happen without the offset revenues it is not creating a net reduction in the quantity of GHGs in the atmosphere.

   How do we determine whether a project is additional? Some questions that can help clarify additionality for consumers are listed below, but the detective work required to answer these questions is a significant amount of work for most consumers, underlining the need for a regulatory or certification process.

   a) Does a project go beyond legal requirements?

   b) Is the project economically viable without offset revenues?

   c) Are there significant non-financial barriers that a project needs to overcome?

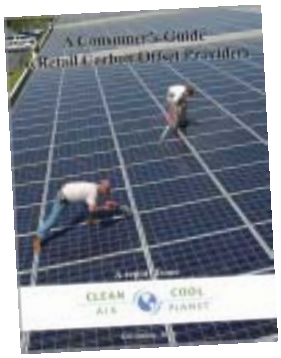
   d) Does the project go beyond common business practice?

   e) Was the project started after a given date?

   The Dupont project described above would not qualify for additionality, since an affluent company doesn't lack the technology or finances to implement the project.

Furthermore, if legislation in a particular district requires Dupont to take these measures there is no additional benefit as an offset.

2. Effectiveness of Offset Project—This criteria is in two parts: i) a baseline study of emissions without the project and ii) a quantification of GHG reductions resulting from the project. In other words, what is the net benefit in terms of GHG emissions created by the project.



The Consumers' Guide evaluated 30 offset providers in 2006 and found only eight that could pass their evaluations

3. Permanence—The offsets should not be subject to potential reversal in the future, as in forests burning or dying, or sequestered CO_2e leaking back into the atmosphere. This is not to say that forests are not effective as carbon sinks or that forest planting cannot contribute to a climate change mitigation strategy. But, as a product on the carbon offset market there are serious risks associated with forests, permanence being one of them.
4. Ownership of Emissions Reduction—Ideally purchasers should know that the offset project contributed to is actually creating the emissions reductions claimed. If the reductions are on-site as with steps to improve efficiency, they can clearly be measured. If the reductions are off-site as with a renewable energy generation project displacing emission from a power plant somewhere else it is more difficult to measure and determine clear quantities that can be sold only once.
5. Monitoring and Verification—The offset project should be monitored and its offsets verified over time.
6. Registration—A registration process would provide a paper trail so offsets could not be sold multiple times.

THE OFFSET MARKET

The Carbon Market is changing and growing daily. The Consumers' Guide evaluated 30 offset providers in 2006 and found only eight that could pass their evaluations of additionality and overall offset quality.

Some things can be learned from each offset website, as much by the absence of information as what they have chosen to include. The authors of the guide found that few retailers could

Currently there is no standard, certification or registration that is used universally by offset providers.

provide anywhere near the amount of information required to effectively evaluate the quality of an offset project. Most providers' websites lack basic information and transparency regarding climate change education, and the specifics of offset projects and their quality. This underlines the immediate need for some registration and certification process to protect the consumer and ensure some level of effectiveness of carbon offsets.

STANDARDS AND CERTIFICATION

Currently there is no standard, certification or registration that is used universally by offset providers. The Gold Standard is a Kyoto approved standard for the emerging carbon market and part of Kyoto's Clean Development Mechanism (CDM). It has limitations for the certifying of offsets. Due to the voluntary nature of the offset market the certification of reductions is relaxed and therefore the listing of offset projects on the Gold Standard website is not a complete guarantee of offset quality. In fact the feature of additionality is not guaranteed through the CDM. This emphasizes the need for quality certification specific to the voluntary offset market for it to achieve credibility.

"The development of a third-party 'stamp of approval' process for retail offset providers would be valuable to consumers."

SOURCES

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