

An Introduction to Carbon Markets

What is a Carbon Market?

The purpose of a carbon market is to reduce carbon emissions effectively and efficiently. It involves the buying and selling of units that represent either a reduction of emissions of greenhouse gases or the right to emit a quantity of greenhouse gases.

A well designed carbon market provides economic incentives for achieving reductions in emissions. It can create both a limit on overall emissions and set a price for pollution, which acts as a disincentive to continue polluting and an incentive to invest in low carbon solutions¹.

In a carbon market a tradable unit has to be created. These are commonly referred to as emissions allowances, units, permits or credits. Functioning markets need people who are seeking to buy reductions as well as people offering to sell the reductions they have achieved. The balance between this supply and demand is what creates the price.

Careful oversight of projects is needed to ensure that these units genuinely represent a reduction in emissions since there is nothing to physically see or check. The systems used to do this must have high levels of integrity so that there is a high degree of confidence in the market.

¹ Other ways of achieving this include direct subsidies for emissions reducing technologies, setting regulatory standards and introducing taxes. Often a number of different policies can work together to deliver the correct signals in the economy.

Types of Carbon Markets

There are two main sources of demand for such emission reduction credits, the voluntary market and the regulated market.

Voluntary markets

The voluntary market represents those who wish to compensate voluntarily for emissions associated with their operations – either as part of a commitment to corporate responsibility or to attract green consumers. They have no legal requirement to participate.

Voluntary carbon markets arose in response to private demand to reduce carbon emissions, rather than through government. In this sense they can be seen as easier to establish, although high levels of scrutiny and enforcement should be applied to prevent abuses and maintain confidence. They can have an important role in helping to introduce the concept of 'emissions trading' which may be new to many people, as well as developing infrastructure that will be needed to implement a compliance market.

Often they take the form of 'baseline and credit' systems where the units awarded for reductions are on a project by project basis and represent savings achieved compared to a 'business as usual' scenario of what would have happened without the project.

Voluntary schemes can only ever have a limited role in driving investment towards a low carbon

economy. This is because they only attract those who are already committed to being environmentally aware and, importantly, do not offer a guaranteed net reduction in emissions. Buyers of voluntary carbon permits do so as a means of compensating for their emissions but in doing so they may feel they are able to increase their overall emissions.

Regulated markets

Another way to create demand for reductions is to introduce an obligation on polluters to reduce their emissions. This is the largest and most important role for carbon markets. This creates a 'cap and trade' market where polluters, usually large point sources of carbon such as power plants or heavy industry, are legally obliged to reduce their emissions, but allowed to use trading to help them comply. This is facilitated by the allocation of a finite number of emissions allowances – less than the total sum needed – that can be traded between participants.

The advantages of this approach are that it can include those who would otherwise be unwilling to act voluntarily. The overall level of reductions to be achieved can be set in advance, providing a guarantee that national or regional targets to cut emissions will be met.

A regulated market can incorporate flexibilities such as allowing participants to buy credits from projects that are outside the sectors under the cap. Often these are generated by approved baseline and credit projects (see above) in uncapped countries.

Setting up emissions trading systems

To establish a regulated emissions trading system requires a series of decisions being taken about which polluters to include, what level of reductions to require and how to create and distribute the units that can then be traded. These decisions then need to be enshrined in law and must be enforceable.

There are many options for the design of legally backed carbon markets all of which have their advantages and disadvantages.

Existing emissions trading schemes around the world

There are already emissions trading schemes of this kind up and running in different parts of the world. A body of experience, about what works well and what doesn't, is being built up and can be very useful for the designers of new schemes. Obviously, in addition, the circumstances that are particular to different countries and regions also need to play an important role in the design.

There are a number of carbon markets in place already:

- one international carbon market, the Kyoto Protocol whose participants are nation states
- several markets whose participants are companies, including the New Zealand Emissions Trading Scheme (NZ ETS) and the world's largest carbon market, the European Emissions Trading Scheme (EU ETS);

- one scheme in which the participants are states, including the United States of America's, Regional Greenhouse Gas Initiative (RGGI).

For more information on carbon markets and the work of Sandbag please contact us at: info@sandbag.org.uk or visit our website <http://sandbag.org.uk>

The EU ETS is by far the largest. It covers all 27 countries that make up the European Union as well as Norway. More are being considered in other parts of the world.

Each has its own characteristics and rules. Sandbag has been carefully scrutinising these schemes, in particular the EU ETS, and has developed a set of 'lessons learned' that will help to create robust, successful schemes in the future.

Key amongst these are:

- the need to collect reliable data about the entities to be covered by the scheme
- the benefit of starting with a manageable number of participants that can be easily regulated, are able to deliver reductions, such as the power sector.

Further reading:

We have set out the reasons why we believe emissions trading systems can work in our briefing '10 reasons for emissions trading and the carbon market'.

(http://www.sandbag.org.uk/site_media/pdfs/reports/10_reasons_chinese.pdf)

We have also produced a briefing on the lessons that can be learned from existing systems.

(http://www.sandbag.org.uk/site_media/pdfs/reports/lessons_learnt_chinese.pdf)