



## **TRANSATLANTIC PLATFORM FOR ACTION ON THE GLOBAL ENVIRONMENT (T-PAGE)<sup>1</sup>**

### **Cap and Trade in Europe**

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## **1 INTRODUCTION TO THE EU ETS**

The centrepiece of European greenhouse gas mitigation policy is Directive 2003/87/EC. It establishes a Community-wide GHG emissions trading scheme that is intended to enable companies in the EU to reduce compliance costs. The ‘European Emissions Trading Scheme’ (EU ETS) officially became operational in January 2005 and applies to manufacturing industry and energy supply (around 11,500 installations in the EU’s 27 Member States), which together account for around half of the EU’s CO<sub>2</sub> emissions.

Under the EU ETS, covered facilities are issued with allowances indicating the maximum amount of CO<sub>2</sub> (other gases are eligible, but have to be opted in by each Member State, which has not happened yet) that can be emitted in any one year. If a company emits more CO<sub>2</sub> than it has allowances it can buy additional allowances on the market from companies with excess allowances, i.e. those which emitted less CO<sub>2</sub> than they were allowed. After each calendar year, installations must surrender a number of allowances equivalent to their verified CO<sub>2</sub> emissions in that year, otherwise they will have to pay a fine<sup>3</sup> for each tonne over-emitted, as well as making up the deficit.

There is a maximum of 5 per cent auctioning in the first trading period and 10 per cent in the second, at levels set by each Member State. Otherwise allowances are issued for free, using methodologies that vary by Member State, but include both grandfathering and benchmarking.

The European Commission has set out specific legislation (2216/2004/EC) for a ‘standardised and secure system of registries’ to track the issuance, holding, transfer and cancellation of allowances. Installations open trading accounts in national registries, which are linked to a Europe-wide transaction log, available on the web<sup>4</sup>. The computerised system tracks all of the transactions and any irregularities detected prevent a transaction from being completed.

## **2 THE 2005-7 AND 2008-12 TRADING PERIODS**

The current ETS Directive is divided into two trading periods, in 2005-2007 and 2008-2012. The latter is concurrent with the Kyoto Protocol’s first commitment period, where the ETS fits integrally into each Member State’s and the EU’s overall compliance with the burden sharing targets and the Protocol. The 2005-7 period was therefore seen as something of a trial run for the later period, and serious problems were evident.

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<sup>3</sup> During the first trading period 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.

<sup>4</sup> <http://europa.eu.int/comm/environment/ets/>

These problems were more than just birth pains - the process of setting allocations at national level, and the subsequent results of that process, highlight the flipside of emissions trading's image as being friendly to both environment and industry. In fact, allocation setting is a process fraught with technical difficulty and tough political choices, where industry holds an information asymmetry over regulators, and national governments can produce projections of emissions needs using opaque methodologies, designed to protect their industries.

While warnings had long been issued that allocations were too high in the first period; when verified 2005 emissions were released in 2006, the over-allocation was made plain and shocked the market – carbon permit prices plummeted from over €15/ tonne to less than €5/tonne, and by the end of the period sank to less than €1. Permit prices for the 2008-12 period had already been trading in the previous period above €12, and through the first months of the new period rose quickly to stand at €25 by mid April.

The strong price for the new period reflects the way lessons were taken from the over-allocation in the first period. To start with, having verified data in hand, it was no longer necessary to speculate about historic emissions of covered facilities. Nevertheless, in their 2008-12 National Allocation Plans, many Member States still gave generous allocations, often claiming the need to allow for strong activity growth. The Commission, however, approved all but four NAPs under the condition that total allocation levels were cut – the total cuts demanded by the Commission amounted to 10.5 per cent below what was requested. Perhaps most remarkable is the position of new Member States: for example, Latvia, Lithuania, Malta, and Slovakia collectively proposed caps that were fully 87% above 2005 verified emissions. The Commission cut these proposals back to a rise of 23%.

**Table 1: NAP2 proposals as proposed, and as accepted, compared to NAP1 caps and 2005 emissions (in Mt CO<sub>2</sub>)**

Member State	1 <sup>st</sup> period cap	2005 verified emissions	Proposed cap 2008-2012	Cap allowed 2008-2012 (in relation to proposed)	Additional emissions in 2008-2012	JI/CDM limit 2008-2012 in %
Austria	33.0	33.4	32.8	30.7 (93.6%)	0.35	10
Belgium	62.1	55.58	63.3	58.5 (92.4%)	5.0	8.4
Bulgaria	42.3	40.6	67.6	42.3 (62.6%)	n.a.	12.55
Cyprus	5.7	5.1	7.12	5.48 (77%)	n.a.	10
Czech Rep.	97.6	82.5	101.9	86.8 (85.2%)	n.a.	10
Denmark	33.5	26.5	24.5	24.5 (100%)	0	17.01
Estonia	19	12.62	24.38	12.72 (52.2%)	0.31	0
Finland	45.5	33.1	39.6	37.6 (94.8%)	0.4	10
France	156.5	131.3	132.8	132.8 (100%)	5.1	13.5
Germany	499	474	482	453.1 (94%)	11.0	12
Greece	74.4	71.3	75.5	69.1 (91.5%)	n.a.	9
Hungary	31.3	26.0	30.7	26.9 (87.6%)	1.43	10
Ireland	22.3	22.4	22.6	22.3 (98.6%)	n.a.	10
Italy	223.1	225.5	209	195.8 (93.7%)	n.k.	14.99
Latvia	4.6	2.9	7.7	3.43 (44.5%)	n.a.	10
Lithuania	12.3	6.6	16.6	8.8 (53%)	0.05	20
Luxembourg	3.4	2.6	3.95	2.5 (63%)	n.a.	10
Malta	2.9	1.98	2.96	2.1 (71%)	n.a.	tbd
Netherlands	95.3	80.35	90.4	85.8 (94.9%)	4.0	10
Poland	239.1	203.1	284.6	208.5 (73.3%)	6.3	10
Portugal	38.9	36.4	35.9	34.8 (96.9%)	0.77	10
Romania	74.8	70.8	95.7	75.9 (79.3%)	n.a.	10
Slovakia	30.5	25.2	41.3	30.9 (74.8%)	1.7	7
Slovenia	8.8	8.7	8.3	8.3 (100%)	n.a.	15.76
Spain	174.4	182.9	152.7	152.3 (99.7%)	6.7	ca. 20
Sweden	22.9	19.3	25.2	22.8 (90.5%)	2.0	10
UK	245.3	242.4	246.2	246.2 (100%)	9.5	8
<b>SUM</b>	<b>2298.5</b>	<b>2122.16<sup>[12]</sup></b>	<b>2325.34</b>	<b>2080.93 (89.5%)</b>	<b>54.61</b>	<b>-</b>

Reaction to these cuts by the Commission has by and large been positive, particularly by carbon traders and environmentalists. Some governments, however, fought with their own industry and with the Commission over the figures. Germany's Economy Minister Michael Glos initially called the cuts 'totally unacceptable,' but Germany ultimately published a revised plan as demanded by the Commission.

It remains to be seen whether second period allocations will be low enough to spur innovation and emission reduction effort, which most people agree has not been the case in the first period<sup>5</sup>. Given what appears to be a global economic downturn currently underway, emissions may fall due to decreasing activity – or they may rise as gas prices skyrocket making coal attractive. At the moment though, the current trading price seems to indicate that real scarcity is expected and the ETS is on track to providing a solid price signal.

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<sup>5</sup> Not all people share this view, for example, a paper by Danny Ellerman and Barbara Buchner, 'Over-allocation of abatement' (FEEM working paper 139.2006) indicates that real reductions may have partially contributed to the lower than expected verified emissions for 2005 which caused the price crash – however, it is not easy to simply distinguish effort from over-allocation.

### **3 PROPOSALS FOR THE POST-2012 ETS**

In January 2007 the European Commission proposed a series of targets for the EU - to reduce greenhouse gas (GHG) emissions by 20 per cent by 2020 (or 30 per cent if other industrialised countries join a post-Kyoto agreement), cut energy use by 20 percent below the baseline in 2020, and to increase the share of renewable energy in the overall primary energy supply to 20 per cent by 2020. These targets were endorsed by EU leaders in March 2007, and in January 2008 the Commission published a package of legislative proposals that convert these high-level commitments into concrete actions by Member States. One of the essential elements in achieving the GHG reduction goals was a revised ETS proposal.

The proposed changes for the post-2012 period include:

- extending the scope of the ETS to all major industrial emitters;
- the inclusion of other greenhouse gases beside CO<sub>2</sub>;
- allowances to be centrally allocated by the Commission (rather than through 27 national allocation plans);
- Increased auctioning.

Among these changes, centralized determination of the allocation by the Commission and auctioning of credits are the biggest shifts. Under the current proposal, the power sector would face full auctioning of permits from 2013, while auctioning in other sectors is to be phased in from 2013 with the aim of achieving full auctioning by 2020.

In addition, by 2010, the Commission is to identify sectors at risk of ‘carbon leakage’ (especially relocating due to competitive pressures). Based on this analysis and the state of international negotiations; in 2011 the Commission may propose measures to compensate for competitive pressures, either by increasing the free allocation of permits to identified sectors or requiring importers to buy permits to neutralise their competitive advantage. The latter is a highly controversial proposal that has already seen a formal rebuttal from the US in comments made by officials during the World Economic Forum in Davos. It is, however, favoured by the French government, which holds the rotating presidency of the EU in the latter half of 2008.

The proposal is now in the hands of the European Parliament – as with all legislation of this type. An MEP, Avril Doyle, has been designated the Parliament’s ‘rapporteur’ for the report, responsible for making an initial round of suggested amendments for consideration by the Environment Committee. Her stated aim for the timing is to have her amendments ready in the beginning of June; further amendment within the committee will be suggested by the first week of July; it should be voted on in committee by the first week of September, then by the plenary in the first week of October, after which it goes to the European Council of ministers – if it agrees with the Parliament’s version, the legislation could be finalized by the end of the year. If not, the subsequent process (second reading, possible conciliation) may run the risk of pushing into the 2009 election season, which they are currently hoping to avoid.

## **4 INCLUSION OF TRANSPORT IN THE EU ETS**

A 2007 consultation document<sup>6</sup> from the Directorate General for Energy and Transport of the European Commission reports that the inclusion of all modes of transport in the EU ETS could be envisaged, as one of several policy options to internalise the external costs of transport use. However, practical arrangements would be different for each transport mode (eg road, rail, maritime and inland waterway transport). Currently, aviation is the only mode of transport explicitly proposed for inclusion in the ETS; however shipping is also a candidate while some have even proposed the inclusion of road transport.

### **4.1 Aviation**

On 20 December 2006 the European Commission issued a proposal to include aviation in the EU Emissions Trading System from 2011. The draft was long-awaited, having been the subject of much study, including a working group of the European Climate Change Programme.

As recently as two weeks prior to publication, the proposal was reported to include important features that were ultimately dropped in the released version. Among these were a plan to auction increasing amounts of permits to the sector from one trading period to the next, starting at 10%. Further, consideration of a multiplier to account for the non-CO<sub>2</sub> impacts of aviation was deferred, awaiting separate rules on airline NOx emissions. Most importantly, initially only intra-EU flights will be covered at first, rather than all flights taking off from or landing at an EU, which is scheduled to start a year after, in 2012. Potentially including transatlantic flights has earned a warning of legal action from the US. They argue that any rules are under the authority of the International Civil Aviation Organisation, which has reserved the right to make rules on emission limitations from airplanes (but which also allows members to consider the option of emissions trading, leading to an unclear situation as to whether this can only be ‘considered’ and brought before ICAO, or actually enacted as the EU proposes).

The Commission proposes to offer the industry its allowances free of charge at a rate equal to 2005 levels beginning in 2011. This is nearly double the 1990 level, which simply recognises that the growth of the sector is not to be quickly undone. Many predict that the cost of the measure will be passed through to customers so that airlines stand to make a huge profit, by applying the marginal cost of some emissions allowance across all tickets, leading to the windfall profits as seen in the electricity industry.

According to several studies, inclusion of the aviation sector is initially unlikely to do much about the sector’s own emissions, or affect the price in the ETS significantly, as the allocation is likely to be high (ie at the 2005 level) and the proportion of needed reductions thus very low compared to the size of the market. Excluding the international flights for one year (or more, if it remains too controversial) makes this

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<sup>6</sup> TREN.A2/EM/cc D(2007) 322073, Preparation of an Impact Assessment on the Internalisation of External Costs - Consultation Document

all the more true. The effect that is more likely is intra-industry disparities, with those companies having older airline fleets being able to take advantage of buying more efficient new planes to cut emissions, and those with more business and first class passengers able to put costs of any allocations purchases on them. Both of these facts put European budget airlines, with newer planes and single class service, at a disadvantage compared to legacy carriers like BA, Air France and Lufthansa.

The European Council of ministers has issued its common position on the Commission's proposal and the Parliament is about to begin a second reading, which means a decision should be reached relatively soon.

#### **4.2 Road Transportation**

A number of Member States proposed that the European Commission's post-2012 ETS review should consider whether it would be effective to include road transport in later phases of the EU ETS. The European Commission has looked at this possibility focusing on two options - inclusion of car manufacturers and inclusion of individual motorists. A third option could be including fuel producers in the EU ETS on the basis of their fuel sales. However, no move was made for inclusion in its most recent proposals.

Inclusion of road transport in EU ETS could sit alongside other forms of direct intervention to reduce road transport CO<sub>2</sub> emissions such as policy instruments targeted at the use of biofuels, fuel efficiency, eco-driving, etc. But the interaction with these other instruments would need to be carefully considered.

In 2007 the Commission brought forward a regulatory proposal which would set mandatory targets for new car fuel efficiency, but this measure will not cover all vehicles and it will not provide incentives to reduce fuel consumption in other ways (switching to more environmentally friendly modes of transport and minimizing fuel consumption while driving). Inclusion of road transport in EU ETS could therefore have broader CO<sub>2</sub> saving impacts.

Some organizations (eg WWF) argue against the inclusion of surface transport in the EU ETS due to (i) allocation problems and ownership of emissions; (ii) market distortions and price impacts; (iii) diversion from more effective and targeted measures that would deliver real and lasting improvements in the road transport sector's own emissions; (iv) lock in on high-carbon infrastructure and behavioural choices which will be difficult or costly to reverse later on; (v) possible destabilisation of the EU ETS and distraction from other critical design aspects.

#### **4.3 Maritime transport**

Maritime transport is a global industry and as such should ideally be dealt with at a global level. However, this appears unlikely given the lack of support for effective action among Member States of the International Maritime Organisation (IMO). The European Commission stated in 2002 that unless concrete measures were forthcoming from the IMO by 2003 then the EU would consider taking unilateral action. Commission officials have subsequently indicated that a proposal for the incorporation of shipping in the EU ETS is likely to occur.

The inclusion of the maritime transport in the EU ETS is supported by an expert report<sup>7</sup> published in December 2006 by the European Commission. The report suggests that inclusion in the EU ETS would be technically feasible and is likely to be more cost effective than alternative EU instruments considered. Ship operators calling at EU ports could be required to surrender allowances for the CO<sub>2</sub> emissions associated with their voyage. However, the evidence base is at an early stage, and considerable further work is required to assess the overall cost effectiveness of this option, and the relative impacts of different design options.

In a paper on EU maritime policy from 8 April 2008<sup>8</sup>, the European Parliament's transport committee reinforced the call for maritime emissions to be incorporated into the ETS.

## 5 LINKING EMISSIONS TRADING SYSTEMS

The review of the EU ETS considered extending arrangements for linking its scheme with other emission trading schemes that are in operation or planned in third countries. Currently the EU ETS is linked to the CDM and JI, but excludes forestry-related projects.

The EU sees its system as the potential kernel of an internationally linked ETS. The reasons probably have as much or more to do with building international agreements and solidarity on climate change policy as it does with creating a better functioning and broader market. In fact there are quite some challenges to overcome in creating a link, both in terms of design and legal instruments.

On 26 October 2007, the first ETS linking agreement was signed with Norway, Iceland and Liechtenstein, after months of legal wrangling and second thoughts by the Commission, despite the systems being nearly identical to the ETS. The EU ETS Directive has now been incorporated into the European Economic Area agreement. The next step is for national approval procedures to be fulfilled in Norway, Iceland and Liechtenstein. Switzerland may represent another possibility of linking in the near future.

A potentially significant development in the harmonisation of linking took place in October 2007: a group of EU Member States, US states and Canadian provinces, together with New Zealand and Norway, met in Lisbon to give birth to the International Carbon Action Partnership (ICAP). The partnership aims to contribute to the establishment of a global cap and trade carbon market, by providing governments and public authorities that are adopting mandatory greenhouse gas emissions cap and trade systems with an international forum to share experiences and best practices.

A formal political declaration has been signed by nine EU countries (France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain and the UK), the European Commission, US states who are part of the Regional Greenhouse Gas

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<sup>7</sup> 'Greenhouse Gas Emissions for Shipping and Implementation Guidance for the Marine Fuel Sulphur Directive', December 2006

<sup>8</sup> European Parliament transport committee press release 'EU maritime policy needs more ambition, says Transport Committee'. 8 April 2008.

Initiative (RGGI), US and Canadian members of the Western Climate Initiative (WCI), and New Zealand and Norway on behalf of their emission trading programmes. Leaders attending the summit included the European Commission President José Barroso and the UK Prime Minister Gordon Brown, while the Governor of California Arnold Schwarzenegger participated through video link.

ICAP will establish an expert forum, convening regularly, to discuss relevant questions on the design, compatibility and potential linkage of regional carbon markets, identifying barriers and solutions.

## **6 FURTHER DISCUSSION**

The EU, particularly the European Commission, has been proud to set up the world's first industrial CO<sub>2</sub> cap and trade system. Despite criticism of first period over-allocation on the one hand, and arguments from some Member States about cuts to their second allocation on the other, there is overall a sense of pride at having put Europe in a leadership position with this policy.

Inevitably a functioning policy attracts attention for expansion, and it could well be that the ETS can be seen in light of the saying 'when all you have is a hammer everything looks like a nail.' With airline emissions rising precipitously and no action by ICAO, the ETS appears to be the chosen answer. With road transport rising precipitously and the voluntary agreement with car makers off track, ETS looks like a possible answer. Lacking a clear source of additional funding, CCS developers envision support via the ETS. It is certainly not the case that ETS is the only game in town, but having spent years failing to pass an EU carbon tax, and hard-to-address sectors continuing to defy policy, the ETS inevitably attracts attention.

European NGOs have maintained a fairly positive stance to the ETS, choosing to fight for its improvement rather than criticise it outright. US NGOs, meanwhile, have fought for cap and trade as a policy with teeth standing in stark contrast to the voluntary and business-as-usual Bush initiatives. But there may well be important design differences open to a new US system where the debate is already closed in Europe. Particularly with respect to the means of financing and promoting new technologies, the role of standards and obligation, and the place of taxation, it might be necessary to re-examine how emissions trading is applied.