



GLOBAL CARBON MARKETS - EMISSIONS TRADING

TRAINING PROGRAM

FOR ENVIRONMENTAL AND GHG SPECIALISTS

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ENVIRONMENTAL SPECIALIST CURRICULUM





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LEARNING OBJECTIVES





The difference between voluntary carbon trading and the mandatory programs we have discussed thus far in this course

How the voluntary market is related to mandatory markets via the Kyoto Protocol's flexible mechanisms

Who buys voluntary carbon offsets and why

What kind of standards govern voluntary carbon trading, and finally.

The unique role of the Chicago Climate Exchange

VOLUNTARY CARBON TRADING

Voluntary carbon trading involves the same principles and often even uses the same regulatory structures as mandatory cap-and-trade systems. The difference is that voluntary markets are not created or enforced by governments. The most common type of voluntary carbon trading is when individuals, organizations or companies buy greenhouse gas emission offsets to reduce their "carbon footprint."

In the "retail" carbon market, firms or individuals calculate the quantity of greenhouse gas they emit by flying, driving or using electricity. They then pay for the same amount of offsets from a project that reduces emissions. Unlike the mandatory market, such offset purchases are not done to bring total emissions down to a certain compliance target. Individuals, for instance, may simply choose to offset the GHGs emitted by the plane trip that took them on their summer holiday.

CARBON OFFSET RETAILERS

In the absence of a central regulatory body for this voluntary system, companies could buy offsets that have not been verified by a third party, or that are simultaneously being sold to another buyer.

Mandatory vs. Voluntary Markets

Mandatory markets

- Reduction targets are imposed by public authorities
- Entities need to surrender allowances equal to their emissions
- Third-party certification required
- High penalties for non-compliance
- Quantity and types of offsets allowed strictly regulated

> Kyoto, EU ETS, RGGI, WCI

Voluntary markets

- Reduction targets are chosen by entity
- OR
- Entity chooses to comply to predetermined target
- Third-party certification optional
- No or little penalty if the targets are not reached
- No or little regulation of quantity and quality of offsets

> CCX (regulated but voluntary opt-in), Companies going "carbon neutral"

Since these purchases are not required by a government authority and they are not overseen by a government regulatory or consumer protection agency, it is up to the buying company to ensure that the offsets they purchase have a high standard of quality, for instance that they have passed the additionality criteria that apply to CDM and JI projects as discussed in Lessons 3 and 4.

STANDARDS

In an effort to bring credibility to the carbon offset market, non-governmental organizations have developed a variety of standards and programs designed to ensure that emission offsets purchased in voluntary markets are of at least a minimum quality.

Two important requirements widely supported among the different standards for offsets are that they be:

- ✓ Verified by an external party, and
- ✓ Logged in a registry to ensure that a given credit is not sold more than once.

Often this is done by giving each offset credit an individual, traceable serial number. Standards may create a name for the tradable credits that meet their criteria, so that buyers understand that the particular offset is connected their organization. The default name for voluntary offset credits is generally "VER" or "voluntary emission reduction" or "verified emission reduction".

Participation in the voluntary carbon market and interest in offset credit standards is highest in North America. In the absence of mandatory federal GHG regulations that other developed countries have as parties to the Kyoto Protocol and/or the EU ETS, U.S. companies have been active in purchasing carbon offsets to show corporate responsibility and so they can gain experience ahead of potential required carbon caps.

STANDARDS +

The table here lists several standards related to offsets that have credence with North American buyers making offset purchases.

	Gold Standard	VCS	Climate Action Reserve	CCX	American Carbon Registry	Climate Community & Biodiversity
Components of Protocol	Accounting, verification, and certification	Accounting, verification, and certification	Accounting, verification, and certification	Accounting, verification, and certification	Verifier accreditation; certification; no specific accounting components	Verifier accreditation; certification; no specific accounting components
Accounting Methodology	CDM methodologies	CDM methodologies	Six broad project protocols	Nine broad project protocols	CDM or broad protocols	Project must meet 15 criteria on validation checklist
Registry	Yes	Four registries to be released soon	Yes	Registry not public	Yes	Public database of projects
Additional Requirements	Yes; project specific	Project specific or threshold	Performance threshold; regulatory additionally, projects must have taken place since 2008	Does not specifically address additionally	Yes; project specific	Yes; project specific
Emphasizes Co-Benefits	Yes; biodiversity and community	N/A	N/A	N/A	N/A	Yes; climate, biodiversity and community

The Gold Standard (GS) was launched in 2003 by a non-profit based in Switzerland, and can be applied to voluntary emission reduction projects as well as CDM projects generating CERs.

STANDARDS +

The Voluntary Carbon Standard (VCS) is an initiative of the Climate Group, the International Emissions Trading Association (IETA), the World Economic Forum (WEF), and the World Business Council on Sustainable Development (WBCSD). The first version of the VCS was released in March 2006, and a new version came out in November 2007. Units that have been certified under the VCS are called voluntary carbon units (VCUs).

The VCS represents a minimum set of attributes that an emission reduction must contain to be considered an offset. This provides a basis onto which elements of other standards can be added. For instance, the VCS recently accepted the CCAR standard (see below), allowing for the conversion of that standard's units (CRTs) into VCUs without requiring additional verification by the VCS. However, VCUs cannot be converted into CRTs.

VCS lists all of its projects on a public database and maintains four different registries for VCUs, through the companies APX Inc., Bank of New York Mellon, Caisse des Depots, and TZI.

STANDARDS +

The California Climate Action Registry (CCAR) is a non-profit greenhouse gas registry launched in 2001 by the state of California, which helps corporate or government entities track their greenhouse gas emissions and their reductions, logging the corresponding tonnage amounts in a registry. Over 650 million metric tons CO₂e have been registered between 2000 and 2007 from reductions implemented voluntarily by various industries throughout California.

The American Carbon Registry (ACR), formerly the Environmental Resource Trust's Greenhouse Gas Registry, recently rebranded and is preparing to release methodologies that will allow certification of the following four project types:

- ✓ Forestry including afforestation, forest management and avoided deforestation projects
 - ✓ Agriculture including agricultural methane and biogas projects
 - ✓ Landfill gas capture and combustion
 - ✓ Industrial efficiency and fuel switching
- ACR requires independent verification for all offset projects and corporate emissions inventories.

STANDARDS +

The Chicago Climate Exchange (CCX) is actually a voluntary cap-and-trade program that is a market in itself. Corporate or other entities sign up to become members of the exchange, thereby taking on emission reduction targets relative to a baseline. Allowance units under this program are called Carbon Financial Instruments (CFIs).

The CCX can be considered an offset standard because it recognizes offsets from projects to be used by its members for compliance to their emission reduction targets. However, the CCX does not distinguish between CFIs as allowances and units of emissions reductions recognized as offsets, which it also calls CFIs. There is considerable confusion over this issue in the voluntary carbon market, and we will discuss the CCX in greater detail later in this lesson. For now, note that CFIs used as offsets must meet certain criteria, such as being verified by third parties. The CCX accepts projects that started as far back as 1999, with a crediting period ranging from 2003 to 2010.

SIZE AND GROWTH OF THE VOLUNTARY CARBON MARKET

The VCM is led by corporations and industries in the hard-to-abate sectors which rely on carbon credits to achieve their ambitious 'voluntary' climate goals. This market grew by more than 60% from 2020 to reach \$1 billion in November 2021 and is expected to reach at least \$50 billion by 2030.

Estimates for the value of the total global voluntary carbon market are hard to find, as many of the transactions take place between a company and a project developer, or an individual and a project developer, and are not recorded or reported. Other players in the global voluntary carbon market are

- ✓ Brokers, who help bring buyers and sellers together and take a portion of the transaction as a fee for their services, and

- ✓ Project aggregators, who buy emission reduction credits from various different projects and often sell as a bundle or package, so that the buyers are supporting a mix of different project types through their purchase.

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