

**Beginners' Guide to
the Voluntary Carbon
Market**

May 2009

Contents

What is the voluntary carbon market?	3
Is the voluntary market important or relevant?	4
Hasn't the voluntary market got a bad reputation?	5
How does the voluntary market relate to the compliance market?	6
Why would someone buy voluntary carbon credits?	6
What voluntary credits do I buy?	7
How do I know what I am buying is real?	7
Role of a registry	8
Key statistics about the voluntary carbon market	8
Further queries	9

What is the voluntary carbon market?

The worldwide carbon markets can be divided into two: the voluntary markets and the regulatory (compliance) markets. As the name implies, the voluntary carbon markets involves purchases that are made voluntarily by the buyer. Therefore, the voluntary carbon markets effectively function outside of the compliance market. They enable businesses, governments, NGOs, and individuals to offset their emissions by purchasing carbon offsets.

A carbon offset is:

- A unit earned by someone who has implemented a project according to international standards that generates a reduction, removal, storage or avoidance in greenhouse gas emissions than would otherwise have occurred (for example a wind farm)
- Issued by an authority or a Board pursuant to those international standards (one credit is issued for every tonne of emissions of carbon dioxide (or carbon dioxide equivalent) that has been reduced, removed, stored or avoided)
- Bought by someone either for offsetting purposes, in which case the credit is retired (i.e. taken out of circulation permanently) to offset their own emissions (where one tonne of carbon dioxide can be offset by one unit / credit) or for investment or speculative purposes.

Types of offsetting include:

- The removal of carbon dioxide from the atmosphere and the storage of it in a "sink" e.g. forest regeneration
- The reduction of carbon dioxide emissions by replacing fossil fuels with renewable energy sources e.g. wind and solar energy
- The capture of greenhouse gases and alternative use or destruction of them e.g. methane capture at landfills
- The reduction of emissions through energy efficiency e.g. reduce the amount of fuel or electricity needed, or reduce nitrogen use.

In the voluntary carbon market, the majority of buyers are private firms with the largest motivations being purchase for resale or investment followed by purchasing to 'retire' credits to offset emissions. Some companies or individuals can reduce their emissions a little or a lot, and for others it can be extremely difficult, impossible or not economically viable to reduce their emissions very much. Purchasing credits earned from a verified emission reduction project can help to offset such emissions and in turn, the revenue earned from the sale of those credits helps to fund that emission reduction project. The term voluntary carbon market is often interchanged with the term voluntary offsets market but generally the terms have the same meaning.

Is the voluntary market important or relevant?

The ability to offset carbon emissions voluntarily, and the voluntary carbon market that has emerged in earnest the last 5 years or so, has been promoted as an important part of the solution to the climate crisis. Voluntary offset projects can deliver economic efficiency (best use of investment) and environmental benefits (lower emitting technologies are developed and implemented). They also have the potential to deliver sustainability co-benefits through technology transfer and capacity building.

There are other reasons why the voluntary offset market has an important role:

The voluntary offset market is a source of experimentation and innovation

Voluntary carbon markets have historically served as sources of experimentation and innovation in the carbon markets, as well as the markets most likely to reach poorer and smaller communities in developing countries. This is, in part, because they lack the regulation, extensive level of oversight, bureaucracy and transaction costs of their regulated counterparts. Indeed, since in some circumstances new project technologies can take up to two years to be approved under the Clean Development Mechanism established by the Kyoto Protocol in the compliance market, the voluntary market is very much the testing ground for new technologies. This has to be encouraged in a safe environment to the extent possible.

The voluntary offset market enables a broadening of the types of participants and opportunities

The voluntary carbon market enables those in unregulated sectors (or countries that have not ratified Kyoto, such as the US), to offset their emissions. Abatements found in the voluntary market can then serve to assist in technology developments in the compliance market.

The voluntary offset market operates in harmony with the compliance market

The voluntary market operates in harmony with a domestic compliance emissions trading scheme. It can support compliance behaviour while providing scope for companies to go beyond what is required of them. The voluntary market also complements the compliance market in that emission reductions that are not achievable in domestic schemes may actually be met through investment in quality projects all over the world that reduce, avoid or store carbon.

The voluntary offset market is a powerful tool to engage corporate goodwill and consumers

Corporates can benefit from the positive public relations associated with the voluntary reduction of emissions and consumers can make informed choices as to their contribution to the global footprint.

The voluntary offset market can generate investment, action and outcomes

Some have the view that the voluntary market is our 'only hope' in order to reduce emissions to the necessary levels in order to have some real impact on climate change.

The voluntary offset market can accelerate emissions reductions

By decreasing the costs of reductions, offsets can in principle make a compulsory mandate more politically feasible and a voluntary target more attractive, thereby accelerating the pace at which nations, companies, and individuals commit to reductions.

Hasn't the voluntary market got a bad reputation?

A few years ago, some writers likened this market to the “wild west” with “carbon cowboys”. A few media reports pointed out that a number of offsets come from projects that would have been implemented anyway (so why should they earn credits) and generally the voluntary offset market has been criticised for its lack of (a) standards (guidelines and requirements for the emission reduction project), (b) quality assurance (verification that the emission reductions have occurred) and (c) transparency (evidence of the credit existing, how it is held, its ownership history etc).

In response, suppliers embraced a range of tools for producing high quality credits and proving their legitimacy. Two of the key tools that have emerged recently are standards and registries.

Standards

In the absence of national and international legislation, standard organisations define a set of rules and criteria for voluntary emission reductions. A fully fledged carbon offset standard would prescribe accounting standards, monitoring, verification and certification standards, and registration and enforcement systems. Generally, the following basic considerations guide considerations of offset quality:

- **Additionality** (the project must be additional to a business-as-usual scenario so the project developer must be able to demonstrate the ability to reduce emissions beyond the levels that would otherwise have occurred)
- **Permanence** (the project must be able to guarantee greenhouse gas mitigation over the stated time period)
- **Leakage** (the project must not transfer emissions to another locality)
- **Double counting** (no more than one organisation can take credit for the offsets)
- **Accounting** (whether the credits can be sold before they are produced)
- **Co-benefits** (whether the project provides additional benefits).

Data from the most recent global survey¹ tells us that the dominant standard used last year was the Voluntary Carbon Standard, or the VCS and this is the major standard the market intends to use for 2009 and onwards.

Registries

An increasing number of suppliers have begun using carbon credit registries to enable issuance of credits with a singular serial number, track credit sales, enable electronic transfer and retirement of credits, and have complete visibility of their carbon assets. A registry effectively converts a verified emissions reduction into a saleable asset with a unique identifier and complete transparency throughout the life of the credit. When connected to the financial market, a registry can also reduce delivery risk and facilitate lower cost transactions. Designed correctly, carbon registries fortify the voluntary carbon market for future investment and growth.

¹*Fortifying the Foundation: State of the Voluntary Carbon Markets 2009*, Hamilton, Sjardin, Marcello and Shapiro, Ecosystem Marketplace and New Carbon Finance (2009).

How does the voluntary market relate to the compliance market?

The compliance market (otherwise known as the mandatory or regulatory market) refers to the markets that exist to enable those with emission caps imposed on them by governments (or other regulatory bodies) to buy or sell carbon credits in order to meet their obligations.

Compliance markets are created and regulated by mandatory regional, national and international carbon reduction regimes, such as the Kyoto Protocol (which took effect in 2008), the European Union's Emissions Trading Scheme started in 2005, and the impending schemes in Australia, the United States, New Zealand and elsewhere.

To address the threat of climate change effectively, we need comprehensive strategies and tight policies to incentivise people to reduce greenhouse gas emissions domestically and internationally, while encouraging clean development. At the same and in tandem, voluntary individual and corporate action on climate change can be essential for creating public awareness and behavioural change.

The voluntary carbon market can complement the compliance market and operate side by side. There are some challenges to be worked through such as whether a credit can be generated for a voluntary emission reduction project when the existence of that project would provide a benefit in the form of reduced emissions to the host country in which that project is based.

Why would someone buy voluntary carbon credits?

Those buying credits to offset their emissions are generally buying for Public Relations/branding and Corporate Social Responsibility reasons. The next most common reason for purchases in this market is as a "pre compliance buy" (those buying in anticipation of regulation).

Other buyers are purchasing offsets for branding and competitive advantage reasons and taking action on greenhouse gas emissions to address the threat of climate change. Some companies or individuals can reduce their emissions a little or a lot, and for others it can be extremely difficult, impossible or not economically viable to reduce their emissions.

Purchasing credits earned from a verified emission reduction project can help to offset such emissions and in turn, the revenue earned from the sale of those credits helps to fund that emission reduction project.

What voluntary credits do I buy?

There are currently a range of standards against which projects can be assessed generating different types of credits. The market is not yet at the point where there are only 2 or 3 types of voluntary carbon credits - there are about 17 major standards.

Data from the most recent global survey² tells us that the dominant standard used last year was the Voluntary Carbon Standard, or the VCS*. Credits issued under the VCS are called Voluntary Carbon Units - VCU's.

Other standards include (in order of market share as at 2008 based on the 2009 report cited below) the Gold Standard, the Climate Action Reserve (CAR), the American Carbon Registry (ACR)*, Chicago Climate Exchange (CCX), Greenhouse Friendly, Climate Community and Biodiversity*, Social Carbon*, ISO 14064*, CarbonFix*, Plan Vivo* and the Kyoto Protocol's CDM / JI standard. Each of these standards has different merits and a buyer of credits needs to assess what is important in their purchase.

The marketplace has commentary on these different standards and how they measure up to the compliance market project standards. See particularly *Making Sense of the Voluntary Carbon Market - A comparison of Carbon Offset Standards* (Kollmuss, Zink and Polycarp, WWF Germany (2007)).

* indicates the standards for which Markit Environmental Registry provides registry services.

How do I know what I am buying is real?

As a buyer, be informed as to what you are buying and whether it is real i.e. that the credit:

- Has been earned from a genuine emission reduction project
- Has been implemented and verified according to a leading international standard like the standards mentioned in the section above
- Has been issued by the standards authority or standards board pursuant to those international standards (one credit is issued for every tonne of carbon dioxide equivalent emissions that have been reduced)
- Most importantly, that the credit resides in the registry that has been appointed by that standards authority to issue and manage the credits earned from projects in accordance with those standards.

If your credits aren't held in a credible electronic registry appointed by the relevant standards organisation, you need to do extra due diligence on the credits, their origin and their credibility.

² *Fortifying the Foundation: State of the Voluntary Carbon Markets 2009*, Hamilton, Sjardin, Marcello and Shapiro, Ecosystem Marketplace and New Carbon Finance (2009).

Role of a registry

Emerging as an important tool to manage limited environmental assets, ecosystem markets need confidence and credibility to ensure continued investment and desired environmental outcomes are achieved. Registries are a key part of the infrastructure necessary to enable these environmental markets to grow.

A quality registry enhances credibility and transparency of environmental assets, and provides confidence to the marketplace, fortifying these important markets for future growth.

As a centralized real-time information source with robust processes, the Markit Environmental Registry manages the entire life cycle of an environmental asset from issuance (upon evidence of verification using strict processes) and allocation of a unique identifier through to transfer and ultimate retirement.

Key statistics about the voluntary carbon market

The following statistics are sourced entirely from the most recent and comprehensive global survey of the voluntary carbon market survey by carbon market experts *Ecosystem Marketplace* and *New Carbon Finance*.

Volumes and values

54 million tonnes of carbon dioxide equivalent were transacted over-the-counter (i.e. not on exchange) in 2008 compared with 43.1 million tonnes in 2007.

This over-the-counter market was estimated to be worth US\$396 million in 2008 as compared to US\$263 million in 2007.

Including voluntary credits transacted on exchange (the Chicago Climate Exchange), the total volume of the voluntary market for 2008 was 123.4 million tonnes of carbon dioxide equivalent and the total value of this market was US\$705 million.

Project types

In the over-the-counter market, the dominant project types were:

- Renewable energy (51%) - mostly from hydropower (32%), wind energy (15%) and biomass (3%)
- Landfill gas (16%)
- Forestry land based projects (7%)
- Geological sequestration (5%)
- Energy efficiency (4%)

Project location

Asia was the dominant project location (some voluntary projects start out as compliance market projects under the Kyoto CDM and JI mechanism and while awaiting approval generate voluntary carbon credits) with 45% of global projects.

North America was a close follower at 28% and the Middle East at 15%.

Further queries

If you have any further queries on the voluntary carbon market, please contact environmental@markit.com.

For further reading see:

- *Making Sense of the Voluntary Carbon Market - A comparison of Carbon Offset Standards*, Kollmuss, Zink and Polycarp, WWF Germany (2007); and
- *Fortifying the Foundation: State of the Voluntary Carbon Markets 2009*, Hamilton, Sjardin, Marcello and Shapiro, Ecosystem Marketplace and New Carbon Finance (2009).