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**COMMISSION STAFF WORKING DOCUMENT**

**EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT**

*Accompanying the document*

**PROPOSAL FOR A DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF  
THE COUNCIL**

**amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission  
allowance trading within the Community in view of the implementation by 2020 of an  
international agreement applying a single global market-based measure to international  
aviation emissions**

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#### **PROPOSAL FOR A DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

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#### **1. PROBLEM DEFINITION**

##### **1.1. Insufficient uptake of market-based measures to address the strong emission growth in international aviation**

The EU is strongly committed to achieve the climate objective of limiting global average temperature increase to less than 2 degrees Celsius above pre-industrial levels. To this end, one of the headline targets of the Europe 2020 Strategy for smart, sustainable and inclusive growth is to reduce greenhouse gas emissions by at least 20% compared to 1990 levels. The limitation of greenhouse gas emissions from aviation is an essential contribution in line with this commitment.

According to the International Energy Agency, global CO<sub>2</sub> emissions from civil aviation amount currently to about 2.5% of total CO<sub>2</sub> emissions. Looking forward, the International Civil Aviation Organisation (ICAO) forecasts that by 2036 international aviation emissions will increase between 155% and 300% compared to 2006, depending on the level of technological and operational improvements. The international aviation's share of total CO<sub>2</sub> emissions is projected to reach at least 4% by 2050 without any further mitigation measures.

As the potential for emissions reduction from new technologies and operational practices is limited in the aviation sector, it is necessary to use market-based measures (MBM) to ensure that aviation contributes its fair share to global emission reductions. MBMs allow the aviation sector to off-set its strong emission growth by funding emission reductions in other sectors at lower abatement costs.

The EU led the way in implementing MBMs by including aviation activities in its Emission Trading System (EU ETS). Despite its positive environmental effects at low economic costs, the implementation of the EU ETS has had to face significant international opposition (see section 1.2.1). A number of states have opposed the EU ETS alleging that it would cover a too high share of international emissions and that the EU would have no competence to oblige operators from 3<sup>rd</sup> countries to participate in the EU ETS. These claims were, however, dismissed by the European Court of Justice (ECJ).

Irrespective of the international opposition, the EU ETS, as it only covers about 50 % of international aviation emissions, will not be sufficient to stop the strong global growth of aviation emissions ahead. Therefore, even with the EU ETS in place, a global "gap" in coverage of international aviation emissions remains because no other regions apart from the EU have implemented MBMs.

The insufficient uptake of MBMs and the strong opposition against the EU ETS have been caused by the absence of a global political agreement: It has neither been possible up to now to establish a clear commitment to the development of global MBM at ICAO nor could an agreement have been found on generally accepted principles for the implementation of regional MBMs, such as the EU ETS.

## **1.2. EU action in a difficult international environment**

### *1.2.1. Integration of aviation into EU Emission Trading System (EU ETS)*

Directive 2008/101/EC amended the EU ETS Directive 2003/87/EC to include aviation within the scope of the EU ETS:

- Participation of all Member states from the European Economic Area (EEA) – including Iceland, Norway, and Liechtenstein.
- Coverage of total emissions from flights that depart and arrive at EEA aerodromes (hereafter "intra-EEA flights") and from flights that depart from EEA aerodromes to 3<sup>rd</sup> countries or arrive at EEA aerodromes from 3<sup>rd</sup> countries (hereafter referred to as "extra-EEA flights").
- Emission cap at 95 % of average historic aviation emissions from 2004 to 2006.
- Obligation for aircraft operators to start emissions reporting in 2010 and full compliance – including surrendering of allowances – from 2012 onwards.

However, the inclusion of flights to and from 3<sup>rd</sup> countries in the EU ETS encountered strong international opposition:

- The Air Transport Association of America (ATA) and major US airlines challenged the legality of the EU ETS arguing, among others, that it would be contrary to customary international law to apply the EU ETS to those parts of a flight that took place outside the airspace of EEA countries. The ECJ rejected those claims and confirmed that the EU had the competence to extend the EU ETS to the full distance of flights which depart or arrive at EU airports.
- The so-called "coalition of the unwilling" – including among others China, India, Russia, and USA – signed two declarations opposing the EU ETS alleging that it would be contrary to international law and should not apply to aircraft operators registered in their countries.
- Chinese mainland airlines and most Indian airlines have since 2011 not complied with the EU ETS.
- In 2012, the US Congress passed the Emissions Trading Scheme Prohibition Act ("Thune Bill") which would allow the US Administration, following public consultation, to issue an order that US-registered airlines should not comply with the EU ETS. No such order has been proposed so far.

### *1.2.2. Recent developments in the run-up to the 2013 ICAO Assembly*

The EU has a strong history of multilateralism and has continuously sought to move forward the ICAO action on MBMs. To facilitate the negotiations in the run-up to the 2013 ICAO Assembly, the EU adopted the "stop-the-clock" decision No. 377/2013/EC to temporarily defer the enforcement of the EU ETS compliance obligations for flights to and from most 3<sup>rd</sup> countries for 2012.

This has created momentum for the 2013 ICAO Assembly to move forward on the development of a global MBM and an agreement on a framework for national and regional

MBMs (hereafter "MBM Framework") that would apply until a global MBM is implemented in 2020.

- EU Proposal for roadmap to global MBM

EU Member States have proposed that the 2013 ICAO Assembly should decide on a binding roadmap for the development of a global MBM. The work on the design elements for a global MBM should be completed by the ICAO Assembly in 2016 and the global MBM should be implemented by 2020.

The International Air Transport Association's (IATA) Annual General Meeting on 3 June 2013 approved a resolution with an overwhelming majority in favour of such a roadmap towards a global MBM.

- Compromise on the geographic scope for a regional or national MBM

The MBM Framework should provide guidance to ensure the consistent application of national and regional MBMs. A key issue relates to the coverage of international aviation emissions under a national or regional MBM. Many ICAO Member states would prefer a MBM Framework to limit a regional MBM to emissions within the region in question. In a spirit of compromise and provided the level of ambition on the global MBM is high, the EU Member States expressed their openness to a reduced geographic coverage for regional schemes in advance of the application of the global MBM in 2020.

### *1.2.3. Outcome of the 2013 ICAO Assembly*

The ICAO Assembly adopted the proposed roadmap to a global MBM in 2020. However, no compromise could finally be found on guidance for regional MBMs to be applied in the meantime. The EU Member States rejected – as in previous ICAO Assemblies – the claim by other States that a regional MBM must be subject to the agreement of those States whose airlines operate in the States applying an MBM.

## **1.3. Baseline scenario: Continuation of full-scope EU ETS**

Even though the EU ETS only puts small costs on the aircraft operators and the ECJ has unequivocally confirmed the legality of the coverage of all departing and arriving flights, it cannot be expected that international opposition would cease if the EU ETS were continued in its full scope. An application of the EU ETS in its full scope from 2013 onwards may therefore risk obstructing future ICAO negotiations on the development and implementation of MBMs.

## **2. OBJECTIVES**

The general objective – to ensure the contribution of the aviation sector to reducing the impacts of climate change – has not changed since the integration of aviation into the EU ETS. Furthermore, as arguably strongest proponent of multilateral action, the EU has put international cooperation and global solution at the fore-front of its policy-making.

The specific objectives are twofold:

- Facilitation of the development and implementation by 2020 of a global MBM covering all emissions from international aviation;
- Continuation of the EU ETS to cover emissions from all flights departing or arriving in the EEA, pending the implementation of a global MBM in 2020.

The results of the public consultation confirm that all stakeholders – industry, public authorities, and NGOs – strongly agree to the use of MBMs in the aviation sector.

The options for amendments of the EU ETS after the 2013 ICAO Assembly should deliver on the following operational objectives:

- Maintain environmental effectiveness
- Do not decrease competitiveness of aviation sector
- Maintain level playing field in the internal market for aviation
- Limit additional administrative costs
- Ensure coherence with international law and with non-binding ICAO Assembly resolutions, insofar as consistent with EU statements on such resolutions.

The environmental effectiveness, low administrative costs, and political acceptability are the main considerations that stakeholders have put forward in the public consultation.

### **3. POLICY OPTIONS**

As stated in the "stop-the-clock" decision (see section 1.2.2), the EU will consider after the 2013 ICAO Assembly whether changes to the EU ETS are required to allow for an optimal interaction between the EU ETS and the ICAO Assembly outcome.

#### *3.1.1. Full-scope EU ETS*

A continuation of the full-scope EU ETS means that aircraft operators remain responsible for all emissions from flights departing from or arriving at EEA airports.

#### *3.1.2. Hybrid option*

Based on the proposal for a MBM Framework that was supported by major aviation countries in the run-up to the 2013 ICAO Assembly but eventually not agreed at the Assembly, a regional MBM should be based on the following geographical scope:

- Full coverage of emissions from all flights that arrive and depart within a group of States, plus
- A proportion of the emissions from flights that arrive from or depart to 3<sup>rd</sup> countries outside the group of States, in relation to the total distance travelled across areas associated with the group of States (e.g. for a flight between Paris and Beijing, the EU ETS would cover the distance over EEA states to and from the border with a 3<sup>rd</sup> country, in this case Russia).

If the EU ETS is aligned to this scope it will be possible to maintain the full coverage of emissions from intra-EEA flights but the coverage of emissions from extra-EEA flights will be cut back in proportion to the distance travelled within the EEA (hereafter "hybrid option"). Various approaches exist with regard to the coverage of distances travelled over the sea (e.g. territorial sea, which extends up to 12 nautical miles (nm) from the coast, or Exclusive Economic Zone (EEZ), which extends up to 200 nm from the coast).

#### *3.1.3. Alternative options*

Besides the hybrid option, the following alternative options have been considered:

- Departing-flights option: All intra-EEA flights are covered but only the departing flights to non-EEA countries. This approach was the EU's initial proposition for the geographic scope of the MBM Framework but rejected by a large number of ICAO Member states.

- 50/50 option: As shown by the public consultations, the majority of environmental NGOs are in favour of limiting the EU ETS coverage to 50 % of the departing and arriving flights for extra-EEA flights. However, this option has never been discussed at ICAO.
- A general exemption of extra-EEA flights (similar to the "stop-the-clock" decision) would only leave intra-EEA flights covered.
- Upstream option: A switch to an upstream system would make fuel suppliers the compliance entity instead of aircraft operators. This option would have similar emission coverage to the departing-flights option because fuel suppliers would surrender allowances corresponding to fuel sold to EEA airports. To avoid windfall profits for fuel suppliers, no free allowances would be given out but all allowances will be auctioned.

## **4. ASSESSMENT OF IMPACTS**

### **4.1. Environmental impact**

The hybrid and alternative options reduce the emission coverage to a range of 25 % to 62 % compared to the emission coverage under the full-scope EU ETS (see Table 1).

### **4.2. Economic impact**

#### *4.2.1. Competitiveness*

The hybrid and alternative options – with the exception of the upstream option – improve the overall competitiveness of the aviation sector compared to the full-scope EU ETS because the reduced coverage leads to lower prices for extra-EEA flights. Due to the cancellation of free allowances, the upstream option would lead to higher prices for intra-EEA flights.

#### *4.2.2. Level-playing field for competition*

All policy options maintain a level-playing field on the relevant city-pair markets because all operators are treated the same, regardless of nationality or any other characteristics. In case that non-stop services are also in competition with services that stop over at a non-EEA hub (e.g. on a route from London to Singapore with a possible stop-over in Dubai), the hybrid option avoids potential distortion risks because one-stop and non-stop services will be equally covered. However, at current carbon prices, the likelihood of distortions is negligible with all options.

### **4.3. Impact on administrative effort and feasibility**

The hybrid option can be implemented based on the current MRV system. The lower coverage of extra-EEA flights will be reflected by taking a proportionally reduced percentage of the total fuel consumption (as currently reported for the whole flight). The departing flights, 50/50, and "stop-the-clock" options do not require any changes to the current MRV system. A move to the upstream option would involve significant changes because fuel suppliers would become responsible entities. Significant delays in its implementation would have to be expected.

### **4.4. Impact on consistency with international aviation law and ICAO policy**

The ECJ dismissed the claim that the EU ETS would violate the sovereignty of other states and confirmed the competence of the EU to apply the ETS to the total emissions of flights that arrive and depart at aerodromes situated in the territory of a Member State. As all options continue to apply to arriving and departing flights only and do not include over-flights, they

are in conformity with the respective principles of customary international law, the Chicago Convention and Air Service Agreements.

Compared to the other options, the hybrid option will have the advantage of greater international political acceptability because it will effectively limit the coverage to emissions within the EEA. With regards to the upstream option, a legal risk exists that it would be judged to constitute a fuel tax or charge under the Chicago Convention and the Air Service Agreements.

## **5. COMPARISON OF OPTIONS**

In choosing between the different options, the EU will have to balance the environmental effectiveness, possible changes in the MRV system, and the consistency of the options with international law and the (non-binding) ICAO Assembly resolutions. The economic impacts do not differ so substantially between the options as to change the cost-benefit balance.

- The hybrid option leads to a significantly lower coverage of 39 to 47 % compared to the full-scope EU ETS (depending on the defined coverage of 12 or 200 nm) and would entail some costs for changes in the MRV system. On the benefit side, the more limited emission coverage provides additional arguments to defend the EU ETS against claims about sovereignty violations. It also reduces any potential distortions regarding one-stop flights operating alongside direct flights.
- The departing-flights and 50/50 options offer coverage of 62 % of emissions compared to the full-scope EU ETS and do not change the MRV system. However, as these options are not to be supported by the 2013 ICAO Assembly resolution, they will neither increase political acceptability nor bring new legal arguments to defend the EU ETS.
- As the "stop-the-clock" option only covers 25 % of emissions, it will not be a viable long-term solution in view of the EU's environmental objectives for the aviation sector.

The upstream option achieves the same emission coverage as the departing-flights option but has a negative impact on competitiveness. Furthermore it would involve a complete change of MRV and risk new legal challenges.

Table 1 Comparison of options

	Full-scope EU ETS	Hybrid option	Departing-flights option; 50/50 option	"Stop-the-clock" option	Upstream option
<b>Environmental effectiveness</b>	100%	39 to 47 %	62%	25%	62%
<b>Competitiveness</b>	Minor impact on costs and demand	+	+	+	-
<b>Level-playing field for competition</b>	No distortions at current carbon prices	++	=	+	=
<b>Effort and accuracy of MRV</b>	Based on fuel consumption	-	=	=	--
<b>Coherence with international aviation law</b>	Legality confirmed by ECJ	=	=	=	-
<b>International political acceptability</b>	Strong international opposition	++	=	++	=

- + positive impact compared to full-scope EU ETS
- negative impact compared to full-scope EU ETS
- = unchanged compared to full-scope EU ETS

## 6. MONITORING AND EVALUATION

Depending on the outcome of the 2016 ICAO Assembly, further adjustments to the EU ETS may become necessary to ensure a transition to a global MBM in 2020. It is therefore suggested that any changes to the EU ETS are only temporary and that, following the 2016 ICAO Assembly, the Commission shall report to the Parliament and the Council on the actions to implement the global MBM to apply from 2021.