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Understanding the Voluntary Carbon Market: Why Companies Buy Carbon Credits, Why the Voluntary Market Will Coexist with Future Mandatory Regulation, and Why Contracts Should Allocate Carbon Credit Ownership

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This article is the first of a two-part series. A forthcoming companion article will expand on the discussion of voluntary carbon credit registries in the U.S., and will address the verification, certification and registration of carbon credits under the leading voluntary carbon credit registries, including a discussion of new credits available for agriculture, forestry and other land use projects (AFOLU) under the Voluntary Carbon Standard (VCS) registry.

This article addresses the eight principal reasons why companies voluntarily buy carbon offset credits in the U.S. when they are under no legal requirement to do so. It also addresses why the voluntary carbon market will continue in place, and remain commercially important, even if proposed federal cap-and-trade mandatory greenhouse gas (GHG) emission control legislation is enacted in some form. In addition, the article addresses why many commercial agreements likely will include provisions allocating carbon credit ownership and trading rights in the near future, and how existing business models based on old assumptions will be revisited in light of the cost of buying carbon credits.

Comparison of the Mandatory and Voluntary Carbon Markets

The carbon credit trading market consists of a mandatory market—also referred to as a compulsory market—and a voluntary market. Compulsory markets are created by international, national or regional legal regimes to limit GHG emissions. The European Union's Emission Trading System (EU ETS) is one notable example.[1] The Regional Greenhouse Gas Initiative (RGGI)[2] in the U.S., while limited in scope, is another. RGGI was formed by a legal compact of ten Northeastern and Mid-Atlantic states to reduce GHG emissions from electric power generating plants.[3]

RGGI and the EU ETS utilize a market-based, cap-and-trade system of controlling GHG emissions, which was first used to reduce acid rain under 1990 amendments to the Clean Air Act in the U.S.[4] Under a cap-and-trade system, a regulated company must keep its emissions below a maximum allowance level (the "cap"), and if unable to so, it must buy qualifying carbon credits from qualifying entities (the purchase and sale of which is the "trade") to "offset" its excess emissions.

The mandatory market is presently limited in the U.S. However, the Obama Administration's proposed 2010 budget includes a cap-and-trade system to fund investments in clean energy.[5] In the meantime, the voluntary market continues to expand. An estimated $499 million in Voluntary Emissions Credits (VERs) were traded in the first three fiscal quarters of 2008, which represents about an 88 percent increase over all of 2007, despite the economic downturn that has softened the market prices of carbon credits.[6]

The mandatory and voluntary markets trade the anthropogenic GHGs covered under the United Nations Framework Convention on Climate Change (UNFCCC). These include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulfur hexafluoride (SF6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). A metric ton of CO2 is used as the "common currency" of GHGs, and for trading purposes the other GHGs are converted into their equivalent in CO2 and referred to in terms of metric tons of CO2E, where "E" stands for "equivalent."

The U.S. voluntary carbon market is essentially divided into two segments. The first segment is the market operated by the Chicago Climate Exchange (CCX).[7] The CCX is a voluntary, but legally binding, cap-and-trade system pursuant to which its Members agree to reduce their direct GHG emissions by 6 percent by 2010, or buy carbon credits to offset any shortfall.[8] CCX's Associate Members generally do not produce GHG emissions as a result of industrial operations, but agree to offset 100 percent of their so-called "indirect" emissions, which are associated with such activities as business travel and electricity purchases.[9] Accordingly, Associate Members are often categorized as "office-based" businesses.

The second segment of the U.S. voluntary market is the "over-the-counter," or OTC, market. In this segment, companies do not make binding commitments to a third party to reduce emissions, but instead purchase credits to satisfy a variety of social or private economic goals. Credits in the voluntary market are often referred to as Voluntary Emissions Credits, or "VERs," in contrast to Certified Emission Reduction certificates (CERs), which are credits traded in the mandatory market. VER purchases are generally made in one of three ways: from brokers, directly from project developers, or from a variety of expanding sources in the retail market. An illustrative project developer is one who builds and operates a system to capture and destroy methane emitted from a coal mine. The methane is "destroyed" by trapping it and then either flaring it or sequestering it in geologic formations or holding tanks. It is prevented from entering the atmosphere, thus constituting the "ER," or "emissions reduction," in "VER."

In addition, purchasers in the OTC voluntary carbon market can and do purchase CERs from compulsory market projects, even though these purchasers are not regulated entities under the governing compulsory legal regimes. This usually involves purchasing CERs from Clean Development Mechanism (CDM) projects. CDM is a Kyoto Protocol-based scheme under which projects built in developing countries that generate CERs are used by companies in industrial countries that have implemented Kyoto-based legal regimes to offset their own emissions, or make the credits available for trading.[10] The rationale for generating tradable CERs from CDM projects is that such projects will generate fewer emissions than the projects that would otherwise be built using a lower level of technology in the ordinary course of business in the developing country.[11]

Why Do Companies Buy Credits on the Voluntary Market?

U.S. companies voluntarily buy carbon credits for one or more, and quite often a strategic combination, of eight principal reasons.

To Enhance Their Brands by Emphasizing Sustainability Practices and Environmental Citizenship

Companies that purchase credits for this reason do so to enhance their brand credibility with a customer base that wants to purchase goods and services from environmentally-sensitive companies. These companies generally take steps to reduce their carbon footprints, such as changing to renewable raw materials, reducing the environmental impact of packaging, and obtaining electricity from solar or wind power instead of fossil fuel sources. These companies then typically purchase VERs to offset the remaining part of their carbon footprints so that they are—or come very close to being—carbon neutral.

Companies in this category typically include health and beauty companies, fitness equipment and clothing companies, as well as financial institutions and other "office-based" businesses. They usually are not direct emitters of large amounts of GHGs; instead, their carbon footprints result mostly from indirect emissions—that is, emissions generated by their suppliers.

A notable example of this type of company is Fiji Water Co. After receiving unfavorable publicity about its sustainability practices, Fiji Water implemented a "Sustainable Growth Initiative," and claims that it will go beyond carbon neutrality to become "carbon negative," that is, it aims to

reduce the CO2 emissions associated with its operations and then "purchase permanent and verifiable carbon offsets to cover 120% of the emissions that cannot be reduced directly."[12]

To Meet Internal Voluntary Corporate GHG Reduction Targets and Offset Programs

Companies in this category do not necessarily buy VERs to prove to their customer base that they (the companies) have offset their carbon footprints. Companies in this category set internal goals to reduce their direct and indirect GHG emissions for various reasons, and then purchase VERs to offset GHG emissions associated with their operations that are not reduced directly. A company may establish internal offset programs to accumulate data and to develop models that establish prices the company will pay for VERs in different situations.

A prediction: Corporations will begin charging each of their internal business units for the cost of VERs purchased to impose a penalty (or allocate a cost) for a business unit's failure to meet corporate GHG emissions reduction targets.

To Attract Investors

A company that is meaningfully reducing its carbon footprint can be more attractive to investors for all or some of the following three purposes: First, the company may have reduced its exposure to increased costs of VERs in the future, including under a future compulsory scheme to which the company may become subject. Second, the company may have increased sales by becoming more appealing to a customer base to which sustainability is important. Third, the company may have avoided the need to include adverse disclosures in regulatory filings, financial statements or the like regarding potential liability for carbon costs and GHG emissions matters.

To Build an Inventory of Credits at Favorable Prices to Use Under Future Regulation

Some companies are buying VERs in the current voluntary market with the expectation that they will eventually need them for regulatory compliance. There is some risk in this strategy because it assumes, first, that a mandatory regulatory scheme will be adopted, and second, that the credits purchased now will be grandfathered into a mandatory scheme if and when it is enacted. Most companies following this strategy have concluded that credits needed in the future can be acquired at an effective discount now.

To Speculate in Carbon Credits

In a similar fashion, but for a slightly different purpose, other entities are buying carbon credits for speculation—that is, to bet that the credits they buy now can be resold at a profit later, including when other companies need them for regulatory compliance.

To Acquire Experience and Develop Internal Practices for Future Regulatory Compliance

Companies buying carbon credits for this purpose are creating and experimenting with internal systems for evaluating, buying and selling credits, and to gain experience with the voluntary market. The latter includes learning how to evaluate different credit sources, how to build a balanced portfolio of credit suppliers from different parts of the voluntary market, and comparing VER purchases from brokers with direct acquisition from project developers.

To Learn How to Integrate a Company's Internal Practices with its Supply Chain

Because it is likely that many GHG-emitting activities from a company's supply chain will be deemed part of the company's own carbon footprint, and therefore may need to be offset by carbon credit purchases, some companies have begun to develop carbon compliance policies to impose on their suppliers. These companies are gaining experience in how to enforce these

policies, how to design effective contractual remedies, and how to teach their suppliers to comply with the company's internal corporate policies as well as with the regulations to which the company is, or will become, subject.

To Gain Experience to Influence Future Legislation

Some companies want to gain experience with how carbon market forces impact their operations so they can credibly influence governmental policy and future GHG regulation.

For example, a corporation may be planning to replace its diesel delivery trucks with battery or hybrid vehicles. However, certain power utilities, from which the corporation will obtain over-night plug-in power, may anticipate that they will exceed their GHG caps when they produce extra electricity from fossil fuels during a low-demand period, and, as a result, will need to buy offset credits for these "new" emissions. The utilities may seek to pass their cost of those carbon credits to their electric vehicle customers, even though it is arguably in the national interest to replace hydrocarbon truck fuel with electricity. Thus, in this example, the company, which is the customer of the power utility, may wish to influence future regulation so that the savings it plans to achieve by avoiding the need to buy offset credits for diesel emissions are not lost due to surcharges imposed by utility companies for the provision of "clean" electrical power.

As an additional example, companies looking far down the road may plan to use their truck fleets as "rolling energy storage units," or "RESUs." RESUs will both serve as delivery vehicles and use their batteries to add electrical power to the company's energy system. Presumably the RESU trucks will be charged when the cost of utility-provided electricity is low, and deliver power back to the company when its cost to acquire electricity would be high. For this and other repurposed uses of equipment, or for the use of new energy-efficient technologies, companies will need to consider the net impact on their direct and indirect exposure to the costs of carbon credits under potentially overlapping regulatory schemes, whether existing or contemplated, and then consider how to proactively protect their interests before both industry associations and government regulators.

Potential Criticism of Carbon Offset Purchases

Companies that buy carbon credits to offset that portion of their carbon footprint which has not been reduced through adopting sustainable business practices should be prepared for criticism from some quarters. That criticism is this: companies that buy offset credits rather than reduce their own direct emissions are attempting to buy their way out of a problem rather than actually solving it by decreasing the environmental damage they cause.

Preparing a response to this criticism is especially important to companies that buy credits to enhance brand value.

Deciding on the Desired Attributes of Carbon Credits in the Voluntary Market

Once a company determines which of the objectives it wishes to achieve, it can then develop a framework for deciding the specific attributes of the carbon credits it requires to meet those objectives. In other words, the types of VERs a company will buy depends on the purposes for which the company is purchasing credits.

As a general proposition, most companies will want to purchase credits that have the following minimum attributes:

- the credits are *genuine*—that is, they result from projects which can be demonstrated to actually reduce GHG emissions;

- the credits are *measurable*—that is, they can be quantified and verified using reasonable and acceptable methodologies, and that any calculation of credits is made pursuant to a system having acceptable standards for determining margins of error;

- the GHG emissions reductions giving rise to the credit are *permanent*, as defined by accepted scientific principles; and

- there is protection against *double-counting*—that is, there are protections against the same GHG reduction generating more than the appropriate number of credits, as well as protections against the same credit being sold to more than one purchaser.

There are a number of registries for VERs that operate in the U.S., and the number is increasing. Each registry has its own standards for verifying and certifying credits.[13] Generally, the more rigorous the standards are, the more expensive the credits will be to acquire, and similarly, the greater value they will have when resold.[14]

Accordingly, a few general principles become evident. First, companies buying carbon credits for self-education and to gain experience building and operating internal trading systems will probably not purchase VERs with the highest market price because market value is secondary to building internal experience. Second, companies planning to use specific registries must be certain that the credits meet the requirements of the registries involved. Third, companies planning to use the credits to meet future regulatory obligations should buy credits which are most likely to be accepted in a future mandatory regime.

Furthermore, companies planning to resell the credits back to the voluntary markets should be sure that the credits are traded using legal instruments that solve, rather than introduce, trading problems. In this regard, attention must be paid to the registries that will be used by the buyer and seller. For example, the Climate Registry takes the position that credits it authenticates will satisfy the requirements of the VCS registry, but that not all VCS credits will meet the Climate Registry's standards.[15]

Finally, companies purchasing credits to enhance brand value should focus on the types of projects which generate the credits. For instance, these companies' customers are probably more attracted to "earth-enhancing" projects like forestation rather than projects which have an industrial connotation.

How Will Contracts Change to Reflect the Importance of Carbon Trading?

In the past, many commercial contracts did not include intellectual property (IP) provisions. As IP rights become more valuable and infringement claims more threatening, commercial contracts began including IP provisions.

This leads to a second prediction: Many commercial contracts will be revised to include provisions expressly allocating the carbon ownership and trading rights between the parties. Just as the increased significance of IP rights introduced new risks and rewards into transactions, the ownership of carbon rights will be increasingly important in both the voluntary and mandatory markets, and contracts will need to be revised to make clear which party owns and has the right to sell carbon credits.

How Will the Cost of Carbon Credits Change the Existing Ways of Doing Business?

It is likely that existing business models based on old assumptions will need to be revisited in light of the cost of buying carbon credits to offset direct and indirect GHG emissions. A primary

example is "just-in-time" inventory systems. Just-in-time systems were adopted to reduce the capital tied up in inventory used to manufacture goods or stock products for retail sale. Just-in-time systems assumed that fuel costs were negligible and that truck GHG emissions were irrelevant. Now, however, fuel is expensive and GHG emissions must be offset.

This leads to a third prediction: The rising cost of fuel and the increasing need to offset GHG emissions will likely cause a reconsideration of just-in-time models because, from both an environmental impact and a fuel-cost perspective, fewer truck deliveries with larger shipments, in place of more frequent but smaller deliveries, will result in lower fuel costs and a net reduction in GHG emissions.

Why Will the Voluntary Market Coexist with a Mandatory Cap-and-Trade Market?

Under the EU ETS, different business sectors became subject to regulation in successive phases; the same thing is likely to happen in a U.S. cap-and-trade system. In such a system, heavy emitters will be regulated first, while less heavy emitters will be regulated later. And “office-based” businesses without significant direct emissions will be regulated even later, if at all.

This means that the voluntary market will continue and will co-exist with a mandatory U.S. market. It also means that many companies that have reason to trade in a voluntary market in the absence of mandatory requirements will continue to have reasons to trade on a voluntary basis before their business sector becomes regulated. For example, companies that seek to enhance brand value by using carbon offsets to reduce their carbon footprints will continue to voluntarily buy credits even if they are not part of the regulated market because enhancing their credibility with their customer base will increase sales. In addition, companies that are not now participating in the voluntary market will probably enter it to gain experience as a phase-in period as the regulation of their business sector approaches. Thus, the U.S. carbon trading market will be characterized by the co-existence of voluntary and compulsory markets, and the increasing interaction between them.

Conclusion

There are substantive reasons why companies participate in the voluntary carbon market in the U.S. now, and will continue to do so if and when a mandatory market is established. Companies will pay more or less for VERs depending upon the purposes for participating in the voluntary market. Contracts will likely evolve to address ownership of credits because express provisions addressing trading rights are necessary for the operation of the market and the protection of the participating companies’ interests. Finally, the cost of carbon credits and the need to reduce GHG emissions to avoid incurring the cost of buying credits will cause existing business models to be re-evaluated and revised to meet the new demands of green business practices.

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[1] *See* European Union, European Commission, Environment, *Emission Trading Scheme (EU ETS)*, http://ec.europa.eu/environment/climat/emission/index_en.htm (last visited April 23, 2009).
[2] *See* Regional Greenhouse Gas Initiative (RGGI), http://www.rggi.org/home (last visited April 28, 2009). The legality of RGGI has been challenged in a case pending in New York state court, *Indeck Corinth, L.P. v. Paterson*, No. 2009-0369 (N.Y. Sup. Ct., petition and complaint filed Jan. 29, 2009).
[3] The ten states are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. *See* RGGI, Participating States, http://www.rggi.org/states (last visited April 23, 2009).
[4] Pub. L. No. 101-549, tit. IV, 104 Stat. 2399 (1990) (codified at 42 U.S.C. § 7651 et seq.). The regulations implementing the permit program for sources regulated under the Title IV acid rain program are set forth at 40 C.F.R., pt. 72.
[5] The budget proposal states as follows:

> After the enactment of the Budget, the Administration will work expeditiously with key stakeholders and the Congress to development an economy-wide [e.g., national] emissions reduction program to reduce greenhouse gas emissions approximately 14 percent below 2005 levels by 2020 and approximately 83 percent below 2005 levels by 2050. This program will be implemented through a cap-and-trade system, a policy approach that dramatically reduced acid rain at much lowers costs that the traditional government regulations and mandates of the past.

Budget of the United States Government, Fiscal Year 2010, at 21, *available at* http://www.whitehouse.gov/omb/assets/fy2010_new_era/A_New_Era_of_Responsibility2.pdf (last visited April 27, 2009).
[6] *See* New Carbon Finance, *Carbon Market Up 84% in 2008 at $ 118bn*, *available at* http://www.newcarbonfinance.com/?gclid=CKO0yNbB3JkCFQpuGgod2EehVA (last visited April 28, 2009)
[7] *See* Chicago Climate Exchange (CCX), http://www.chicagoclimatex.com/ (last visited April 28, 2009).
[8] *See* CCX, *Emission Reduction Commitment*, http://www.chicagoclimatex.com/content.jsf?id=72 (last visited April 28, 2009).
[9] *See* CCX, *Membership Categories*, http://www.chicagoclimatex.com/content.jsf?id=65 (last visited April 28, 2009).
[10] *See* United Nations Framework Convention on Climate Change (UNFCCC), *Clean Develop Mechanism (CDM)*, http://unfccc.int/kyoto_protocol/mechanisms/clean_development_mechanism/items/2718.php (last visited April 28, 2009).
[11] *See* UNFCCC, *First Emission Credits Issued Under the Kyoto Protocol*, Oct. 20, 2005, http://cdm.unfccc.int/CDMNews/issues/issues/I_WJHSF1N67JGAORWII2BKVAI8O74B5A/viewnewsitem.html (last visited April 28, 2009) (describing two CDM projects built to supply renewable energy to Honduras and stating that "[t]he country would otherwise have to rely on carbon-emitting fossil fuels to generate the equivalent electrical power.").
[12] CSRwire, *Fiji Water Announces Sustainable Growth Initiative with Commitment to Help Mitigate Global Climate Change*, Nov. 7, 2007, http://www.csrwire.com/News/10088.html (last visited April 23, 2009). *See also* Fiji Water Co., Fiji Green.com, *Our Promise: Carbon Negative*, http://www.fijigreen.com/CarbonNegative.html (last visited April 23, 2009).
[13] *See, e.g.*, The Gold Standard, *Frequently Asked Questions*, http://goldstandard.apx.com/about/FAQ.asp (last visited April 28, 2009) ("The Registry ensures the integrity of the VER credits through a transaction based data structure designed to prevent double counting and provide full audit trail capabilities."); California Climate Action Registry, *Verification*, http://www.climateregistry.org/tools/verification.html (last visited April 28, 2009) ("The California Climate Action Registry utilizes a standardized approach for the verification process to promote completeness, consistency, accuracy, relevancy and transparency of emissions data."); Voluntary Carbon Standard, *Frequently Asked Questions*, Question No. 7, http://www.v-c-s.org/faq.html#question72 (last visited April 28, 2009) ("GHG emission reductions or removals registered under a VCS-approved GHG program can be converted into VCUs.").
[14] *See generally* California Climate Action Registry, *Frequently Asked Questions*, Question No. 15, http://www.climateregistry.org/reserve/frequently-asked-questions.html (last visited April 28, 2009) ("CRTs can be re-issued as VCUs, but VCUs cannot be re-issued as CRTs."); *see also* New Carbon Finance, *Voluntary Market - Research Note*, March 11, 2009 at 2, Fig. 3 (showing the value of CCAR credits higher than the value of other registries).
[15] *See* Climate Action Reserve, *FAQs*, http://www.climateactionreserve.org/resources/faqs/ (last visited April 23, 2009).