

## International Bunkers - Briefing Paper

### Summary

This paper describes a change in the approach to international bunker emissions from that taken in Treaty Version 1.0.

Version 1.0 called for the inclusion of international aviation and shipping emissions in the national totals of Annex I Parties, as well as the development of global sectoral policies. We acknowledge that it is more practical to pursue only one of these options, and we have chosen sectoral policies over inclusion in national totals, for the following reasons:

- 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, so that developing countries as a group are substantial net beneficiaries. The majority of revenues would be spent through the Copenhagen Climate Facility, with a proportion 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);
- 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 explains the rationale for the policy and equity safeguards in greater detail.

### Key asks for 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 Protocol should include:

- The principle that co-operative sectoral approaches should cover all international transport, except that to and/or from LDCs and SIDS;
- The principle that revenues raised from sectoral approaches would be spent exclusively in developing countries;
- The level of the emissions cap;
- The creation of a Bunker Carbon Board, as part of the Copenhagen Climate Facility, 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 the most vulnerable developing countries.

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;
- The full legal competencies of Bunker Carbon Board, including representation on an equitable geographical basis;
- 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 should then be in a position for formal adoption of fully-developed sectoral policies to reduce greenhouse gas emissions from international 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 agree voluntary efficiency goals. Binding measures that cap absolute emissions are



necessary to stay within a global carbon budget, since in both sectors technological progress will be outweighed by the growth in traffic. 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 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.

We stress that global sectoral approaches are only appropriate in the bunker sectors, given their trans-boundary nature, and should not replace QERCs for developed country Parties *in any other sector*.

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. 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.

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. 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 assist operators from developing countries 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 large majority - should be distributed by the Copenhagen Climate Facility to fund activities set out in developing countries' LCAPs and NAPAs.

In order to ensure transparency and predictability, revenues should be collected and managed by an international body with equitable representation, rather than by national governments. Therefore, COP15 should establish a Bunker Carbon Board as part of the Copenhagen Climate Facility, which would set targets for the sectors, auction permits or administer a levy, and distribute revenue according to the principles set out above.

**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 as a whole 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. 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.

**Emissions Trading Scheme:** the Copenhagen Protocol would include a cap for the sectors, and establish a Bunker Carbon Board (BCB), 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 back to the BCB. Where emissions exceed the cap, carbon credits brought on the international market could also be used for compliance. In other words, the aviation and shipping trading schemes would be linked to other existing carbon market mechanisms.

**Levy:** a levy would be charged on all marine bunker fuel at point of sale. The level of the charge would be set, and the revenues collected, by the BCB. The BCB 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 activities set out in developing countries' LCAPs and NAPAs.

Under each of these proposals, the sectors would contribute to climate protection in two ways. As actual emissions are likely to exceed the cap, aviation and shipping companies would be 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 large majority of this mitigation is likely to take place in developing countries. In addition, the revenues from the levy or auction of permits would be a significant source of market-linked finance mitigation and adaptation in developing countries.



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**

Year	Emissions (MtCO <sub>2</sub> )
1990	783
2005	1,184
2020	1,630

Sources: IEA (historical data); IMO and ICAO (forecasts)

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

	Cap, ie allowances auctioned (MtCO <sub>2</sub> )	Auction revenue in 2020	Purchase of market credits in 2020 (MtCO <sub>2</sub> )	Value of market credit purchase in 2020 (\$bn)
Cap				
1990 -40%	470	\$14.1 bn	1160	\$34.8 bn
1990 levels	783	\$23.5 bn	847	\$25.4 bn

Source: own calculations



As can be seen from the tables above, policies to tackle emissions from the two sectors could make a significant contribution to meeting international climate financing commitments. As an illustration, if 10% of auction revenues went to assist developing country operators with technology transfer and administrative costs, a remainder of between \$12.7 billion and \$21.2 billion would be generated for the Copenhagen Climate Facility annually by 2020.

The sectors would also finance additional mitigation via the carbon markets. As the majority of international transport emissions are related to Annex I activity, but the majority of carbon market-finance activity is in non-Annex I countries, this would also represent a net flow of finance from developed to developing countries (albeit not one that can be counted towards Annex I finance commitments).



## Legal Text

### Article X of the Copenhagen Protocol

x.1 Pursuant to Article 4.1 (c) of the Convention, Parties shall co-operate to develop a global sectoral regime to control emissions of GHG not controlled by the Montreal Protocol from international maritime transport and international aviation, such that they do not exceed [xx] million tonnes in 2020.

x.2 In establishing the schemes set out in Paragraph 1, Parties shall strive to minimize the potential negative consequences for the most vulnerable developing country Parties. In particular, Parties shall

- a) apply *de minimis* thresholds that exempt transport of goods and passengers to and/or from the most vulnerable countries whilst maintaining equal treatment of all operators on routes covered;
- b) ensure that revenues accruing from such schemes are made available to developing country Parties, in order to:
  - i) assist with the administrative costs and transfer of clean technology to developing country operators participating in such schemes;
  - ii) finance work to achieve the ultimate objective of the Convention by funding activities set out in developing countries LCAPs and NAMAs, as deemed appropriate by the Copenhagen Climate Facility;

and

- c) allow for a review of observed negative impacts of such schemes, after a minimum of three years of operation and at the request of at least [x]% of Parties, and the potential adjustment of such schemes on the basis of the review.

x.3 A Bunker Carbon Board is hereby established. The Bunker Carbon Board shall have responsibility for administration of the schemes referred to in Paragraph 1. Its functions shall include, inter alia:



- creation of bunker carbon units up to the level specified in Paragraph 1;
- auction of bunker carbon units to aircraft and/or ship operators engaged in international transport or administration of a maritime levy;
- monitoring of said operators' emissions and ensuring compliance with the cap;
- management of revenues, including to assist with the administrative costs and transfer of clean technology to developing country operators; and to the Copenhagen Climate Facility.

x.4 The schemes set out in Paragraph 1 shall be adopted by CMCP 2, based on any available recommendations by ICAO and IMO.

## Decision by COP15

The Conference of the Parties,

*stressing* the urgent need to control fast-growing greenhouse gas emissions from international transport,

*requests* the International Civil Aviation Organisation and the International Maritime Organisation to adopt working arrangements to ensure the rapid implementation of Article X of the Copenhagen Protocol, and make recommendations on the mechanisms referred to therein in time for COP16;

and

*recognising* that aviation causes significant warming of the climate system over and above its emissions of carbon dioxide,

*recalling* Article 3.3 of the Framework Convention,

*requests* the Intergovernmental Panel on Climate Change to review and update the scientific knowledge related to the non-CO<sub>2</sub> impacts of aviation, with a view to developing a metric that allows these impacts to be counted towards the global carbon budget, and to ensure that aircraft operators cover their full climatic impact when purchasing credits to offset emissions.