



## **CAN position paper Emissions from international aviation and shipping November 2009**

*Climate Action Network – International is a coalition of roughly 500 environmental and development non-governmental organizations worldwide committed to limiting human-induced climate change to ecologically sustainable levels.*

### **Summary**

International aviation and shipping emissions are a substantial and fast-growing source of emissions. They were left out of the Kyoto Protocol because Parties were unable to agree a methodology for allocating emissions to individual countries. Since the debate on allocation remains unresolved, CAN believes the most promising method for including these emissions is to pursue a co-operative sectoral approach, with Parties collaborating to reduce emissions that occur in international space.

There are a number of advantages to such an approach:

- Greater environmental effectiveness of global sectoral policies, due to increased coverage of emissions and reduced possibility of carbon leakage;
- The potential to raise substantial revenues for financing climate work under UNFCCC;
- Removal of the need to resolve the question of how to allocate emissions to Parties. Unresolved debate on this issue in SBSTA has stalled progress at UNFCCC for 15 years.

Global policies clearly raise concerns over equity, as operators from developing countries will, as a first principle, be treated the same as those from developed countries – in line with the principles of 'flag neutrality' and 'non-discrimination' that operate at IMO and ICAO. This paper describes how these concerns can be met, and the policies reconciled with the principle of common but differentiated responsibilities and respective capabilities, by:

- Guarantees that revenue will be spent in developing countries, to cover any incremental costs incurred under this approach and to fund climate actions. The majority of revenues would be managed by a consolidated fund under the authority of and fully accountable to the COP. A proportion would be set aside to assist developing country operators with technology and administrative costs;
- A system of exceptions and thresholds that exempts traffic to and/or from the Least Developed Countries and Small Island States (since these emissions are a tiny fraction of the problem), without causing significant carbon leakage or trade distortion;
- A clause allowing for review and adjustment of the scheme after a number of years if any adverse impacts on developing countries have been observed.

The rest of the paper sets out key issues that need to be resolved at COP15 and beyond, and explains the rationale for the policy and equity safeguards in greater detail.

### **What needs to be agreed in Copenhagen, and beyond?**

COP 15 should agree the principles and ambition levels of a global sectoral approach to bunkers, and request ICAO and IMO to establish a work programme to develop detailed recommendations, reporting to UNFCCC. All key political and environmental questions should be settled by COP 16, and the measures formally adopted at COP 17, with entry into force at the beginning of the second commitment period in 2013. In detail, the timetable of decisions would be as follows:

The Copenhagen agreement should include:

- The principle that co-operative sectoral approaches should cover all international aviation and maritime transport, with exemptions for traffic to and/or from LDCs and SIDS;

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- The principle that revenues raised from sectoral approaches to bunker fuel emissions would be spent exclusively in developing countries to cover any incremental costs incurred under this approach and to fund climate actions;
- The level of the emissions cap or caps;
- Empowerment of a body under the authority of the COP to generate and auction allowances (or administer a levy), and oversee distribution of revenues;
- The principle of a review of the scheme, designed to minimise any observed negative consequences for developing countries and any distortions of trade.

COP15 decisions should further specify:

- A timetable for development and adoption of measures (based on any available recommendations by ICAO and IMO);
- Process to develop accounting methodology, and appropriate mitigation policies for the non-CO2 impacts of aviation.

Based on any available recommendations by ICAO and IMO, COP 16 decisions should agree:

- The specific mechanism for each sector, eg levy / ETS;
- The nature and level of thresholds to exempt traffic to and/or from LDCs and SIDS without causing significant carbon leakage through trade distortion;
- The proportion of revenues set aside to assist developing country operators with technology transfer and administrative costs (to be managed by IMO and ICAO).

COP 17 would then be in a position for formal adoption of fully-developed sectoral policies to reduce greenhouse gas emissions from international aviation and maritime transport.

## **Analysis and Argument**

### **Context**

Emissions from international aviation and shipping are substantial and rapidly-growing sources of emissions. Two recent authoritative studies give projections for the global aviation and marine sectors of 1.8 – 2.6 Gt CO<sub>2</sub>e and 2.7 – 3.6 Gt CO<sub>2</sub>e respectively in 2050 (even without any additional weighting to account for the non-CO<sub>2</sub> effects of aviation, which approximately double its impact). These numbers are a cause for alarm in the context of a global carbon budget of 7.2 Gt CO<sub>2</sub>e in 2050. Furthermore, measures must be developed to tackle the full climate impact of aviation, in accordance with Article 3.3 of the Framework Convention.

In both sectors the portion arising from international transport, which is so far totally unregulated, represents the majority of emissions. If not included in the global efforts to tackle climate change, GHG emissions from international aviation and maritime transport would undermine the reductions achieved in other sectors.

ICAO and IMO were given responsibility for limitation or reduction of GHG emissions by the Kyoto Protocol. To date they have only been able to discuss aspirational efficiency measures. Binding measures that cap absolute emissions are necessary to stay within a global carbon budget, since in both sectors the growth in traffic will outweigh any technological progress or fuel efficiency gains. UNFCCC, with its role in overseeing climate protection, is the appropriate body to set these caps and review them as necessary. In addition, since the bulk of revenues will be used to finance climate change mitigation and adaptation, in order to achieve the ultimate objective of the Framework Convention, UNFCCC is the appropriate body to raise, manage and distribute revenues accruing from international transport.

### **Global sectoral approaches that respect the principle of CBDR**

Aviation and shipping are inherently global industries, and policies to reduce their emissions should ideally be global as well, in order to minimize the risk of competitive distortion and carbon leakage, as well as to respect the principles

of equal treatment of operators that apply in IMO and ICAO. Under global emissions trading schemes, or levies on fuel or emissions, obligations would fall not on Parties but on private entities operating largely in international waters or airspace. Therefore, emissions from maritime transport and aviation would not be integrated into Parties' commitments.

Note that global sectoral approaches are appropriate in the bunker sectors, given their trans-boundary nature and the difficulty of setting emissions reduction obligations for Parties in these sectors. But we stress that sectoral approaches should not replace economy-wide emissions reduction obligations for developed country Parties *in any other sector*. Nor should the inclusion of these emissions in a global scheme affect Parties' sovereign rights to levy taxes at a national level or apply other measures as they see fit.

Implementation of such a co-operative sectoral approach to bunker emissions would be a modality of Article 4.1(c) of the Convention. However, Article 4.1 stipulates that such approaches should respect the principle of common but differentiated responsibilities, and Article 4.3 states that developed country Parties should meet the incremental costs to developing country Parties of participation in such schemes.

Schemes must be designed with these provisions in mind, and we propose three 'equity safeguards' to ensure global policies are in line with the principles of the Convention:

**1. De minimis thresholds:** To minimize the potential negative consequences of global sectoral approaches on the most vulnerable developing countries, *de minimis* thresholds should be applied. The effect of these thresholds should be to exempt traffic to and/or from SIDS and LDCs, without causing distortions of other traffic flows. Note that policies should not exempt operators *registered in* SIDS and LDCs, as many ships trading largely between developed countries fly flags of third countries – often SIDS or LDCs. Nor should they exempt routes wholesale, as this could lead to carbon leakage, for instance by ships making an extra port call. Rather they should specify a minimum level of traffic for a route to be included, such that normal traffic on routes to SIDS and LDCs is exempted, but attempts to game the system by big operators would destroy any benefit of doing so.

In practice, as specified already for the inclusion of aviation in the EU ETS, a series of interlocking thresholds would be applied and these would be the subject of detailed negotiation. Options include thresholds which exempt:

- Routes to and/or from the most vulnerable developing countries;
- Operators who fly less than a given frequency or transport less than a given tonnage of goods;
- Aircraft/ships below a certain size.

**2. Transfer of revenues to developing countries:** In order to ensure that developing countries, and especially the most vulnerable, are beneficiaries from global sectoral approaches, policies should be designed to raise revenue, either through auctioning of permits under an ETS, or via levies, and this revenue should be spent exclusively in developing countries to cover any incremental costs incurred under this approach and to fund climate change mitigation or adaptation actions. Under a global scheme, operators would expect to pass on any increased costs to consumers, and as around two-thirds of sea-borne trade is imports to developed countries, and the majority of international air passengers are from developed countries, this revenue would ultimately come in large part from consumers in the developed world.

A proportion of this revenue should be made available to developing country governments, to cover any incremental costs incurred by this approach and to assist operators with the administrative costs of participation in the scheme. A further element should be used for the transfer of clean technology to developing country operators (under programmes already operated by IMO and ICAO). The remainder – in practice the majority – should be paid into a consolidated fund under the authority of the COP and used to fund developing countries' mitigation and adaptation actions.

In order to ensure transparency and predictability, revenues should be raised and managed by an international body with equitable representation, rather than by national governments. Bodies and funds under the authority of the COP should be given these functions.

**3. Review of observed consequences:** The safeguards above are designed to minimise negative consequences for the most vulnerable developing countries from the outset, and to ensure that developing countries are net beneficiaries. In addition, after a minimum of 3 years of operation, and if requested by a given number of Parties, global policies could be subject to a review to assess whether there have been observed negative consequences for developing countries or distortions of trade. If this is found to be the case, global policies should be amended accordingly.

## Mechanics of bunker policies: targets and potential revenues

There are two main proposals for co-operative sectoral policies to reduce emissions from international transport: an Emissions Trading Scheme (ETS) or a levy on fuel (for maritime transport). This section describes how the two policies would work, and gives an indication of the revenue that could be raised, under different assumptions about the targets faced by the sectors. To avoid double-counting, Parties should specify that where operators' emissions were covered by a global scheme of sufficient stringency, they would be exempt from any national or regional schemes.

**Emissions Trading Scheme:** the Copenhagen Protocol would include a cap for the sectors, and a body under the COP would be empowered to distribute emissions allowances up to that cap, with 100% of allowances auctioned. (Free allocations greatly increase administrative complexity, particularly in the shipping sector, reduce the potential revenue and allow operators to generate windfall profits). Aircraft and ship operators would then have to surrender permits to cover their actual emissions, with MRV of the scheme implemented by ICAO and IMO.

Where emissions exceed the cap, carbon credits brought from other sectors covered by ETS could be used for compliance. In other words, the aviation and shipping trading schemes would be linked to other existing carbon market mechanisms. In addition, some access could be granted to the CDM market, but in order to ensure the environmental integrity, there should be a limit on the extent to which CERs can be used for compliance

**Levy:** a levy would be charged on all marine bunker fuel at the point of sale, and ships could be required to demonstrate that they had paid the levy on all fuel consumed in the 60 days prior to touching at a port. The level of the charge would be set by a body under the COP, levied by suppliers of marine bunker fuel and returned by them to the fund under the COP. The fund would purchase carbon market credits so that net emissions from the shipping sector met the agreed cap, a proportion would be set aside for technology and administrative costs, and the remainder would be used to fund developing countries' mitigation and adaptation actions.

Under each of these proposals, the sectors would contribute to climate protection in two ways. The revenues from the levy or auction of permits would be a significant source of market-linked finance mitigation and adaptation in developing countries. In addition, if caps are set in line with necessary global reductions, aviation and shipping companies are likely to be net buyers of carbon credits, helping to drive mitigation via the carbon markets, *inter alia* because this extra demand would cause the prices of carbon credits to increase.

The scale of the market-linked finance stream would depend on the auction price (which would tend to match the price in the open market), the cap, and the extent to which auctioning was used to distribute allowances. Tougher caps would mean more purchase of credits and less revenue generated through the auction, but the total cost to the industry would be the same.

As a first principle, we recommend that caps for the sector should be in line with those for developed countries, ie at least 40% below 1990 levels by 2020. An alternative is a cap in line with the required global reduction, ie a return to 1990 levels by 2020.

Table 1 below shows historical and forecast levels of bunker emissions. Table 2 estimates the potential revenue from an ETS under these two scenarios, assuming a price of \$30/tCO<sub>2</sub> both for the auction and the purchase of credits on the carbon market. (In the case of a levy, if set to reflect the carbon content of the fuel at \$30/tCO<sub>2</sub>, revenues accruing to the CCF would be the same, since all emissions would effectively be charged at \$30/tCO<sub>2</sub>, and a proportion of this revenue would then be used to buy offset credits down to the cap.)

**Table 1. Global emissions from international aviation and shipping**

<i>Year</i>	<i>Emissions (MtCO<sub>2</sub>)</i>
1990	783
2005	1,184

2020	1,630
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Sources: IEA (historical data); IMO and ICAO (forecasts)

**Table 2. Potential revenues from global mitigation policies**

	<i>Cap, ie allowances auctioned (MtCO<sub>2</sub>)</i>	<i>Auction revenue in 2020</i>
<i>Cap</i>		
1990 -40%	470	\$14.1 bn
1990 levels	783	\$23.5 bn

Source: CAN calculations

As can be seen from table 1 & 2, policies to tackle emissions from the two sectors could make a significant contribution to international climate financing. As an illustration, if 10% of auction revenues went to assist developing country operators with technology transfer and administrative costs, a remainder of between \$12.7billion and \$21.2 billion of additional public finance would be generated annually by 2020. A proportion may need to be rebated to developing countries to cover any incremental costs, but a large fraction represents Annex I costs and would remain under any scenario to fund climate change adaptation and mitigation actions in developing countries. The sectors would also finance additional mitigation via the carbon markets, both by increasing demand and therefore price within existing ETS, and by purchasing CDM credits – although note that the sectors' access to CERs should be limited. The flows of finance through the markets are likely to be to the benefit of developing countries.