

Offsetting Emissions: A Business Brief on the Voluntary Carbon Market

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About This Report

The Ecosystem Marketplace (EM) and Business for Social Responsibility (BSR) have partnered to produce this business brief for companies that are considering engagement with voluntary carbon markets. This second edition was written by Katherine Hamilton, Ryan Schuchard, Emma Stewart, Ph.D., and Sissel Waage, Ph.D., with contributions from Alexander Rau, Ricardo Bayon and Amanda Hawn. Please direct comments or questions to Ryan Schuchard (rschuchard@bsr.org) or Katherine Hamilton (khamilton@ecosystemmarketplace.com).

For additional resources on voluntary carbon markets, please see page 15 of this report.

About Ecosystem Marketplace (EM)

The Ecosystem Marketplace (www.ecosystemmarketplace.com) is a leading source of information on markets and payment schemes for ecosystem services. EM believes that by providing solid and trustworthy information on prices, regulation, science and other market-relevant issues, markets for ecosystem services will one day become a fundamental part of our economic and environmental system, helping give value to environmental services that have, for too long, been taken for granted.

About Business for Social Responsibility (BSR)

Since 1992, BSR (www.bsr.org) has been providing socially responsible business solutions to many of the world's leading companies. Headquartered in San Francisco and with offices in Europe, China and Hong Kong, BSR is a nonprofit business association that serves its 250 member companies and other Global 1000 enterprises. Through advisory services, convenings and research, BSR works with companies and concerned stakeholders of all types to create a more just and sustainable global economy.

Note: BSR publishes occasional papers as a contribution to the understanding of the role of business in society and the trends related to corporate social responsibility and responsible business practices. BSR maintains a policy of not acting as a representative of its membership, nor does it endorse specific policies or standards.

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I. Executive Summary

This business brief is intended for companies that are considering the purchase of voluntary offsets for their greenhouse gas (GHG) emissions. It offers clear steps that guide early assessments and enable corporate decision makers to become educated consumers within voluntary carbon markets.

The voluntary carbon market, which represents volume of well over \$100 million, gives companies the tools to prepare for and demonstrate leadership beyond regulation on GHG emissions.¹ The market is growing fast, perhaps doubling on a per annum basis. It is meanwhile broadening to include new types of instruments and more diverse participants. As standards emerge, the “rules of engagement” are evolving.

II. Overview of the Voluntary Carbon Market

Transactions in the global voluntary carbon markets have increased 200 percent between 2005 and 2006.² An Ecosystem Marketplace study valued these markets at over \$93 million in 2006 and it is likely that they doubled in size 2007.³ The prospects for continued growth in carbon markets are strong.

The reason is simple: more companies are purchasing more voluntary carbon credits. In the past two years, hundreds of companies — including American Electric Power, Ford Motor Company, HSBC, Google and DuPont — have utilized the voluntary markets to offset their emissions. Such corporations make up around 80 percent of the demand driving the voluntary carbon markets.⁴

In 2006, a survey of 92 companies by The Conference Board found that about 75 percent of respondents are actively measuring their carbon footprint, which includes GHG emissions from both their direct and indirect operations.⁵ Over two-thirds of the corporate boards covered by the survey have carbon on their agenda. While only 50 percent of surveyed companies have programs in place to reduce or offset emissions, the rapid increase in company carbon inventories (entity level registries) points to a growing pool of potential market players. Only 15 percent of companies surveyed currently engage in voluntary emissions trading, but an additional 40 percent are considering voluntary engagement.

To meet rising interest, the number of voluntary carbon offset providers has grown dramatically in the past two years. Providers invest in a range of projects, such as renewable energy sources, methane capture and technology retrofits to offset their corporate buyers’ emissions. The diversity of offset projects is constantly growing, from reforestation to soil tillage to carbon capture.⁶

What motivates companies to engage in voluntary carbon markets? The reasons are diverse:

- **Fulfilling voluntary corporate GHG reduction targets**, especially when internal reductions are not feasible or cost-effective;
- **Creating internal incentives for reductions** by internalizing the cost of carbon and putting real financial pressure on managers;
- **Gaining carbon market experience** in order to increase authority and influence in policy discussions about climate change and GHG regulation;
- **Preparing for potential regulatory requirements** that may include a range of offset approaches and partnerships;
- **Enhancing brands and/or differentiating products**, in some cases with the aim of offering products at a price premium;
- **Attracting investors**, particularly in light of increasing awareness of risks associated with GHG emissions in a carbon-constrained future;
- **Enhancing intelligence** by creating systems that support learning more about the nuances of the production process and identifying richer input and waste data.

Despite the growing interest in voluntary carbon markets, companies are finding the arena a challenging playing field. The voluntary carbon market is fragmented with complex supply chains and numerous emerging standards. Offset providers source from projects that range from planting trees in India to capturing methane in U.S. landfills. Assessing the benefits and drawbacks of each provider is challenging, especially as historical data is limited. Some offset projects are independently verified to agreed-upon standards, but others are not. These standards are numerous and overlapping, but as technology and attention increases scrutiny, ignoring them risks ineffective reductions, unintended adverse consequences and accusations of greenwashing. Also, as with many emerging markets, transaction costs can be high.

However, engagement in voluntary carbon markets may also offer rewards, including “training wheels” for better understanding the intricacies of carbon markets. In addition, purchasing offsets can benefit public relations and employee pride. And offsets represent an immediate, potentially lower-cost step toward reaching corporate climate change strategy goals.

CASE STUDY: HSBC

In December 2004 HSBC, one of the world’s largest banks, decided to make its operations carbon neutral. As a dry run, HSBC put out a tender for projects that would offset 170,000 tons of CO₂ emitted by the bank during the last quarter of 2005. More than 100 offset providers responded to HSBC’s request. The company was able to short-list 17 providers based on criteria related to project size, technology employed, country and vintage. When all was said and done, the company spent some \$750,000 buying offsets from a handful of projects in Germany, India, Australia and New Zealand.

-HSBC, “Carbon Neutral Pilot Project,” 2004

III. Recent Developments

Since the first edition of *Offsetting Emissions: A Business Brief on the Voluntary Carbon Market* was released in December 2006, the market has expanded rapidly in size and more new players are becoming involved. Recent developments include broad global policy, finance, social and technology causes and consequences. Among the recent progress:

The term “carbon neutral” has reached the mainstream and product-linked offsets have risen in popularity. Businesses ranging from small enterprises to household brand names and Fortune 500 corporations are buying offsets, and companies like Delta Airlines are moving from corporate-level offsetting to linking carbon credits with consumer purchases.

The discussion on standards and claims has become more formal as several new standards are being utilized by providers in the marketplace, and other groups such as the U.S. Federal Trade Commission and U.K. Carbon Trust are developing guidelines to define how companies should use terms such as “carbon neutral.”

The science of carbon sequestration has improved, with technology and tactics allowing greater consensus on data for bio-carbon (forestry and land-use) projects. In addition, the regulated Kyoto-based markets have acknowledged reduced emissions from deforestation (REDD) as a critical element of climate change mitigation.

IV. Engaging in the Voluntary Carbon Market

The central issue in engaging the voluntary carbon market is deciding whether — and, if so, how — to purchase offsets. Generally, the process can be broken down into the following steps:

- 1) Measure emissions
- 2) Set offset goals within a climate change strategy
- 3) Clarify expectations about the benefits of offsetting versus making reductions internally
- 4) Prioritize offsets’ desired attributes
- 5) Explore the range of offset offerings
- 6) Choose offset providers
- 7) Communicate your actions

1. Measure Emissions

The classic adage “what gets measured, gets managed” is particularly relevant for invisible GHG emissions. Calculating your company’s “carbon footprint” will identify which activities result in the most GHG emissions and areas where emissions could be reduced. Thus, even if a company decides to offset only a small subset of GHG emissions, it should still assess its whole inventory. Measuring emissions is a critical first step toward offsetting emissions, whether some or all.

Companies planning to measure their GHG emissions may utilize consultant services, especially for determining emissions from industrial processes. However, companies whose emissions are not large or intensive can also utilize a range of free online tools. When calculating emissions companies must determine the appropriate balance between accuracy and effort.

One valuable resource is the Greenhouse Gas Protocol Initiative (www.ghgprotocol.org). The protocol is a corporate accounting and reporting standard that provides a step-by-step guide for companies to use in quantifying and reporting their GHG emissions. It is increasingly becoming the *de facto* tool for corporations managing their emissions.

Several organizations, including Terrapass (www.terrapass.com) and the Carbon Trust (www.carbontrust.co.uk), have created online calculators that further simplify the process of calculating business-wide emissions. These calculators sacrifice a certain degree of accuracy in exchange for little (or virtually no) cost, but can give good rough estimates. As the need for certainty increases or emissions sources become more complex, specialized calculations — whether in-house or by consultants — become preferable.

Whether or not your company decides to engage in the voluntary market, calculating the emissions footprint and registering emissions with a recognized third-party registry has numerous benefits.ⁱ Registering emissions can position your company to anticipate emerging regulations across different regions while accruing the benefits of gathering and formalizing emissions data.

Registries in the United States

Climate Leaders (www.epa.gov/climateleaders) is an industry–government partnership that enables companies to work with the U.S. EPA to develop long-term comprehensive climate change strategies. Companies set a corporate-wide GHG reduction goal and inventory their emissions to measure progress. By reporting inventory data to the EPA, Climate Leaders companies identify themselves as corporate environmental leaders and strategically position themselves as climate change policy continues to unfold.

U.S. companies can also create a GHG emissions inventory in The Climate Registry (www.theclimateregistry.org), a cross-sector collaboration aimed at developing and managing an emissions reporting system for member states, tribes and reporting entities. It aims to provide accurate, complete, consistent, transparent and verified data.

ⁱ These should not be confused with registries for carbon credits, such as the Bank of New York custodial registry service for voluntary carbon credits. This includes a secure and robust platform for documenting carbon offset credits that ensure ownership chains and double-counting.

Entity-level registries include The Climate Registry in the U.S., numerous European national registries reporting to the European Registry, and Japanese, Canadian and Russian registries reporting to the International Registry.⁷

In addition, companies may create an emissions inventory in partnership with a government or non-profit program, such as Climate Leaders or the Carbon Disclosure Project (CDP, www.cdproject.net).

Corporate communications on carbon emissions have increased substantially due to demands from CDP, which is a secretariat for the world's largest institutional investor collaboration on the business implications of climate change. CDP represents a process whereby many institutional investors collectively sign a single global request for disclosure of information on GHG emissions. CDP has historically sent this request to the FT500, but in 2006 expanded its outreach to 2,180 companies, with over 950 responses.

Trend: Product-Linked Offsets

Initially, companies focused on offsetting corporate-level emissions (e.g. those under close ownership or control). More recently, businesses across industries have begun offsetting products. In doing so, some tie offsets to purchases automatically, while others give the option to — and put the onus on — customers. Notable efforts include:

- Amtrak offers passengers a choice to offset
- Volkswagen offers offsetting for all vehicles during the first year of ownership
- EcoBranders provides carbon neutral shipping
- Royal Hawaiian Honeys considers its honey carbon neutral
- Icelandic Glacial water considers its water products carbon neutral
- Consumer Electronics Association (CEA), the world's largest consumer IT tradeshow, used offsets to make the event carbon neutral.

2. Set Offset Goals Within a Climate Change Strategy

As with any initiative, companies should clearly define goals for purchasing offsets. Is the focus on managing regulatory uncertainty? Assuring investors? Protecting brand and reputation? Meeting stakeholder expectations? Or perhaps a mix of some or all of these drivers?

A few key questions to consider when setting offset goals include:

- What is your company's **environmental strategy** on climate change?
- What **types and levels of risk** does climate change represent for the industry in general and for your company in particular? Are they related to the supply chain, products, litigation, reputation or physical assets?⁸
- What are the results of a greenhouse gas **abatement cost analysis**, which compares the marginal cost of additional internal reductions versus purchasing offsets?

- What **stakeholder and customer interest** is there in offsetting GHG emitted and in engaging in the voluntary carbon market? Are there stakeholder or customer concerns that should be considered?

Inter-related with setting climate strategy goals is the process of determining the scope of activities to offset. The options span the gamut and include offsets for:

- **Internal emissions**, which are emissions generated during operations;
- **Product emissions**, which offset emissions related to some measure of the product’s lifecycle from its “cradle to grave”;
- **Project emissions** arising from a specific activity, such as certain business trips, commuting, events, products and supplier activities.

A company’s final decision on the scope of its voluntary offsets is a mix of strategic and pragmatic considerations.

3. Clarify Expectations About the Benefits of Offsetting Versus Making Reductions Internally

After measuring emissions, the next step is to identify the most attractive opportunities for reductions, and how those efforts interplay and affect other corporate objectives.

Traditionally, it is accepted that companies should buy carbon credits within an “offset mitigation hierarchy,” whereby purchasers first “reduce what they can” and then “offset the rest.” This is a good rule of thumb, and most companies using offsets subscribe to this in some form. For example, companies can first look for ways to directly reduce GHG emissions by maximizing energy efficiency within operations and across all forms of transport; next, set goals for further reductions; and then purchase offsets to fulfill some measure of the residual.

While the question of when to reduce versus offset resembles the classic “make-or-buy” decision (e.g., choosing whether to manufacture something in-house or outsource it at a lowest cost), many managers and offset providers do not find it practical to identify a quantitative decision rule for offsetting. This is partly because initiatives to reduce internally and buy offsets each come with broader costs and benefits with value linked to the organization’s capabilities and objectives. Also, some offset providers point out that offsets can actually lead to reduced absolute emissions by creating an internal shadow price that pressures managers to innovate.

Companies need to be clear about what benefits they expect from — and priorities they place on — direct internal reductions versus offset purchases, and what linkages there are between the two. In doing so, consider goals. If positive public relations is most important, be ready to explain how offsets are one part of a larger strategy. However, if the aim is to build internal systems and incentives for understanding and tracking carbon, be less concerned with rationalizing the

amount of offsets purchased, but in turn be more subdued in implying to external stakeholders there are immediate environmental benefits.

Regardless of the approach, assess options for reducing internally because the less energy used, the fewer carbon offsets will be needed and the lower the long-term costs of your operations. A number of online tools, such as the Business Energy Analyzer and OpenEco, can assist in identifying relatively easy efficiency actions. Decision makers should ask:

- What is the current status of efficiency throughout the company?
- Are there “low-hanging fruits,” such as switching to energy-efficient light bulbs, installing motion sensors on lights or changing the types of paper used?
- Are current levels of travel, transportation or logistics emissions from business operations and supply/distribution chains as low as possible?

For many non-industrial companies that are not major GHG emitters, business-related air travel can be one of the largest source of emissions. Reducing travel by teleconferencing, taking longer but fewer trips, or choosing alternative means of transport are means of reducing travel-related emissions.

Finally, consult internal stakeholders, who may have surprisingly varying awareness and attitudes about the best role of offsets for the company. In doing so, realize that the two functions of reducing emissions internally and purchasing offsets often fall under the purview of different kinds of managers: in the former case, operations and facilities managers with better access to data; in the latter, customer-facing managers who often have more authority over PR and advertising budgets.

As BSR outlined in *Getting Carbon Offsets Right* (www.bsr.org/reports/BSR_Getting-Carbon-Offsets-Right.pdf), corporate offsetting entails certain costs and risks. Once corporate goals are set and the range of prospective offset options are understood, an educated process of assessing risks can be undertaken.

A chief concern is whether purchasing credits will actually result in permanent equivalent reductions, and if those reductions will be recognized by customers and other key stakeholders. These risks, however, may be balanced for some companies by the benefits associated with taking a leadership position on climate change. See Table 1 for an overview of Major Verification Standards.

Table 1: Major Voluntary Carbon Offset Standards

	Description	Focus on Env. & Social Benefits	Reporting/Registration	Product Label?	Includes LULUCF Methodology?	Geographical Reach	Start Date
Gold Standard	Certification for offset projects & carbon credits	Yes	VER registry in development	Yes	No, energy projects only	International	First project validated 2006, first credits verified 2007
The VCS	Certification for offset projects & carbon credits	No	Use Bank of New York; other registry TBD	Yes	Yes	International	2007
Green-e	Certification for offset sellers	No	Registry incorporated	Yes	Accepts other standards that include LULUCF	Aimed at N.A., international possibilities	Expected mid-2008
CCB Standards	Certification for offset projects	Yes	Projects on website	Yes	Only LULUCF	International	First project certified in 2007
CCX	Internal system for CCX offset projects & CCX carbon credits	No	Registry incorporated with trading platform	No	Yes	International	2003
Plan Vivo	Methodology and certification for offset projects & carbon credits	Yes	No	No	Community-based agro forestry	International	2000
Greenhouse Friendly	Certification for offset sellers & carbon-neutral products	No	No	Yes	Yes	Australia	2001
WBCSD/WRI Protocol	Guidelines for projects & corporate GHG accounting	No	Does not include registry	No	Protocol created For LULUCF	International	2001
CCAR	Registry protocol	No	Reporting protocols used as standards	No	Yes, first protocol	Forestry - California; Livestock - US; Registry - international	First protocol in 2005
VER+	Certification for offset projects, carbon credits & carbon-neutral products	No	TÜV SÜV Blue Registry	Yes	Yes, JI or CDM methodology	International	2007
ISO 14064	Certification for emissions reporting offset projects, carbon credits	No	No	No	Yes	International	Methodology released in 2006
VOS	Certification for offset projects & carbon credits	No	TBD	TBD	Follow CDM or JI methodology	International	TBD
Social Carbon	Certification for offset projects & carbon credits	Yes	Creating its own registry system	Yes	Reforestation & avoided deforestation	South America & Portugal	First methodology applied in 2002

Source: *Ecosystem Marketplace & New Carbon Finance. "Picking Up Steam: State of the Voluntary Carbon Markets 2007."*

Companies must be aware that offsetting has critics who say that offsetting shouldn't let companies "off the hook" from reducing their emissions directly. Some critics feel that companies are simply throwing money at a problem, rather than considering new management practices with longer-term impacts. In essence, they claim that offsetting is a form of greenwash. A more nuanced issue is finding agreement on the boundaries (e.g. the limits of what companies are responsible for) that are needed for allowing credible claims of reductions to be made. A number of bodies — the Carbon Trust, the Federal Trade Commission, and a range of offset retailers — are among those working to develop guidance on claims.

A Stakeholder Perspective on BP

BP's move to encourage motorists to pay £20 a year to offset their driving emissions followed closely behind similar initiatives by Honda and Ford. BP's scheme was criticized by some environmentalists on the grounds that it would lead motorists to salve their consciences instead of taking steps to cut emissions from driving, such as buying a smaller car. Robin Oakley of Greenpeace states that "So-called offsetting is better than doing nothing, but only just. It's like smoking 20 cigarettes then going for a run to feel less guilty. As long as British vehicles are pumping tens of millions of tons of CO₂ into the atmosphere every year, no amount of investment in clean energy projects built thousands of miles away will reduce the effect that our emissions are having on the climate."

- Harvey, F., "BP Wants £20 from Motorists to Make Amends for CO₂ Emissions"
The Financial Times, Aug. 23, 2006

4. Prioritize Offsets' Desired Attributes

Following the decision to move forward with voluntary offsets based on goals and due consideration of risks, the process of selecting a specific offset begins. Establishing clear decision criteria can enable companies to focus on non-negotiable values that can act as an initial filter. Clear criteria will also allow decision makers to compare and contrast the benefits of a selected set of options.

Whereas the decision to purchase offsets is voluntary, companies should not consider performance optional. Given the emergent standards and complex financial instruments involved, sub-par performance of just one of a number of key criteria can render the offset virtually worthless. Bare minimum parameters for ensuring credibility include the following:

- **Additional:** Reductions are "surplus" offsets that would not have occurred under "business as usual" and should not cause leakage or additional emissions elsewhere;
- **Real:** Offsets are sourced from tangible physical projects with evidence that they have or will imminently occur;
- **Measurable:** Reductions are objectively quantifiable by peer-reviewed methodologies within acceptable standard margins of error;
- **Permanent:** Reduction streams are unlikely to be reversed, with safeguards to ensure that reversals will be immediately replaced or compensated;

- **Verifiable:** Performance is monitored by an independent third-party verifier with appropriate local and sector expertise;
- **Enforceable:** Offsets are backed by legal instruments that define offsets’ creation, provide for transparency and ensure exclusive ownership;
- **Synchronous:** Offset flows are matched to emission flow time periods with rigorous and conservative accounting that designates boundaries and baseline calculations.⁹

In addition to these project criteria, offsets should need to meet standards for *delivery*. That is, they should be tracked and registered to avoid double counting, clearly demonstrate ownership and, upon their application, be verifiably retired.

Beyond these minimums, additional attributes exist, often at price premiums. Table 2 lists common attributes that are not required, but companies are often willing to pay premiums for them.

Table 2: Beneficial Offset Project Attributes

Category	Criteria
Offset Is High Quality	<ul style="list-style-type: none"> • Likely to be successful based on conservative estimates and stakeholder attitudes about objectives and tactics • Registered to avoid double counting and ensure future acknowledgement by regulators • Certified by a credible third party with experience in verifying GHG projects for measurable results and durability
Offset Provides Cascading Benefits	<p><i>Social</i></p> <ul style="list-style-type: none"> • Improved local quality of life • Recreation and sustainable tourism revenues <p><i>Environmental</i></p> <ul style="list-style-type: none"> • Reduction of associated pollutants in air and water • Biodiversity benefits, such as using native species in forestry
Offset Has Stakeholder Appeal	<ul style="list-style-type: none"> • Easily communicated to stakeholders and media • Emotional appeal • Creates brand loyalty among potential customers within local communities • Meets any specific expectations of key stakeholders (e.g. emphasis on particular developing country) • Has potential for opening access to new capital streams
Offset Satisfies Organizational Needs	<ul style="list-style-type: none"> • Seller is credit-worthy and reputable among stakeholders • Offers potential for future purchases or project expansion • Helps foster loyal relationships with selected on-the-ground partners • Provides educational opportunity and boosts morale among employees

5. Explore the Range of Offset Market Offerings

GHG emissions can be offset in a wide range of ways. The table on the following pages offers a snapshot of common offset projects in the U.S. and globally.

Project Group	Project Type	Description	Co-Benefits	Points to Consider
I. Fossil Fuel Reduction	Energy efficiency	Fossil fuel use is decreased by utilizing it more efficiently	Cost savings; supports clean technology and reduces fossil fuel dependency and co-pollutants such as SO _x , PM and VOCs	If savings are greater than costs, the need for carbon finance should be considered
	Off-grid renewable energy & fuel switching	Fuel switching projects utilize fuels (such as many renewable energy sources) that provide energy with fewer emissions	Reduction of other pollutants & reduced dependence on fossil fuels	Supports clean technology
II. Bio-Carbon Sequestration	Reforestation–afforestation of native tree species	Carbon is sequestered in tree biomass and soil	Range of potential social & environmental benefits, such as biodiversity conservation, water filtration, erosion protection, etc.	Easy to communicate & tangible land restored Measuring and monitoring is relatively complex Permanency & leakage risks
	Reforestation–afforestation monoculture forestry	Carbon is sequestered in tree biomass and soil	Range of potential social & environmental benefits, such as water filtration & erosion protection, etc.	Easy to communicate & tangible land restored Measuring and monitoring is relatively complex Permanency & leakage risks Potential concerns around environmental or social trade-offs Potentially an extra income stream for sustainable timber harvesting
	Avoided deforestation of native tree species	Conserving or changing forest management practices maintains carbon sequestration & avoids emissions released into the atmosphere	Range of potential social & environmental benefits, such as biodiversity conservation, water filtration, erosion protection, etc.	Easy to communicate and tangible land conserved Measuring and monitoring is relatively complex Permanency and leakage risks Not currently obtaining carbon finance under Kyoto markets
	Soil sequestration	Carbon sequestered in soil is increased by farming practices such	Numerous potential environmental benefits, such as reduced erosion &	No-till often linked with GMO crops Significant permanency and financial additionality

		as no-till	water pollution	questions
Project Group	Project Type	Description	Co-Benefits	Points to Consider
III. Bio-Gas	Methane capture & destruction from landfills	Decomposing waste is covered by anaerobic digesters that cap and flare methane, which can also be used as a fuel source	Somewhat reduced odors & risk of groundwater contamination	Projects are easy to monitor and measure In developed countries this project type is often required by law and hence additionality should be considered
	Methane capture & destruction from livestock	Animal waste is covered by anaerobic digesters that cap and flare methane, which can also be used as a fuel source	Reduced odors & risk of groundwater contamination	Projects are easy to monitor and measure
	Methane capture & destruction from coal mines	Instead of releasing underground methane via air vents, the gas is trapped and flared	Potential safety benefits, especially in developing countries	Projects are easy to monitor and measure This project type is often required by law and hence additionality should be considered
IV. Technological Sequestration	Geological Sequestration	CO2 is injected into geologic formations, such as oil and gas reservoirs, coal seams, and deep saline reservoirs	Few or none	Precautionary principle uncertainties Does not create incentives for reducing fossil fuel use
	Industrial gas destruction	High global warming GHG resulting from industrial processes are destroyed	Few or none	Very efficient means of reducing GHG There are concerns about perverse incentives and synchronicity; project start date should be carefully considered
	Industrial gas reduction	High global warming GHG resulting from industrial processes (ex. aluminum production) are reduced via technology/ efficiency improvements	Few or none	Very efficient means of reducing GHG There are concerns about perverse incentives and synchronicity; project start date should be carefully considered

In addition to choosing from a variety of project types, companies can also choose to purchase credits via:

- Becoming a member of the Chicago Climate Exchange (CCX);
- A range of “over-the-counter” offset suppliers;
- Established regulated markets, such as the Kyoto Protocol’s Clean Development Mechanism (CDM).

The CCX is a voluntary, but legally binding, membership-based cap-and-trade system. Companies that join CCX as a means of reducing their emissions can join as “Members” or “Associate Members.” CCX Members have committed to reducing their direct emissions by 6 percent by 2010. Associate Members are office-based businesses or institutions that are not directly producing GHG emissions and have committed to report and fully offset 100 percent of indirect emissions associated with energy purchases and business travel from year of entry through 2010.¹⁰

Companies not interested in joining a formalized cap-and-trade system can purchase credits from the open or “over-the-counter” voluntary market. Within this market purchases can be made in a variety of ways, such as buying directly from the project developer, utilizing a broker or engaging in the quickly evolving retail market. Buyers should consider how the project location, size and type connect with their offset goals.

Companies can also consider purchasing and retiring credits from the regulatory markets. In most cases this means purchasing Kyoto Protocol CDM credits. These credits can be expensive, but they are also the most transposable at this stage. Their rigorous, albeit bureaucratic, verification brings credibility and may provide considerable public relations benefits.

Do RECs Count as Offsets?

Renewable Energy Certificates (RECs), also known as ROCs, TRCs and Green Tags, represent electricity produced from a qualifying renewable energy technology of a qualifying vintage.

Like offsets, RECs are energy-related tradable commodities, and often purchased by companies to represent — and claim the use of — renewable electricity. Unlike offsets, REC markets do not have additionality requirements.

Our advice: Presently it *is* credible to pair RECs with electricity purchases in order to claim the use of renewable energy. However, if using RECs as offsets for non-electricity related emissions, make sure that the REC satisfies additionality requirements.

Chicago Climate Exchange (CCX)

CCX (www.chicagoclimatex.com) is the world’s first and North America’s only active voluntary, legally binding integrated trading system to reduce emissions of all six major GHGs, with offset projects worldwide. Companies can purchase offsets via CCX, though instruments bought here confer additional potential benefits. Chiefly, as a primary candidate for management of an eventual regulated scheme, many believe that CCX registrants may someday be granted credit for their early involvement.

However, CCX also has critics. Some fear its reduction standards are too low and its additionality requirements for offsets are too flexible. In either case, CCX represents a hybrid market with unique costs and benefits that should be weighed.

6. Choose Offset Providers

As BSR reported in *Getting Carbon Offsets Right* (www.bsr.org/reports/BSR_Getting-Carbon-Offsets-Right.pdf), there are a number of traits by which to consider offset providers, including:

- **Objective traits**, such as experience, office and project locations, and offset project inventories
- **Subjective “fit” traits** like industry experience, assurance model, offset product offerings and price

The range of carbon prices on the voluntary market is significant. From the wholesale to the retail level, offsets range from less than \$0.45 to around \$45 (per metric ton of CO₂ equivalent). Prices depend on several factors, such as the costs of implementing the offset project, verifying and monitoring reductions, and the level at which companies decide to purchase offsets (i.e. investing directly in a project or working with a broker to purchase credits on the voluntary market). When investing, sellers should consider the risks and benefits relative to prices and offset quality.

For a database of providers, see *State of the Voluntary Carbon Markets 2007* (http://ecosystemmarketplace.com/documents/acrobat/StateoftheVoluntaryCarbonMarket18July_Final.pdf), *Getting Carbon Offsets Right*, and Carbon Catalog (www.carboncatalog.org).

7. Communicate Your Actions

A company can both enhance its brand and address emerging stakeholder concerns by embedding climate change goals and targets into communications with employees, customers and shareholders. The Conference Board found that about 50 percent of companies report on carbon and GHG issues publicly, while the other 50 percent plan to report in the near future.

Approaches to reporting carbon-related efforts can span the gamut and include sustainability or corporate citizenship reports, websites, press releases and annual reports. Moving ahead, a key issue will be on communicating credibly. Watch for guidance from BSR and others, including the Federal Trade Commission (FTC), in 2008.

CASE STUDY: Wells Fargo

In October 2006, Wells Fargo committed to purchasing 550 million kWh of Green-e certified wind energy each year for three years. This commitment accounts for only 40 percent of Wells Fargo's consumption, but it moved the company to the top of the EPA's Green Power Partners list ahead of Whole Foods, which famously purchases 100 percent of its electricity from renewable sources. Wells Fargo received a good deal of positive media attention.

- "Wells Fargo Commits to Largest-Ever Corporate Purchase of Renewable Energy in U.S.," 2006, WellsFargo.com

V. Conclusions

Emissions markets are developing fast, and it is likely that the growth forecasted for 2008 will continue beyond this next year. Looking ahead, key issues to track include:

- **Resolution on standards for making claims about emissions reductions.** A largely unstated problem is that standards still do not exist for carbon neutrality and debates persist about dealing with boundaries. Entities like the FTC and Carbon Trust are soliciting feedback in hopes of providing advice about communicating emissions reductions. Currently, however, companies are performing delicate balancing acts between leading on voluntary action and making promises they can substantiate.
- **Legislation developments in the United States.** The 2008 U.S. presidential race could have a significant effect on voluntary markets. Track the candidates' positions at www.heatison.org. Profiles of U.S. climate bills are available from Resources for the Future at www.rff.org/rff/News/Releases/2007Releases/Nov2007ClimateChangeBillsinCongress.cfm.
- **The relationship between voluntary and regulated carbon markets.** As regulated cap-and-trade markets grow, what will happen to voluntary markets? A popular view is that demand for experimental projects and beyond-compliance actions will persist, so even as regulated schemes expand, there will always be a place for voluntary markets. Watch as interactions between these two markets continue to evolve.

VI. Additional Resources

For more information on the voluntary carbon market structure and trends, we suggest:

- Bayon, Ricardo, Amanda Hawn and Katherine Hamilton (2006). *Voluntary Carbon Markets: An International Business Guide to What They Are and How They Work*. London, UK: Earthscan. Available from <http://shop.earthscan.co.uk>.

Guides to offsetting emissions by BSR include:

- *Bio-Carbon and Corporate Climate Strategy: A Business Brief on Emissions Reductions via Forestry and Land Use Projects*, (2007). Available at www.bsr.org/reports/BSR_Bio-Carbons-Business-Brief.pdf.
- *Getting Carbon Offsets Right: A Business Brief on Engaging Carbon Offset Providers*, (2007). Available at www.bsr.org/reports/BSR_Getting-Carbon-Offsets-Right.pdf.
- *A Three-Pronged Approach to Corporate Climate Strategy*, (2006). Available at www.bsr.org/reports/BSR_Climate-Change-Report.pdf.

VII. References

- ¹ Ecosystem Marketplace and New Carbon Finance. (2007). “Picking Up Steam: State of the Voluntary Carbon Markets 2007.” Available at http://ecosystemmarketplace.com/documents/acrobat/StateoftheVoluntaryCarbonMarket18July_Final.pdf.
- ² The World Bank and International Emissions Trading Association (2006). “State and Trends of the Carbon Market 2006,” Washington, DC. Available at <http://carbonfinance.org/docs/StateoftheCarbonMarket2006.pdf>
- ³ Ecosystem Marketplace and New Carbon Finance. (2007). “Picking Up Steam: State of the Voluntary Carbon Markets 2007.” Available at http://ecosystemmarketplace.com/documents/acrobat/StateoftheVoluntaryCarbonMarket18July_Final.pdf.
- ⁴ Ibid.
- ⁵ The Conference Board (October 18, 2006). “‘Carbon Footprint’ an Increasing Management Concern,” *Executive Action*, No. 213.
- ⁶ Ecosystem Marketplace and New Carbon Finance. (2007). “Picking Up Steam: State of the Voluntary Carbon Markets 2007.” Available at http://ecosystemmarketplace.com/documents/acrobat/StateoftheVoluntaryCarbonMarket18July_Final.pdf.
- ⁷ Carbon Registry Services (2006). “Managing an Emission Portfolio and Transacting Across Multiple Registries.”
- ⁸ Lash, Jonathan and Wellington, Fred (2007). “Competitive Advantage on a Warming Planet.” *Harvard Business Review*.
- ⁹ BSR (2007). “Getting Carbon Offsets Right.” Available at www.bsr.org/reports/BSR_Getting-Carbon-Offsets-Right.pdf.
- ¹⁰ Referenced from <http://www.chicagoclimatex.com>.