

## Environmental Briefing Note

### Carbon Management and Emissions Trading

#### Purpose

The purpose of this briefing note is to provide information on the development of the EU Emissions Trading Scheme, the constraints and burdens it places on the larger energy consumers in the 'Traded Sector' and an assessment of how the scheme will develop together with other carbon markets.

#### Background

As the first commitment period of the Kyoto Protocol is approaching signatories to the agreement are implementing plans to meet their obligations. Russia has now ratified the Kyoto Protocol which is due to enter into force and become legally binding early in 2005.

Due to high economic growth in Ireland in the 1990s greenhouse gas emissions have grown steadily and were 25% above 1990 levels in 2003. Despite reductions in 2002 and 2003 emissions levels are expected to increase again and rise steadily to 2012.

Projections contained in the National Allocation Plan indicate that emissions for the 2008 – 2012 period will exceed the 1990 emission levels by about 30%. In absolute terms this equates to emissions of 9.2 million tonnes of CO<sub>2</sub> per annum above Ireland's Kyoto target level.

On a European level emissions have increased in recent years following a decrease in the early 1990s. In 2001 emissions were 2.3% below 1990 levels. It is projected that emissions in 2010 will be 0.5% below 1990 levels or some 7.5% short of the EU's target.

These data indicate that significant progress on emission reduction will be required in Ireland and in the EU if we are to meet our Kyoto targets.

#### Emissions Trading and Flexible Mechanisms

In addition to domestic action by industrialised countries, the Kyoto Protocol also provides mechanisms to allow actions taken elsewhere to be accounted for in a country's targets. These comprise emissions trading and two project based mechanisms: the Clean Development Mechanism (CDM) and Joint Implementation (JI). The intention behind these mechanisms is to allow global greenhouse gas emission reductions to be achieved in the most cost effective way possible.

#### EU Emissions Trading Scheme (ETS)

An emissions trading scheme is currently being implemented in Europe according to the provisions of Directive 2003/87/EC. The participants of the scheme (the Traded Sector) are specified in Annex I of the Directive and consist of large energy consumers and energy intensive industries.

There are two distinct phases to the EU ETS: a pilot phase which will run from 2005 to 2007 and the Kyoto first commitment period of 2008 to 2012. The transfer of allowances between the periods is not allowed.

Under the scheme each Member State must allocate emissions to the Traded Sector as a whole, and to individual installations within the sector. The National Allocation Plan (NAP) must then be submitted for approval to the EU.

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Participants in the scheme must surrender allowances equal to the amount of their emissions each year. Failure to do so results in a penalty of €40/t CO<sub>2</sub>e for the pilot scheme and €100/t CO<sub>2</sub>e for the first commitment period.

The process of approval of the NAPs for the pilot scheme is now at an advanced stage and the scheme is expected to commence as planned in January 2005.

### **‘Linking’ Directive**

A Directive (2004/104/EC) linking the Kyoto flexible mechanisms with the EU Emissions Trading Scheme has recently been adopted. It is intended that this will reduce the cost of EU allowances while promoting the international trade of carbon and sustainable development.

Credits from CDM projects, or Certified Emission Reductions (CERs), will be exchangeable for EU allowances from 2005 and credits from JI projects, or Emission Reduction Units (ERUs), from 2008. From 2008 there will be a limit on the percentage of each installation’s allowances that may be submitted as CERs or ERUs. This limit will be set by the competent authority in each Member State as part of the second NAP. No limit has been set for the 2005 – 2007 period.

### **Ireland’s National Allocation Plan (NAP)**

In Ireland the Government determined the overall allocation of emissions to the traded sector based on an ICF Consulting and Byrne Ó Cléirigh (ICF-BÓC) report of February 2004, ‘Determining the Share of National Greenhouse Gas Emissions for Emission Trading in Ireland’.

The EPA then divided up the total allocations by sector and by installation, prepared the NAP for the pilot scheme and submitted it to the Commission. The NAP has been accepted by the Commission following some minor revisions including a reduction of 180,000 allowances per annum for the pilot scheme.

The total allocation is 66.96 million allowances (22.32 per annum) which includes a set-aside for CHP, new entrants and auctioning. This represents c. 97% of the average projected emissions for the

period or 94% of the total when the amounts set aside are taken into account.

These allowances were distributed to individual installations based on historic emissions data submitted to, and validated by, the EPA. The allocations to all sectors, other than power generation sector, was on a pro rata basis relative to 2002-03 emissions. The power generation sector received a lower proportion of its historic emissions. A factor in this decision is the expectation that 13.2% of electricity will be generated by renewable sources by 2010.

The second NAP is due to be submitted to the Commission by July 2006 and will allocate emissions to the traded sector for the first commitment period (2008 – 2012). The ICF-BÓC report recommended that 110 million tonnes CO<sub>2</sub>, representing 84% of projected base case scenario emissions should be allocated to the traded sector for this period.

The ICF-BÓC report found that emissions are expected to exceed Ireland’s Kyoto target significantly over the 2008-2012 period. On this basis the Government has signalled its intention to purchase 18.5 million allowances to help close the gap between projected emissions and Ireland’s Kyoto commitments. It is estimated that the Traded Sector will need to purchase an estimated 10.5 million allowances during the first five year Kyoto commitment period.

### **Monitoring and Reporting**

During the operation of the scheme, individual installations within the traded sector will be required to monitor their CO<sub>2</sub> emissions and to report them to the EPA on an annual basis. The methods and requirements for monitoring and reporting emissions are detailed in Directive 2004/156/EU. In this Directive hierarchies, or ‘tiers’, for the accuracy of the data used in calculating or measuring emissions are detailed. Depending on the scale of an activity different tiers are applicable to different sites.

The emissions and data must then be detailed in a report according to the guidelines in the Directive. This report must be verified by an independent, accredited auditor and submitted to the competent authority by 31<sup>st</sup> March each year.



## **Operation of the Emissions Trading Market**

Since the adoption of mechanisms for compliance with the Kyoto Protocol at the 7<sup>th</sup> Conference of the Parties in Marrakech in 2001 (the Marrakech Accord) the framework for the operation of the flexible mechanisms has been in place. This has allowed countries and organisations to purchase CERs through Clean Development Mechanism projects.

Because CERs are project based and are subject of agreement between the project developer and the party procuring CERs, the cost of CERs is often not publicised. Notwithstanding this, prices in the region of €5/t CO<sub>2</sub> are generally reported.

As part of the EU trading scheme, electronic registries will be set up at Member State level and a centralised EU register will contain information on the ownership and transfer of allowances. This registry will not however record any financial information relating to trades.

There is no provision in legislation for the operation of the allowances trading market. It is expected that participants will trade allowances directly with each other or buy or sell via a broker, bank or other market intermediary.

To date, at least one carbon fund has been set up by financial institutions to purchase allowances and provide liquidity to the market and it is anticipated that more will follow as the market develops.

A futures trading market for EU allowances has been in operation since 2003. PointCarbon has been tracking the market by collating information collected from key market participants, brokers and traders. They report that allowances are currently trading in the region of €9/t CO<sub>2</sub>, having fallen from a high of €13/t CO<sub>2</sub> in early 2004. The future cost of EU allowances remains uncertain pending the development of the market and the finalisation of all NAPs.

## **Implications for the Traded Sector**

It is generally accepted that, as the first and subsequent commitment periods approach, pressures to reduce greenhouse gas

emissions will intensify. Installations will be required to reduce emissions or purchase allowances in an increasingly constrained market.

This obviously presents a new business risk which must be managed through assessing emissions and the scope for reductions, and the future availability and cost of allowances. It is also prudent that industries who are included in the ETS should prepare well in advance of the review deadline to prepare for negotiations with the Government and EPA on their allocations for 2008-2012 period.

The first step in this process is to carry out an energy and greenhouse gas emission audit to quantify emissions and the scope and cost of emission reduction strategies and projects.

The company's position with respect to the ETS can then be assessed, identifying liabilities through a shortfall in allowances or possible opportunities for reducing emissions and generating excess allowances which can be traded.

Byrne Ó Cléirigh has played a key role in climate change studies for two of the Government Departments most active in this field since the 1990s. We are well placed to assist firms to understand and meet challenge of the carbon constrained economy.

We can assist firms with managing all aspects of compliance with the EU ETS, from strategic planning and risk management, to energy auditing and energy management, management of energy projects and monitoring and reporting of emissions.

If you wish to discuss how the EU ETS and other drivers for energy efficiency may affect your operations or require further information on any of our services, please feel free to call Tom Cleary at +353-1-6770733. You may also e-mail him at [tom.cleary@boc.ie](mailto:tom.cleary@boc.ie).

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