

06 INCLUSION OF AVIATION

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AVIATION



In 2008, the EU decided to extend the scope of its Greenhouse Gas (GHG) emissions trading scheme (EU ETS) to include emissions from the aviation sector. What was applicable only to stationary sources within the EU, starting January 1, 2012 applies to all flights that arrive in or depart from an EU airport.

This policy applies to all passenger and cargo flights operated by EU and non-EU airlines (airline firms located in EU as well as those from outside EU member states). The most controversial aspect, however, is that it not only applies to domestic flights within the EU but also to the last leg of international flights between EU and non-EU airports (For eg: For a New Delhi-Stockholm flight that transits through Istanbul, emissions between Istanbul and Stockholm would be considered). This, what some have referred to as the 'extraterritorial' application of the measure since it includes emissions that take place in spaces outside of the sovereign EU airspace, has provoked an international furor over the legal appropriateness of such a measure. Major economies such as the US, China and India have questioned its legitimacy on many legal grounds calling it unilateral, extraterritorial or a trade distortion. Some have responded with retaliatory threats and others having decided to take the EU to court. This briefing paper will identify the legal and other practical issues and the relevance of equity in the context raised by the inclusion of climate emissions from aviation activities in EU's ETS.

Why the directive?

The transportation sector is the second-largest source of greenhouse gases, accounting for a significant proportion of the world's carbon dioxide emissions. Aviation currently accounts for around 3 per cent of global GHG emissions and its share is expected to increase to about 5 per cent by 2050, according to IPCC's (Intergovernmental Panel on Climate Change) medium-range estimates. Aviation emissions are increasing rapidly, at a rate of around 3-4 per cent per

year, and the aviation industry is expected to see substantial growth in the next few decades, primarily driven by a rise in GDP. This has led to increasing concerns about the environmental impacts of this sector and in particular, the impact that such a growth in emissions will hold for a warming world.

The impact of the aviation sector on climate change was addressed in the negotiations leading to the Kyoto Protocol in the 90s when nations party to the United Nations Framework Convention on Climate Change (UNFCCC) discussed how to include emissions from the international aviation sector in a global climate change agreement. Various options were considered in trying to allocate international aviation GHG emissions amongst countries, including dividing emissions between the country of origin and the destination, assigning allowances based on nations who purchased or sold jet fuel or the – country where the airline was based.

Also, it has always been a challenge to assign emissions from the aviation and shipping sectors to any one country given the transoceanic nature of these sectors. No agreement on this issue was reached, and eventually, in what seemed – like a compromise, signatories to the Kyoto Protocol were urged to address the issue under the International Civil Aviation Organisation (ICAO), a specialised UN agency that oversees all aspects of international civil aviation. Following the lack of substantial progress in the ICAO on finding a global framework to address emissions, the EU, almost a decade later, decided to include emissions from all flights entering its premises. It decided to charge them for carbon emissions under its already functioning ETS.

This step has been welcomed as a first interim step towards a global agreement on GHG emissions by environmental groups, but it has faced heavy opposition from countries such as the US, Russia, China and India to the extent that a potential trade war is feared in the future.

The directive

From January 1, 2012, flights to or departing from the European Union (EU) are subject to EU ETS, irrespective of their country of origin, and are therefore required to turn in carbon permits equaling their GHG emissions. This policy, aimed at lowering aviation emissions, is unique in the sense that emissions from outside the EU which include imported products are for the first time being included with domestic emitters in the EU ETS scheme.

The EU ETS, which took effect in 2005, is one of Europe's main policy instruments for reducing its GHG emissions. The EU ETS employs a 'cap and trade' scheme which enforces a cap or a limit on the total amount of carbon dioxide (CO₂) that players/operators that are covered by the policy can emit. Emission allowances can be traded among the different players/operators; the flexibility that such trading brings ensures that emissions are cut in the most cost-effective way. Initially, the EU ETS covered only stationary sources of GHG emissions in Europe. However, in 2008, it was decided that the aviation sector would be included as well since aviation accounted for approximately 4 per cent of CO₂ emissions in the EU and the sector's emissions are growing rapidly.

In Directive 2008/101/EC on the inclusion of aviation in the EU ETS, all airlines (both EU based and non-EU based) are to be treated equally. This means that regardless of the origin of the flight, as long as it lands into an airport within the EU, emission from the entire trip (for non-EU flights, from the 'last leg' of the trip) will be counted towards calculating the number of allowances that will have to be surrendered.

In the case of the EU ETS, the allowances are distributed initially by a combination of free allocation and auction. The EU has created emissions allowances for aviation operators corresponding to 97 per cent of a benchmark calculated as the industry's average carbon emissions from 2004-2006. In 2012, 85 per cent of these allowances were allocated for free, based on the airlines' respective 2010 market shares, and the remaining 15 per cent were available for purchase by auction.

From 2013, when the ETS Phase III takes effect, the total quantity of allowances will drop to 95 per cent of the 2004-2006 benchmark, and 3 per cent of this new total will be reserved for 'new entrants' and rapidly growing airlines. To meet their obligations under the directive, aircraft operators may also need to buy allowances from the carbon market, including allowances from other sectors other trading sectors cannot buy aviation allowances. Airline operators may also satisfy up to 15 per cent of the allowances through emission credits (CERs) from CDM projects

implemented in developing countries under the Kyoto Protocol mechanisms. If aircraft operators do not comply with the requirements of the Directive, they will face sanctions including a fine of 100 euros per tonne of CO₂ and, in the worst case scenario, an operating ban can be imposed.

The Aviation Directive exhorts EU member states to use revenues from the scheme towards projects that will address climate change, but the EU cannot mandate members to use these funds for any particular purpose. Also, the EU can exempt airlines from those countries that regulate CO₂ emissions from aviation to an equivalent extent such as the directive.

Economic and environmental impacts

The actual impact that such a directive would have on the environment and its role in curbing the amount of emissions from aviation activities is directly linked to the economic efficacy of the policy since it is a market based measure. The price of carbon and the subsequent costs to the industry will influence the airline operators' decisions to increase the efficiency of their fleets and reduce emissions internally or offset their emissions by buying allowances from the market.

While the economic impact of such a regulation will vary largely depending on the players/operators involved, it is not expected to be significant. It is expected that most airlines will probably pass on their carbon costs to the passengers.

On the other hand, the approach towards allocation of the allowances can be viewed as inequitable. The allowances will be allocated based on airline companies' market share over a specific period of time; this method of allocation is called 'grandfathering' by policy practitioners. A typical problem with the 'grandfathering' approach is rewarding those who have been polluting and maintaining the status quo. For example, Lufthansa Airlines, which is the largest airline carrier in the world, will be handed out the largest number of allowances (*see Table: Allocation of allowance*). On the other hand, a relatively smaller airline, say Jet Airways, will be handed out a smaller number of allowances. The EU's aviation directive gives out permits based on the market share of airline operators in 2010. Hence, it can be said that this is in effect penalizing a smaller airline like Jet Airways and placing a cost on its growth since it will have to now bear the cost of emissions resulting from any increase in its fleet or operations.

The overall cost to the industry has invited many estimates, ranging from 350 million to 4 billion Euros depending on the price of carbon used or the number

Table 1: Allocation of allowances based on market share for 2012
List of the 10 biggest airline companies (ranked by carbon allowances)

	Aircraft operator	State of operator	Allocated allowances 2012
1	Lufthansa *	Germany	12,563,128
2	Air France	France	12,069,402
3	British Airways	United Kingdom	10,343,937
4	KLM	Netherlands	7,897,037
5	Ryanair	Ireland	5,560,944
6	Delta Air Lines	United States	4,668,157
7	United Air Lines	United States	4,586,700
8	EasyJet	United Kingdom	3,697,330
9	Air Berlin	Germany	3,360,363
10	American Airlines	United States	2,745,318

Source: carbonmarketdata.com

of Kyoto allowances used. If 100 per cent auctioning is done, it is estimated that the additional cost on a single long haul flight could be between US \$11 and US \$56. Even if an increase in the fare – will lead to lesser demand, it is expected to be neutralized by the expected growth of this sector. On the other hand, airline companies are expected to make “windfall” gains when they pass on the costs and the opportunity costs of the free allowances on to the consumers. A group of researchers from Massachusetts Institute of Technology (MIT) has estimated that the costs could go up to US \$2.6 billion in the case of airlines in the US, particularly when they pass on such opportunity costs as well. The opportunity cost is the value of a free allowance when sold in the market instead of being used by an airline to cover emissions. Windfall profits occur if businesses pass on the opportunity costs of free emission allowances to customers, which has been the case in some sectors, such as electricity generation, under the EU ETS.

Several non-profit organizations have issued a statement that the environmental impact resulting from such a directive will be limited – according to the Commission, such a directive would only limit the growth of aviation emissions to 78 per cent instead of 83 per cent under the business-as-usual scenario. While emissions from other sectors are expected to decrease over time by 2050, emissions from the aviation sector are only expected to increase as a result of expected industry growth.

It is, however, not the economic impact resulting from the sector that seems to be the thorn in the flesh. The heart of the matter lies with the larger political and legal implications that such a unilateral and extraterritorial regulation poses for countries.

International criticism of the directive

The EU has defended the application of the EU Directive on the basis of three different reasons. One, as discussed above, is its frustration with the lack of progress under the ICAO to reach a multilateral agreement. Secondly, it argues that including all flights in its scheme increases the system’s environmental effectiveness by covering more flights. Thirdly, it also avoids distorting competition, since without this requirement non-EU airline flights to and from EU member states would become cheaper than those of airlines based in the EU. This could also cause ‘leakage’ of emissions that could result from the relocation of companies within the EU to other countries where no such regulation on emissions applies.

The issue has already attracted substantial controversy, with officials from opposing countries expressing unease at the forced implementation of unilateral legislation on airline emissions. For example, several US airlines have – unsuccessfully – pursued proceedings against the legislation at the European Court of Justice. Meanwhile, a group of almost 30 nations have been working together to develop a strategy to counter Brussels’ plan. Three meetings have taken place, so far, in which countries have registered their opposition to the policy/ regulation in official declarations (*see Box: Countries oppose the EU Aviation Directive*).

The issues

Kyoto and ICAO – not compatible

The Kyoto Protocol states the following in Article 2.2: “The Parties included in Annex I [developed country

Countries oppose the EU Aviation Directive

- In September 2011, in New Delhi, 21 countries including India, Russia, China, USA and Japan adopted the New Delhi Declaration which “urge[s] the EU and its Member States to refrain from including flights by non-EU carriers to/from an airport in the territory of an EU Member State in its emissions trading system” on the basis that the directive violates a fundamental principle of the Chicago Convention that states, “The Contracting States recognize that every State has complete and exclusive sovereignty over the airspace above its territory.”
- Following this, a similar declaration was adopted in Moscow in February 2012 by 23 member states of the International Civil Aviation Organisation (ICAO), although ICAO did not officially adopt it. This declaration included a range of retaliatory measures that could be imposed on EU member states in a bid to unanimously oppose the directive. The measures include prohibiting EU carriers from entering the airspace of the signatories of the declaration and retaliatory levies/taxes on EU flights.
- The third meeting took place in Washington DC in August, 2012 and was aimed at “making

progress on reducing emissions in the International Civil Aviation Organization, ICAO.” Like several discussions that have taken place in the ICAO in the past, not much progress was made but the countries’ reiterated their intention to act together to come up with a market-based regulation for global aviation emissions.

At present, the EU remains steadfast in defending its directive and is only willing to replace its directive if a global agreement is reached. India and China were rebuked for being the only countries for not turning in emissions data for the year 2011 and missing the deadline in June 2012. Although the actual emissions allowances need to be turned in all by countries only by April 2013, the failure to comply was a clear indication of the strong signal that the Indian and Chinese governments have provided their airlines in opposing the directive. Around the same time that the meeting was convened in the US capital, a bill was approved by the Senate that prohibits the participation of US airlines in the EU ETS. An equivalent of this bill has already been approved in the House of Representatives and is now only pending approval of some amendments and the President’s signature before it can become a law.

parties] shall pursue limitation or reduction of emissions of greenhouse gases (...) from aviation (...), working through the International Civil Aviation Organization ...”

Here lies the challenge. While the Kyoto Protocol, in keeping with the Common But Differentiated Responsibilities and Respective Capabilities (CBDR/RC) principle embedded in the UNFCCC convention, directs Annex-I parties (developed countries) to take the lead in reducing emissions, the ICAO functions on the basis of non-discrimination between member parties, advocating equal efforts and equal burden sharing amongst parties.

Owing to this fundamental difference in mandate from two different UN frameworks, progress under the ICAO on finding a global, multilateral solution to the mitigation of GHG emissions from the aviation sector, has been slow. At the same time, it has also been questioned whether ICAO’s mandate to promote the growth of the aviation industry is compatible with the mitigation of emissions from international aviation. But the major obstacle continues to stem from the dissonance between the conflicting principles of CBDR contained in the UNFCCC and the principle of non-discrimination contained in the Chicago Convention, which the ICAO subscribes to. Developing countries

seek lesser obligations while developed countries insist on equality.

Is the Directive legal?

In 2011, the Airlines for America (A4A) (formerly known as Air Transport Association of America), filed a case in the UK High Court questioning the legality of the directive. It questioned if the EU’s application of a carbon tax outside its airspace was consistent with customary international law, the Chicago Convention and the US. EU Open Skies Agreement. A fundamental article of the Chicago Convention of 1994 pertains to the exclusive sovereignty that every state has over its airspace. The European Court of Justice (ECJ) eventually ruled in favor of the EU, stated that the EU was not in violation on any international treaty or customary law by including aviation emissions under its emissions trading system and cited the following reasons:

- The EU [itself] (although all its member states are) is not a party to, and therefore not bound by, the Chicago Convention.
- The Kyoto Protocol does not provide a legal basis for challenging EU action.
- The Aviation Directive does not breach the obligation in the Open Skies Agreement to exempt

fuel from taxes and other fees, as no direct or inseparable link exists between the cost of the Aviation Directive and fuel used.

- The Aviation Directive does not breach customary international law principles of state sovereignty as it applies only to aircrafts that choose to operate in EU airspace. Using events that take place outside EU airspace in calculating emission allowances does not breach state sovereignty.

Trade distortion: WTO/GATT Implications

Although the directive applies equally across all nations-states, it discriminates between states on the basis of the distance between the respective state and the EU since those closer to the EU automatically are impacted to a lesser degree than those further away. For instance, a flight coming in from Istanbul will produce lesser emissions than one from New York. This differentiation between states raises the possibility of the EU violating the Most Favored Nation (MFN) article under the General Agreement on Tariffs and Trade (GATT) agreement which requires that no state can be favored over another in the case of importing the same product or service.

Although the possibility of the EU directive being a trade distortion has enjoyed wide debate and discussion, it is mostly limited to academia and is expected not to be brought up under the dispute settlement organs of the WTO. One of the primary reasons for this is said to be the high level of complexity contained in the WTO aspects of the directive but also a special exception made under the GATT in cases that apply to the 'conservation of exhaustible natural resources.' Given the nature of the EU directive to impose a cost on harmful emissions that would result in the conservation of a global resource such as the atmosphere, it would be particularly challenging to bring a case against the EU in this respect, which is well protected under the clause.

Equity and CBDR

The EU has made several claims to point out its compliance with the CBDR principle but not all its statements have been clear and consistent. One of the claims that the EU has made in its defense is that the principle of CBDR applies only in the case of governments and not in the case of private businesses. It puts forward this argument since its directive applies directly to airline operators – only the airline operators are expected to turn in allowances, not countries in which these airline operators may be based. On the other hand, the EU provides for the possibility of exempting those states that have “taken measures to reduce the climate change impact of flights” from its ETS. This application of the same regulation to states that are covered under the directive clearly contradicts the EU’s claim that its measure applies only to businesses.

Furthermore, the EU has allowed for the differentiation principle to be reflected in its sectoral crediting scheme that it has long advocated. For instance, in the case of steel imported to the EU from a developing country in a sectoral mechanism, it requires developing countries to set different baselines based on their respective contributions to and capacities in addressing climate change. But this is not the case in the aviation directive which reflects inconsistencies in its treatment of the principle in different regulations originating from the EU.

Another argument put forth is that the costs arising from the directive are imposed upon the richer countries and in making this distinction, the EU keeps the principle of differentiation alive. But, this is a very poor attempt at manipulating the interpretation of the principle and hardly what the CBDR principle sought out to achieve. “The principle emphasizes the need for developed countries to lead rather than the rich taking charge, regardless of the country where they live. The EU’s interpretation of CBDR/RC is strongly resisted by

How can equity be reflected in the EU directive?

The following are some approaches to ensure that the principle of equity gets sufficiently reflected in the aviation directive in the descending order of acceptability:

- Ensuring that revenue collected from the sale of allowances goes to developing countries towards climate change measures. Presently, although the directive urges that such revenues ‘should’ be allocated towards climate activities, this is widely agreed to be diluted enough language that is not binding upon the member states that collect the revenues.
- To exempt those countries that are taking appropriate measures to reduce the carbon impact of flights from the scheme. Although this is already contained in the directive, it is not clear how it will be applied since what measure would qualify as appropriate is completely left to the discretion of the Commission and could be an arbitrary exercise unless specific parameters are defined.
- Exempt all developing countries from the directive. This is probably the least plausible.

developing states on the basis that the internal distribution of resources and the internal allocation of the burden of climate mitigation are matters of national prerogative and do not properly form the subject matter of a unilateral determination by another state.”

Wider implications of unilateral measures

One issue that holds a lot of significance for how climate change policy is orchestrated internationally in the long term is the unilateral nature of EU’s aviation directive. The implication goes beyond just the aviation sector and begs the question if such unilateral measures are justified and legitimate in the absence of significant progress in multilateral forums (in this case, UNFCCC and ICAO).

While countries may be concerned about the immediate and relevant issues that arise particularly from the aviation directive, one cannot understate the larger concern, which at least in the case of developing countries is the implicit nod, that subscribing to the EU aviation directive would open the door to a whole range of sectoral activities that the EU wants to eventually address in the future.

This then, is clearly not just another regulation to limit the carbon pollution from the airline industry. Seen as a possible testing ground for a wide range of activities such as border carbon adjustments and other unilateral sectoral measures in the future, developing countries seem justified in their opposition to a unilateral approach. Border carbon adjustments are similar to import tariffs applied on products where the probability of GHG emission reduction achieved in one country can be offset by the lack of its regulation in another country, for instance through ‘carbon leakage’.

In the case of India, one study has found that the country’s chances of being impacted by border carbon adjustments that the EU plans on implementing in the

future are particularly high. The study is based on a list released by the EU in December 2009 in which the bloc has identified 164 sub-sectors as deemed to be exposed to a significant risk of carbon leakage. Although the bloc currently follows a method of free allocations, such as in the case of the aviation directive, to prevent its domestic industries from competitive disadvantage, it has not entirely ruled out the possibility of using such border measures in the future. As recently as May 2012, the French Minister of Industry called for a revival of the debate on carbon tariffs, long advocated by the former French Prime Minister, Nicolas Sarkozy.

A case in point is the shipping sector which is up for discussion in the EU for its carbon emissions. Similar to the aviation sector, the Kyoto Protocol had called upon the International Maritime Organisation (IMO), a UN agency handling a broad range of issues related to the shipping sector, to address emissions from the shipping sector. But the recently concluded IMO meeting laid to rest any doubts on the progress being made in the IMO on how CO₂ emissions could be addressed through a Market-Based Mechanism (MBM).

This outcome holds direct relevance to the issue of unilateralism as the shipping sector is seen to be the next in line to be subject to an EU regulation that caps the emissions from this sector. Although the EU may seem to exercise more caution given the negative response received over aviation emissions, EU law mandates that failing a global agreement to include maritime emissions by the end of 2011, setting an emissions target for 2020 should include all sectors of the economy; all sectors here refers to the shipping sector as well. Although there is not explicit reference to emissions from shipping under the ETS, the majority of emissions are covered under the flagship emissions trading scheme, making it highly unlikely that it will be addressed outside the ETS.

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