Case Study: The EU Emissions Trading Scheme (EU ETS)

The EU emissions trading scheme (ETS) is based on a recognition that creating a price for carbon through the establishment of a liquid market for emission reductions offers the most cost-effective way for EU Member States to meet their Kyoto obligations and move towards the low-carbon economy of the future. The scheme should allow the EU to achieve its Kyoto target at a cost of between € 2.9 and € 3.7 billion annually. This is less than 0.1 % of the EU's GDP. Without the scheme, compliance costs could reach up to € 6.8 billion a year. The ETS has been established through binding legislation[35] proposed by the European Commission and approved by all EU Member States and the European Parliament. The scheme is based on six fundamental principles:

- It is a 'cap-and-trade' system
- Its initial focus is on CO2 from big industrial emitters
- Implementation is taking place in phases, with periodic reviews and opportunities for expansion to other gases and sectors
- Allocation plans for emission allowances are decided periodically
- It includes a strong compliance framework
- The market is EU-wide but taps emission reduction opportunities in the rest of the world through the use of CDM and JI, and provides for links with compatible schemes in third countries.

What the scheme covers

While emissions trading has the potential to involve many sectors of the economy and all the greenhouse gases controlled by the Kyoto Protocol (CO2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride), the scope of the ETS is intentionally limited during its initial phase while experience of emissions trading is built up. Consequently, during the first trading period, from 2005 to 2007, the ETS covers only CO2 emissions from large emitters in the power and heat generation industry and in selected energy-intensive industrial sectors: combustion plants, oil refineries, coke ovens, iron and steel plants and factories making cement, glass, lime, bricks, ceramics, pulp and paper. A size threshold based on production capacity or output determines which plants in these sectors are included in the scheme. Even with this limited scope, more than 11,000 installations in the 25 Member States are covered, accounting for around 45 % of the EU's total CO2 emissions or about 30 % of its overall greenhouse gas emissions. The scheme will be reviewed around mid-2006 to allow fine-tuning in the light of experience gained and to consider whether it should be extended to other sectors, such as chemicals, aluminium and transport, and to more greenhouse gases.

Emission allowances

At the heart of the ETS is the common trading 'currency' of emission allowances. One allowance represents the right to emit one tonne of CO2. Member States have drawn up national allocation plans for 2005–07 which give each installation in the scheme an initial permission to emit an amount of CO2 that corresponds to the number of allowances received. Decisions on the allocations are made public. The limit or 'cap' on the total number of allowances allocated in the ETS creates the scarcity needed for a trading market to emerge. Companies that keep their emissions below the level of their allowances are able to sell their excess allowances at a price determined by supply and demand at that time. Those facing difficulty in remaining within their emissions limit have a choice between taking measures to reduce their emissions, such as investing in more efficient technology or using a less carbon-intensive energy source, buying the extra allowances they need at the market rate, or a combination of the two, whichever is

[35] Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC

cheapest. This ensures that emissions are reduced in the most cost-effective way. Most allowances are allocated to installations free of charge — at least 95 % during the initial phase and at least 90 % in the second phase from 2008 to 2012. Though only plants covered by the scheme are given allowances, anyone else — individuals, institutions, non-governmental organisations or whoever — is free to buy and sell in the market in the same way as companies.

National allocation plans

Member States' national allocation plans (NAPs) have to be based on objective and transparent criteria, including a set of common rules that are laid down in the legislative framework establishing the ETS. The most important of these rules are as follows:

- An allocation plan has to reflect a Member State's Kyoto target as well as its actual and projected progress towards meeting it. The total quantity of allowances allocated is key in this regard. Allocating too many allowances would mean that greater efforts to cut emissions would have to be taken in economic sectors not covered by the scheme, in potentially less cost-effective ways than trading.
- Allocations to installations must take account of their potential for reducing emissions, and must not be higher than the installations are likely to need.
- Where Member States intend to use JI and CDM credits — thereby giving their companies more scope to emit — to help them reach their national emission target, these plans must be substantiated, for example through budgetary provisions.

The European Commission has issued specific guidance on how these rules are to be applied by Member States[36]. The Commission assesses NAPs on the basis of these rules, as well as EU rules on State aids and competition, and has the power to require changes or even to reject them altogether.

Ensuring compliance

Appropriately for a market-based instrument that makes it possible to put a price on carbon, the ETS incorporates a robust framework of measures to ensure compliance that also gives a central role to economic incentives. After each calendar year, installations must surrender a number of allowances equivalent to their verified CO2 emissions in that year. These allowances are then cancelled so they cannot be used again. Those installations with allowances left over can sell them or keep them for the future. Those that have not produced enough allowances to cover their emissions will have to pay a dissuasive fine for each excess tonne emitted. In the initial phase the penalty is € 40 per tonne, but from 2008 it will rise to € 100. Operators also have to obtain allowances to make up the shortfall in the following year, and they will be 'named and shamed' by having their names published. Member States are also required to lay down dissuasive penalties for any infringements of the ETS rules at national level.

Monitoring and reporting emissions

Each installation in the ETS must have a permit from its competent authority for its emissions of all six greenhouse gases controlled by the Kyoto Protocol. A condition for granting the permit is that the operator is capable of monitoring and reporting the plant's emissions. A permit is different from the allowances: the permit sets out the emissions monitoring and reporting requirements for an installation, whereas allowances are the scheme's tradable unit. Installations must report their CO2 emissions after

[36] Commission Communication COM(2003)830 of 7 January 2004 on guidance to assist Member States in the implementation of the criteria listed in Annex III to Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC

each calendar year. The European Commission has issued a set of monitoring and reporting guidelines[37] to be followed. Installations' reports have to be checked by an independent verifier on the basis of criteria set out in the ETS legislation, and are made public. Operators whose emission reports for the previous year are not verified as satisfactory will not be allowed to sell allowances until a revised report is approved by a verifier.

Transaction registries

Allowances are not printed but held in accounts in electronic registries set up by Member States. The European Commission has set out specific legislation for a standardised and secured system of registries based on UN data exchange standards to track the issue, holding, transfer and cancellation of allowances. Provisions on the tracking and use of credits from JI and CDM projects in the EU scheme are also included. The registries system is similar to a banking system which keeps track of the ownership of money in accounts but does not look into the deals that lead to money changing hands. The system of registries is overseen by a central administrator at EU level who, through an independent transaction log, checks each transfer.

Trading in practice

The legal framework of the ETS does not lay down how and where trading in allowances should take place. Companies and other participants in the market may trade directly with each other or buy and sell via a broker, exchange or any other type of market intermediary that may spring up to take advantage of a new market of significant size.

The price of allowances is determined by supply and demand as in any other market. Recent months have seen an accelerating upward trend in the volumes traded on the 'forward' allowance market as new players enter and existing players gain in confidence, and the 'spot'-market is also developing.

Benefits for partners outside the EU

<u>Creating stable demand for credits from JI and CDM</u>

Joint implementation and the clean development mechanism enable developed countries that have binding emission reduction or limitation targets under the Kyoto Protocol to undertake emission-saving investments in third countries and credit these savings towards their own emission target. CDM covers projects in countries without an emission target under the Protocol, i.e. developing nations. Reductions since 2000 are potentially eligible to receive credits called 'certified emission reductions', or CERs. JI applies to projects in countries that have agreed to an emission target — other industrialised countries and countries with economies in transition — and will yield credits known as 'emission reduction units', or ERUs, once the first Kyoto commitment period starts in 2008. The EU scheme is the first in the world that recognises most of these credits as equivalent to emission allowances (1 EUA = 1 CER = 1 ERU) and allows them to be traded under the scheme[38]. Credits from nuclear facilities and land use, land-use change and forestry activities are not accepted.

[37] Commission Decision 2004/156/EC of 29 January 2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council transaction for any irregularities. Any irregularities detected prevent a transaction from being completed until they have been remedied. The EU registries system will be integrated with the international registries system used under the Kyoto Protocol.

[38] (5) Directive 2004/101/EC of the European Parliament and of the Council of 27 October 2004 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance within the Community, in respect of the Kyoto Protocol's project mechanisms

Thus, three years before the Protocol's first commitment period starts, the EU scheme is giving certainty to investors in the rapidly emerging market for JI and CDM projects. This encourages more investment in such projects and consequently promotes the transfer of environmentally sound technologies that help the host countries meet their sustainable development goals.

For EU companies covered by the scheme, the recognition of JI and CDM credits increases the range of options available for meeting their emission targets, improves the liquidity of the market and potentially lowers the price of allowances, thus further reducing their compliance costs. Companies are not the only ones looking for emission reduction credits through JI and CDM. Member States intend to use such credits themselves to help meet their emission target under the Protocol. As of October 2004, Member States had provisionally indicated in their national allocation plans that they intend to procure 500–600 million CO2 credits for the period 2008–12. Since the majority of JI and CDM projects tend to generate emission reductions averaging between 500 000 and one million tonnes of CO2, EU countries' demand for emission credits can only be satisfied through a great number of such projects. As 2008 draws nearer, EU Member States are actively seeking JI and CDM projects and a number of project contracts have already been signed **(see box???).** With this strong demand for emission credits building up rapidly, major European banks are becoming active in providing finance for prospective emission reduction projects. At the end of 2003, the European Investment Bank created a dedicated financing facility of € 500 million. Likewise, Germany's KfW set up a carbon fund in June 2004, and other leading European banks are considering similar initiatives. The use of the Kyoto mechanisms within the EU will be supplemental to domestic action to limit or reduce emissions, as agreed by UNFCCC parties. Member States will address this question specifically in their national allocation plans for 2008–12.

Linking the EU ETS with trading schemes in partner countries

The ETS is open to linking with compatible greenhouse gas emission trading schemes in other countries that have ratified the Kyoto Protocol. It is foreseen that each side would agree to recognise allowances issued by the other, thereby expanding the market for trading. The EU is discussing Norway's possible participation in the ETS and preliminary discussions on cooperation have taken place with a number of other countries. The EU is also encouraged by moves to create an emissions trading scheme for CO2 among a significant number of US states.

Shaping the future debate by sharing experience with partners

During the design of this innovative scheme, EU officials have exchanged information with many experts about existing trading schemes for other pollutants, particularly in the US. Now that the EU scheme has started, systematic 'learning by doing' will be crucial for its successful further development. Independent monitoring and evaluation is accompanying its implementation. These processes will yield invaluable information which the EU will want to share with all interested parties and stakeholders.