



Including aviation in the EU Emissions Trading Scheme - Joint NGO statement on key improvements

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Summary

In this paper environmental NGOs present their views on the proposal to include aviation in the EU Emissions Trading Scheme (EU ETS).

The EU ETS will not, alone, stop the strong upward trend in the growth of emissions from international aviation. However, in order to maximise the emission savings which do take place within the aviation sector and to improve the environmental effectiveness of the EU ETS as a whole environmental NGOs ask the European Parliament and the Council to consider amendments to the draft Directive which:

- recognize that the inclusion of aviation in the EU ETS is not going to be sufficient to bring the sector's emissions down to sustainable levels and that therefore all ancillary policies options should be kept open;
- ensure that aviation delivers significant emission reductions itself before allowances from other sectors can be purchased;
- place a stringent quantitative and qualitative limit on the access to Clean Development Mechanism or Joint Implementation (CDM/JI) credits;
- address the aviation sector's full climate impact. A multiplier of at least 2 should be set until specific measures are implemented to tackle NOx emissions and the formation of aviation induced clouds;
- set a cap which does not exceed 50% of the average level of emissions in 2004/2006 for the phase ending in 2012, and which is in line with EU climate targets for phases beyond 2012;
- allocate 100% of the allowances by auction; and
- include all flights departing from and arriving in the EU in the scheme from 2010.

Introduction

Since 1990, Greenhouse gas emissions from EU international aviation have doubled, in contrast with an overall stabilization or reduction of emissions in the EU. Emissions from EU aviation now account for approximately half of the CO₂ emissions from international aviation reported by developed countries¹ and 5-12% of EU emissions². If this trend continues, growth in the EU's international aviation emissions will offset more than a quarter of the reductions required by the EU's target under the Kyoto Protocol³.

After the signing of the Kyoto Protocol in 1997, which gave the International Civil Aviation Organisation (ICAO) the responsibility to achieve a reduction or limitation on the impacts of

¹ 103,411 of 202,779 MtCO₂ e – 2002 data as reported by Annex I parties to the UNFCCC

² "Clearing the Air – the myth and reality of aviation and climate change" T&E and CAN Europe, July 2006

³ European Commission. Communication on Reducing the Climate Change Impact of aviation. September 2005

aviation on the climate, several policy options have been debated at a global level. However, ICAO Assemblies in 2001 and 2004 failed to support the use of several policy instruments, including fuel taxes or emissions charges. It was also decided that ICAO would not pursue the establishment of a global emissions trading scheme for aviation. The only option endorsed by ICAO was the inclusion of aviation in existing emissions trading schemes.

It was therefore a welcome move when the European Commission brought forward a legislative proposal to include the climate impact of the aviation sector in the EU Emissions Trading Scheme (EU ETS) by 2011⁴. This states that “*The objective of this proposal is to address the growing climate change impact attributable to aviation*”. However, significant emissions reductions from the aviation sector will not occur, at least in the short term, by including this sector in the EU scheme.

According to the Commission’s Impact Assessment, under the current proposal aviation emissions would grow by 78%, instead of 83% under a ‘do-nothing’ (business-as-usual) approach – a reduction equivalent to less than one year’s growth in emissions. In addition, the Commission estimates that the costs incurred from inclusion in the scheme will only slightly lower the demand for air travel. By 2020, demand will have grown by 135% (relative to 2005 levels) compared to 142% in the absence of a trading scheme⁵. Indeed CE Delft have estimated that the current proposal would only result in an increase in ticket prices of between €1.1 and €3.3 for a short haul round trip and an increase of €2.1 to €6.4 for a medium haul trip⁶.

Thus, the inclusion into the EU ETS will not reverse the upward trend in emissions from international aviation. Indeed, extrapolating from figures in the Tyndall Centre report from 2005 other sectors will have to make a bigger effort (80-100% reductions in their emissions) to compensate for the uncontrolled growth of emissions of aviation in a carbon constrained EU⁷.

Including aviation in the scheme should only be considered as the very first step in beginning to address the climate change impacts of aviation – complementary policies and measures are absolutely essential and should be taken forward in parallel. However, if this first step is to be at least adequate then the legislative proposal needs to be improved considerably, as outlined in this joint statement.

Key improvements

In order to maximise the emissions reductions which take place within the aviation sector and to improve the environmental effectiveness of the EU ETS as a whole the following improvements must be made to the Commission’s legislative proposal:

⁴ European Commission. Proposal for a directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community. Com (2006) 818 Final

⁵ Based on the scenario with €15 per tonne CO₂ allowance prices in the ‘Impact Assessment of the Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community’. The recent assessment by Ernst & Young, commissioned by the industry, is even more pessimistic as to what effect the policy would have on emissions

⁶ “Allocation of allowances for aviation in the EU ETS – the impact on the profitability of the aviation sector under high levels of auctioning” CE Delft, June 2007.

⁷ “Clearing the Air – the myth and reality of aviation and climate change” T&E and CAN-Europe, 2006

1) Emission reductions within the aviation sector should be ensured

In 2006 the European Parliament recognized that emission reductions are needed within the aviation sector if it is to comply with EU climate targets. The Parliament proposed the inclusion of aviation in a separate emissions trading scheme as a way to ensure those emission reductions.

The Commission, however, proposed to include aviation in the existing EU ETS, without imposing any restrictions to trading between aviation and other sectors in the scheme. As already stated - the Commission's proposal will hardly affect the massive growth in emissions from aviation that is currently expected. Moreover, given the very special character of the aviation industry and its demand, there is a real risk that aircraft carriers will prefer to buy emissions from other sectors instead of improving their own efficiency.

It is important to ensure that the Proposal contains provisions that incentivise aviation to reduce emissions itself, rather than just passing on the full responsibility to others. This can be done by directly restricting the number of allowances that aircraft operators can buy from other sectors. It can also be done by allowing aircraft operators to buy non-aviation CO₂ permits only if they have made efforts to improve their efficiency. This could be implemented by making the industry's voluntary fuel efficiency target of 50% improvement by 2020 (compared to 2000) legally binding⁸. This translates into a 3.5% fuel efficiency improvement per year.

2) Access to project credits from Clean Development Mechanism/Joint Implementation projects should be limited

It is important to note that the use of credits from CDM projects does not reduce global emissions overall. At best the CDM is a zero sum game - allowing emissions to increase in the country where the credits are being used. However there is growing concern that many non-additional projects are being approved. These are projects which would have taken place anyway and are therefore actually allowing an increase in emissions globally when they are used to 'offset' emissions else where. In the first half of 2007, for example, several articles in the main stream media referred to poor quality CDM projects⁹. Indeed, at a presentation made at the final European Climate Change Programme meeting on the review of the EU ETS, a representative of a well respected research institute suggested that between 30 and 50% of the CDM might be 'hot air'¹⁰. This lack of additionality – the backbone of the carbon markets - clearly undermines the credibility of the market as a whole.

Developed countries, who are historically responsible for the vast majority of greenhouse gas emissions, also have a moral obligation to dramatically reduce their emissions first. The EU ETS will not help us to achieve this if it continues to transfer the majority of the responsibility for tackling climate change to the developing world, thereby allowing sectors within the scheme to simply buy their way out of the problem. Concerns over the quality of CDM project credits merely add to the urgency to adopt a stringent cap on access to these credits.

⁸ <http://www.sustainableaviation.co.uk/>

⁹ "Carbon trading 'not cutting CO2'" Tom Clarke, Channel 4 News report, 7 February 2007 http://www.channel4.com/news/articles/business_money/carbon+trading+not+cutting+co2/191945#fold and "Abuse and incompetence in fight against global warming" Nick Davies, 2 June 2007, The Guardian. <http://business.guardian.co.uk/story/0,,2093836,00.html>

¹⁰ "Practical experiences with the environmental integrity of the CDM" Oko Institut, June 2007 http://ec.europa.eu/environment/climat/emission/pdf/4thmeeting/8a_lambert.pdf

Quantitative limit

The principle of complementarity should be retained in full in the Directive to include aviation in the EU ETS. A robust formula should be adopted which ensures that the overwhelming majority of emissions reductions required within the scheme are achieved within the EU. Clear and harmonised rules on access to project credits will aid business certainty by enabling companies to assess the cost of emission abatement options available to them.

Qualitative limit

To ensure that projects really are additional, have a positive sustainable development impact, and contribute towards a drive towards a low carbon economy the use of project credits within the EU ETS should be limited to those certified by the Gold Standard¹¹.

3) The climate impacts of aviation are higher than the impact of CO₂ alone and should be accounted for from the start of the scheme.

The most definitive overall assessment of knowledge of aviation emissions and their effects is the work presented by Sausen et al. (2005) on Aviation Radiative Forcing in 2000¹². One of the main outputs of this report was an update of the contribution of aviation activities to climate change - from direct emissions of carbon dioxide, water vapour, sulphate or soot particles, through to the indirect effects of nitrogen oxides emissions on the concentration of ozone and methane, to the impact on the formation of clouds (contrails and cirrus clouds). This data has been confirmed by the newest IPCC Report from this year in working group I (chapter 2.6) and implies a Radiative Forcing Index for aviation of 2.7 (i.e. that aviation emissions have a climate change impact 2.7 times higher than CO₂ emissions from land-based sources, all else equal), within a range of 2 to 5.

The latest work updates and closely confirms the findings of the 1999 IPCC special report *Aviation and the Global Atmosphere*. Although some scientific uncertainty remains as to the exact quantification of these effects, the precautionary principle as enshrined in the Treaty (Art. 174) implies that this should not be used as a reason to ignore them.

The non-CO₂ effects of aviation could be dealt with within the EU ETS, using a 'multiplier' on CO₂ emissions, or they could be dealt with outside the scheme, using flanking instruments such as NOx charges, introduced in parallel. The Commission's proposal currently states that, by the end of 2008, and after an impact assessment, it will put forward a proposal to address the NOx emissions from aviation; there is no mention of a multiplier. Until robust flanking instruments are actually introduced which address the full climatic impact of aviation, a multiplier of at least 2 should be used. As well as generating a stronger demand-side reduction in emissions, such a multiplier would serve as an incentive for the speedy introduction of more tailored instruments, while ensuring the environmental integrity of the EU ETS was maintained.

Any proposal for an instrument to address NOx emissions should cover en-route NOx emissions, not just those of the Landing and Take-Off (LTO) cycle (which anyway have a negative impact on local air quality, rather than the global atmosphere). Such an instrument should be revenue-raising (within the aviation sector), not revenue-neutral. Failure to meet

¹¹ <http://www.cdmgoldstandard.org>. An independent, transparent, internationally recognised benchmark for "high quality" carbon offset projects. This standard is restricted to renewable energy and end use efficiency projects, requires projects follow a conservative interpretation of the UNFCCC-additionality test and to provide evidence by a UNFCCC-accredited independent third party that they are making a real contribution to sustainable development.

¹² Sausen et al., 2005, Aviation Radiative Forcing in 2000: An Update of IPCC (1999), Sausen, R., Isaksen, I., Grewe, V., Lee, D.S., Myhre, G., Schumann, U., Stordal, F. and Zerefos, C., June 2005

either of these conditions would be a violation of the principle that the polluter should pay, and should be accounted for by the continued use of an appropriate multiplier within the EU ETS. Similarly, if there is any delay in the introduction of measures to address other non-CO₂ impacts beyond aviation's inclusion in the scheme, a multiplier of at least 2 should be used until such time as these measures come into force.

4) The cap should be strengthened in order to ensure that the aviation sector's contribution to emissions reductions is meaningful and fair compared with other EU ETS sectors.

Under the Commission's proposal, the aviation sector will need to cap its emissions to the average level in the years 2004-6 (the baseline). In practice, this means that the cap for the sector is set at 100% above 1990 levels, while the cap for other sectors in the EU ETS must put the EU on track to meet the EU's Kyoto target (an 8% reduction below 1990 levels). The EU has also set itself an overall goal of a 30% reduction in greenhouse gas emissions, below 1990, by 2020.

If the aviation industry is to play its part in achieving the EU's climate objectives, the sector's cap should be set at a level equivalent to the emission targets of the EU when it joins the scheme - a reduction of 8% compared to 1990. If for practical reasons the cap has to be defined with reference to 2004-2006 emissions rather than 1990, the cap would be 50% of the average emissions in 2004-2006. This should be revised downwards in phases beyond 2012 to reflect the economy wide 2020 target mentioned above.

If the baseline was weakened to an average of emissions in 2008-10, as proposed by some MEPs, this would create major market distortions and:

- would encourage an increase of flights and therefore emissions during these years (so as to maximise the number of allowances allocated);
- would create an incentive for airlines to postpone investments in emission cuts or new technologies; and
- would weaken the emission reduction, since a cap which is 100% of 2008-10 would represent an increase of more than 150%, compared to emissions in 1990.

NGOs fully support the Commission's proposal that the cap should be set at the EU level. There is no incentive for Member States to apply stringent caps to emissions from international aviation at the national level, since these emissions are not currently part of their Kyoto commitments.

5) Allowance allocation methodology - 100% of allowances should be allocated by auctioning

Auctioning

The Commission has proposed that the percentage of allowances to be auctioned (in 2011 and 2012) will correspond to the average percentage proposed by the Member States for phase II of the scheme. This is likely to be approximately only 3% of the total allocation. However, full auctioning is from an environmental, social and economic point of view the superior way to distribute allowances:

- it would not unduly damage the profit margins of airlines and would result in an extremely modest rise in ticket prices (when put into the broader context of rising disposable income)¹³;
- it constitutes the practical application of the polluter-pays principle;
- it generates revenues which can be used for climate change mitigation and adaptation measures. Indeed WWF estimates that full auctioning would generate between €3.3. and €9.8 billion per year¹⁴;
- it efficiently distributes permits without market distortions and does not penalize new entrants and rapidly-growing economies (particularly in the new Member States); and
- it completely avoids the occurrence of ‘windfall profits’ - essentially a massive capital transfer from consumers to airlines.

Free handouts of permits, through grandfathering and benchmarking, reduces incentives for airlines to seek to reduce emissions themselves. As such we advocate that 100% of allowances should be allocated by auctioning to the aviation sector. In its resolution, the European Parliament has also recognised the need for auctioning as the main method of allocation¹⁵.

It is also worth noting that several North Eastern US states in the emerging Regional Greenhouse Gas Initiative (RGGI) plan to auction high levels of allowances. Connecticut, Maine, Massachusetts and New York all plan to auction either 100% or nearly 100% of their allowances.

Benchmark based on RTK

Under the Commission’s proposal, however, airlines will receive the majority of their allowances for free via the use of an **updated benchmark**¹⁶ based on an airline’s performance in the year ending two years before the start of a trading phase. In the current proposal this performance will be assessed by multiplying the total payload of an airline (the weight carried in terms of freight and passengers) by the total number of kilometres between airports it travels. In the aviation sector this is known as ‘revenue tonne kilometres’ (**RTK**) or ‘tonne kilometres’¹⁷.

It is clear that all benchmark parameters will lead to some distributional impacts and market disruptions – there will always be winners and losers. However, if full auctioning of allowances does not receive the necessary political support then the second best option is to allocate a small percentage of allowances as assessed via an ‘output based’ benchmark such as the **RTK benchmark** proposed by the Commission which rewards early action¹⁸. Such a

¹³ “Allocation of allowances for aviation in the EU ETS – the impact on the profitability of the aviation sector under high levels of auctioning.” CE Delft, June 2007. The full report and WWF summary can be found at

http://www.wwf.org.uk/news/n_000004116.asp

¹⁴ Based on the aviation sector being allocated allowances based on emissions in 2005 (217.69MtCO₂) and an allowance price of €15 to €45.

¹⁵ EP report A6-0201/2006 on reducing the climate change impact of aviation, 1st June 2006

¹⁶ The use of an updated benchmark could actually act as a perverse incentive for ticket price reductions every five years to boost demand for air transport. So in 2008 (two years before aviation is currently due to enter the ETS) airlines might try to maximise the number of allowances they will receive by reducing their ticket prices and encouraging more people to fly. The proposal in its current form might therefore lead to an increase in emissions from the aviation sector one year out of every five.

¹⁷ In the current proposal passenger kilometers are translated into tonne kilometers by assuming an average weight of a passenger (including luggage) of 100kg

¹⁸ By allocating allowances in this way airlines will receive a share of the total amount of allowances which is in proportion to their share in total output.

benchmark which takes into account the actual weight transported by an airline multiplied by the distance between airports will best incentivise the most efficient use of aircraft e.g. for passenger flights it should encourage airlines to maximise the number of people on their flights.

Not only is this type of benchmark the best option (compared to other benchmarks) from an environmental point of view, recent research for the UK Government also showed that this also had relatively small distributional impacts amongst the airline types analysed, when compared to ‘input-based’ (discussed below) and ‘fleet age’ benchmarks¹⁹.

However, under the Commissions current proposal passenger kilometers²⁰ are translated into tonne kilometers by assuming an average weight of a passenger (including luggage) of 100 kg. This value does not take into account the weight of the seat, toilets, and other fittings and is hence not an accurate way of calculating the total tonne kilometers from passenger flights. Indeed a freight plane carrying one tonne of freight will use less fuel and hence produce less emissions than a passenger plane carrying ten passengers. Under the Commissions proposal both these flights are assumed to be carrying the same weight. Therefore, an RTK benchmark based on a conversion weight of 100 kg per passenger would mean that freight would receive a disproportionately higher volume of allowances than it was entitled to.

Some airlines, including Lufthansa and Air France, have developed methodologies to correct for this inaccuracy in their environmental reporting. Lufthansa concluded that on short-haul flights one passenger accounts for about 140 kg on average, on medium hauls 155 kg and on long hauls 173 kg. Air France arrived at figures of between 140 and 200 kg, depending on type of aircraft and load factor. An independent report proposed 160 kg as “a consensual base estimate”²¹.

Therefore, in order to further minimise the distributional impacts between passenger and freight transport and to ensure that passenger flights receive a fairer proportion of the available allowances we recommend a translation weight of 160 kg is applied²².

Benchmark based on ATK

‘Input-based’ benchmarks are also receiving some attention in the European Parliament – specifically the use of an ‘**Available Tonne Kilometre**’ (ATK) benchmark. Essentially this metric does not take into account the actual weight of freight or passengers transported by an airline. It therefore offers no incentive for airlines to make the most efficient use of their aircraft – in fact it will encourage them to do the reverse e.g. it would benefit airlines with low occupancy rates, and would therefore have a negative impact on the environment.

Special case of new Member States: baseline, cap and auctioning

It is important to determine whether new Member States, whose aviation sectors are growing faster, will be put at a disadvantage or not compared to other Member States. The key issue here

¹⁹ “The impacts of the use of different benchmarking methodologies on the initial allocation of emissions trading scheme permits to airlines” Final report to DfT Aviation and Environmental Division and the Environment Agency, CE-Delft and Manchester Metropolitan University, July 2007.

<http://www.dft.gov.uk/pgr/aviation/environmentalissues/benchmarkingmethodologies/>

²⁰ Passenger-kilometre is a transport activity indicator – one passenger-kilometre represents the transport of one passenger for the distance of one kilometre.

²¹ CE Delft, 2002. Economic Incentives to Mitigate Greenhouse Gas Emissions from Air Transport in Europe

²² Indeed, of the different benchmarks assessed by CE-Delft and Manchester Metropolitan University in their study for the UK Government, the RTK benchmark with a passenger weight of 150 kg was one of the two benchmarks which had the smallest distributional impacts.

is not the level of the cap or the year of the baseline, since these decisions will affect all the airlines across Member States to the same extent, regardless of their rate of growth (see overleaf for a further explanation). The key issue is the way allowances are distributed. For example the use of benchmarks (which as a necessity have to be based on historical data) would favour airlines/flights in existence in the benchmark year.

Once again, full auctioning is the best method since it eliminates any market distortions, does not prejudice new entrants or the fastest growing airlines.

Several MEPs, particularly from new Member States, have voiced the fear that the baseline proposed by the Commission (2004 to 2006) would disadvantage their fleets in comparison to others. In this context it is important to note that only the overall cap is based on emissions in the baseline year. The benchmark which decides how permits will be allocated (if not all permits are auctioned) will be calculated based on emissions from a later date, in 2008, if the scheme starts in 2010. Therefore, the new member state airlines would not be disadvantaged over other Member States with regards to the overall cap. A baseline set in the future however, would produce the perverse incentive of encouraging airlines to pollute more in those years leading up to the baseline, and would have no impact on minimising the distributional impacts of the benchmark.

6) All flights departing and arriving in the EU should be included from 2010. No special treatment of within the scheme for the outermost regions

Analysis by the Commission confirms that the option of including all departing and arriving flights into the scheme would give the biggest environmental benefits, and would not introduce distortional effects in terms of competition between airlines, airports or tourist destinations. Nor, in the Commission's view, would it be counter to any international treaties or agreements. The Commission's proposal states that intra-EU flights will be included in 2011 and that all flights arriving at or departing from an EU airport will be in the scheme by 2012. There is no legal or political justification for this two-step approach, and certainly none on environmental grounds, since an intra-EU scheme would cover only approximately 25% of emissions of all flights in the EU.

We advocate that all flights departing from and arriving in the EU should be included in the EU ETS from the start of the scheme and that a more ambitious start date of 2010 should be set.

NGOs recognize that inclusion in the scheme may have greater consequences for the flights to and from the outermost regions, due to their specific natural and economic conditions e.g the small number of passengers and their dependency on these flights. Given this, some MEPs are proposing the exclusion of these flights from the scope of the scheme. However, such a move would weaken the EU ETS and set a dangerous precedent, not least for the international negotiations associated with the inclusion of non-EU carriers²³. Given the special character of these regions, most of these flights are protected from closure by existing public service obligations and are often the recipients of subsidies²⁴. In our view, these instruments offer adequate support to these 'lifeline' flights.

²³ Note that the EU is 'fighting' to keep its ability to include carriers from third countries in the scheme. It does not seem to be coherent to call for the inclusion of flights to/from developing countries (for example, in Africa) and the exclusion of flights to some EU regions.

²⁴ "Outermost regions: European Commission authorises social aid for air passengers" IP/05/455 European Commission press release

7) Parallel and complementary policies and measures

It should be recognized in the EU ETS Directive's text that the inclusion of aviation into the scheme should only be seen as the first step in addressing the climate change impacts of the sector. Other policies and measures are needed, as the European Parliament recognised in its resolution of June 2006.

Parallel and complementary measures should include:

- a kerosene tax on fuel for domestic flights, and where there is agreement a tax on fuel on flights between two member states;
- the immediate ending of VAT exemption, for example with a tax on air tickets;
- en-route NOx emissions charges (once the current ICAO moratorium expires in October of this year);
- capacity constraint measures;
- a concrete proposal on tackling contrail-formation, where appropriate. Work to quantify the impacts of contrails and contrail cirrus and to determine appropriate Air Traffic Control measures to mitigate them should be prioritised; and
- improved air traffic management systems and more direct routing.

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