



September 2013

**Common position Paper**  
**on**  
**Capping Aviation Sector Emissions through Multilateral Mechanism**

**Background information**

Emissions from aviation sector were 0.74 GtCO<sub>2</sub>e in 2005 (around 2.0 to 2.5% of the total annual global CO<sub>2</sub> emissions)<sup>i</sup> and are one of the fastest growing emissions sources, with projections indicating that the emissions could range from 1.36 to 3.26 GtCO<sub>2</sub>e by 2050.<sup>1</sup> Further, apart from CO<sub>2</sub> emissions, aviation operations result in other GHG emissions,<sup>ii</sup> estimated impact of which could be about 2 to 4 times greater than those of CO<sub>2</sub> alone.<sup>2</sup>

Aviation sector has significantly lagged behind in addressing its emission, compared to other sectors covered under national GHG emissions, especially in developed countries that have taken on binding obligations under the Kyoto Protocol. Though a global voluntary goal for 2020 has been adopted to address emissions from aviation sector under the International Civil Aviation Organization (ICAO), these are not as significant as the goals adopted for addressing national GHG emissions up to 2020 by countries under UNFCCC. Given the anticipated growth in emissions from this sector, in absence of any policy intervention, emissions from this sector could be a fairly large fraction of the total global emissions in 2050 and could thus make it difficult to stay below 2 degrees,<sup>iii</sup> especially if discussions on a treaty to be adopted in 2015 under UNFCCC (for post 2020 period) results in significant reduction goal for global emissions.

Though the short term technical potential (by 2020) for reduction within the sector without restricting demand is low (compared to significant reduction potential in sectors covered by national emissions),<sup>iv</sup> an early adoption of global policy to address emissions from this sector can avoid a lock-in into inefficient technology due to the long replacement cycle of assets in this sector, which is the case with most infrastructure related sectors.

In view of the above, it is imperative to ensure a global policy for addressing emissions from aviation sector to catch up with the efforts in other sectors and keep in line with the global policies being negotiated for addressing emissions from other sectors.

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<sup>1</sup> [http://www.icao.int/environmental-protection/Documents/EnvironmentReport-2010/ICAO\\_EnvReport10-Ch1\\_en.pdf](http://www.icao.int/environmental-protection/Documents/EnvironmentReport-2010/ICAO_EnvReport10-Ch1_en.pdf)

<sup>2</sup> Chapter 6 "Potential Climate Change from Aviation". The Intergovernmental Panel on Climate Change (IPCC) Special Report 'Aviation and the Global Atmosphere.

## Past and current global efforts to address emissions from aviation sector

### Efforts under UNFCCC

UNFCCC, is the framework convention agreed by Countries to “stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” through measures to limits on greenhouse gas emissions for individual countries, taking into account countries’ responsibility and capability.

Recognizing that emissions from international aviation need accounting and allocation rule specific to the sector,<sup>3</sup> as it is different from emissions from other sectors occurring within national boundaries, decision 4/CP.1 requested the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI) to address the issue of allocation and control of emissions from international bunker<sup>4</sup> fuels. Though initial discussions resulted in preparation of options to allocate emissions from international aviation, but with the referral to ICAO under the Kyoto Protocol – which states that “Annex I Parties shall pursue limitation or reduction of emissions of GHG emissions not controlled by the Montreal Protocol from aviation [...] working through the International Civil Aviation Organization [...]”– the discussions under UNFCCC were limited to taking note of work under ICAO on this issue.

The issue was further taken up under the UNFCCC as negotiation under the AWG-LCA<sup>5</sup> agreement on Bali Road Map at COP 13. The issue was discussed under the agenda item “co-operative sectoral approaches”. The central aspect of the discussion was the role of ICAO in defining a global policy framework for addressing emissions from the aviation sector. Many developing countries were of the view that Annex I/developed countries should address their emissions from aviation sector through ICAO. Some developed countries’ point of view was that in principle international emissions of airlines from all countries, given the specific context of international aviation, should be addressed under ICAO, with UNFCCC setting a target. The key issue of contention was the consideration of UNFCCC principles, specifically Common but Differentiated Responsibilities and Respective Capabilities (CBDR & RC), by ICAO in designing the global policy. Many developed countries were of the view UNFCCC in its request to ICAO could acknowledge the principles of UNFCCC, whereas, many developing countries were that such a request should ask for ICAO to design such global policy in accordance with UNFCCC principles, especially CBDR.

Presently the only avenue for discussions on international aviation under UNFCCC is located under the SBSTA agenda item “Emissions from fuel used for international aviation and maritime transport”, where the discussions have been limited to taking note of work under ICAO, though some countries at the 2013 session did raise the issue of COP providing guidance to ICAO.

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<sup>3</sup> It should be noted that UNFCCC addresses in its national inventories emissions that occur within the national boundaries of a country. The emissions from international bunkers for aviation are not included in a country’s national inventory but are reported separately in the national communication of Annex I countries.

<sup>4</sup> Bunker fuels refers to fuel used by both international aviation and international maritime.

<sup>5</sup> AWG-LCA – Ad-hoc Working Group on Long Term Cooperative Action, launched to enhance the implementation of the Convention as a result of Bali Road Map. AWG-LCA concluded its work at COP18 in Doha.

## **Efforts under ICAO**

ICAO is a specialized body of the United Nations, created by the 1944 Chicago Convention on International Civil Aviation and governed by an Assembly, in which all member countries have a seat and a vote. In 1983 the ICAO Council established the Committee on Aviation Environment Protection (CAEP) to address later also climate change-related issues.

ICAO has been working on the issue of addressing GHG emissions from aviation since 1998 as a result of the referral by the KP decision to ICAO, as mentioned above. To address greenhouse gases (GHG) emissions from aviation, ICAO has focused on market based mechanisms (MBMs), which include emissions trading, emission related levies – charges and taxes – and emissions offsetting.<sup>v</sup> The 36<sup>th</sup> Assembly endorsed the application of regional emissions trading scheme with mutual consent of the member states, to which EU states had put a reservation. The 37<sup>th</sup> Assembly in 2010 agreed to voluntary goals for 2020 and long term aspiration goals. It also agreed to develop and adopt a framework for MBMs for addressing emissions from the aviation sector at its 38<sup>th</sup> session (2013).<sup>vi</sup>

ICAO Council established a High-level Group on Climate Change (HGCC) in November 2012 to work on climate change issues, including the development of a global MBM and on the coverage of geographic scope options for a framework for MBMs. Presently three options are on the table for an MBM: mandatory offsetting emissions above an agreed baseline; mandatory offsetting with revenue generation (e.g. a transaction levy on top of offsets to generate revenue); and cap and trade – an emissions trading system which could include a mix of auctioning and free initial provision of permits.

## **Key Principles of UNFCCC and ICAO – the challenge in developing a global mechanism for the aviation sector**

As described above, discussions have been ongoing both under UNFCCC and ICAO. Parties to the UNFCCC have different views on the potential roles of these two institutions in setting international policy for addressing GHG emissions from international aviation sector.

Two key principles are at the heart of the discussion on finding a way forward to address GHG emissions from international aviation:

- (i) UNFCCC: principle of CBDR & RC; and
- (ii) Chicago Convention: laws and regulation for operation of aircraft as well as for airport and other charges should be applied without distinction amongst national and foreign aircrafts, what is commonly referred to as non-discriminatory principle.

In order to take account of views of different Parties, it is important that an approach for addressing aviation emissions addresses the above two key principles of, both, UNFCCC and ICAO.

CBDR & RC is a central principle underpinning the sharing of responsibility to address GHG emissions under the UNFCCC. The UNFCCC also recognizes the historic responsibility of GHG emissions, subsumed within the CBDR & RC. The first step in the operationalization of this differentiation was dividing countries into Annex I (synonymous with developed countries) and non-Annex I (synonymous with developing countries) countries. According to

the UNFCCC, developed countries will take the lead in reducing GHG emissions and developing countries will take actions which shall be supported by financial and technological support from developed countries. This is also reflected in the Kyoto Protocol, which defined economy-wide emission reduction targets for developed countries. This differentiation is reflected in outcomes of Long-term Cooperative Action to strengthen the implementation of the UNFCCC. Outcome of these negotiations resulted in agreement where developed countries will undertake actions to achieve their economy-wide 2020 emission reduction targets and developing countries will implement nationally appropriate mitigation actions in the context of sustainable development with the objective to deviate from their BAU emissions in 2020. The actions of developing countries will be supported by finance and technology.

ICAO was established by the Chicago Convention to promote co-operation between nations "in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically."<sup>6</sup> The Chicago Convention establishes rules of airspace, aircraft registration and safety, and details the rights of the signatories in relation to air travel. A key principle of the Chicago Convention is sovereignty of a country over its national airspace. Chicago Convention also defined the principle of equal treatment of national and foreign aircrafts in Article 11 and Article 15. Article 11 states that the laws and regulations of a State relating to the admission, departure or operation of an aircraft shall be applied to the aircraft of all States *without distinction as to nationality*; and Article 15 (on airport and similar charges) states that conditions applied by a State *must be uniform* amongst both national and foreign aircraft. This is generally referred to as the non-discriminatory principle. This principle is in contradiction to the UNFCCC principle of CBDR & RC, and this represents the key issue and major challenge in developing a framework or a global MBM under ICAO to address emissions from aviation sector. Thus a mechanism would need to be found which can reflect both principles.<sup>vii</sup>

Here it is important to note that the central objective of ICAO was to harmonize the standards and procedures for aviation to ensure security and safety, therefore, the principle of equal treatment to national and foreign aircrafts was very relevant to ensure harmony in operations. At the time of establishment of this principle the issue of climate change was not on the horizon.

Facing the need to address the GHG emissions within the international aviation sector, the application of the Chicago Convention obtains a new political significance. The historic responsibility of causing the climatic changes lies mainly with the developed countries, most of them also benefitted from this by achieving much greater capacities to address the issue. Thus a principle of non-discrimination that is relevant when governing the operations of international aviation cannot be extended without considering the historic responsibilities of the countries to address the issue of GHG emissions, therefore the principle of CBDR & RC also needs to be taken account of.

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<sup>6</sup> Convention on International Civil Aviation, preamble, ([http://www.icao.int/publications/Documents/7300\\_cons.pdf](http://www.icao.int/publications/Documents/7300_cons.pdf))

Further, in many developing countries the aviation sector is seen as a contributor to growth and jobs. They can be expected to constrain growth of aviation emissions as long as it doesn't affect the growth of aviation. This should be reflected in the CBDR context.

From developing country perspective, any regime to address GHG emissions from international aviation that does not address the CBDR & RC principle is likely to set precedence for:

- (i) Application of a similar approach to other sectors that have similar international competition aspects, e.g., steel sector or cement sector, thus the issue of back door imposition of emission reduction targets on developing countries.
- (ii) Imposition of border taxes by countries based on emissions content of imported goods. This concern has been aggravated by inclusion of penalties for EU-ETS on non-EU airlines if they don't comply with EU-ETS aviation rules.
- (iii) A mitigation framework being negotiated under ADP for post 2020, where the central issue is redefining the application of the CBDR & RC principle.

Finding a solution to the CBDR & RC is fundamental to reaching an agreement on developing a regime to address GHG emissions from international aviation under the ICAO at its Assembly in 2013.

### **Addressing Emissions from Aviation sector – possible approach**

To ensure a high likelihood of limiting the increase of temperature to well below 2 °C<sup>7</sup> all emission sources should be addressed with great urgency, including emissions from the aviation sector.

The emissions from aviation should be addressed in a multilateral setting rather than through unilateral actions to ensure a wider buy-in and sustainable long term solution to address the emissions. Though UNFCCC would be an ideal body to address all GHG emissions, in view of the status of work under ICAO to address these emissions, and the urgency of addressing global emissions to limit the increase in temperature to below 2 °C, ICAO should take immediate steps to adopt a global policy for addressing emissions from aviation sector, while ensuring the following aspects are addressed:

- (i) The principle of CDBR & RC should be an integral part of the solution, recognizing that application of the CBDR & RC principle is not static and will evolve with time, as well as, it should be guided by the negotiations under the UNFCCC.
- (ii) The approach used for reducing GHG emissions from international aviation should not be used as precedence for defining the GHG emissions mitigation responsibilities for other sectors under the UNFCCC.
- (iii) Revenues should be generated, with no net incidence on developing countries, and used for climate action as described below.

To facilitate an outcome under the ICAO, UNFCCC – with a view to limit global increase in temperature below 2 degrees - should adopt a decision requesting ICAO to develop measures

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<sup>7</sup> CAN-International has called for a global emission reduction by 80% below 1990 until 2050 and developed countries reducing their emissions by 40% below 1990 levels by 2020.

to address GHG emissions from aviation sector and reiterate that any approach used under ICAO will not prejudice outcomes under the Ad hoc Durban Platform on a new agreement for the post 2020 regime. It should also reassure that countries will not resort to unilateral trade measures.

CANSA is of the view that if CBDR is satisfactorily addressed under ICAO it will obviate the need for unilateral actions. Germanwatch is of the view that countries should not resort to unilateral trade measures for aviation if an adequate ICAO solution is found.

Addressing the issue of operationalizing the principle of CBDR & RC in a satisfactory manner to ensure an equitable sharing of responsibility are central to formulating an international climate change policy with the widest buy-in, and this is crucial to a sustainable and ambitious regime for reducing GHG emissions from international aviation. Such a regime should ensure that it doesn't create a competitive advantage for some over the others.

Any regime designed to address the GHG emissions from international aviation, whether under ICAO or UNFCCC, should ensure the following:

- (i) Target for reductions should be sufficiently ambitious to stay within the 2 °C limit and possibility of limiting the increase in global average temperature to below 1.5 °C, in line with the global GHG emission goal agreed by countries under UNFCCC.
- (ii) Ambitious emission reductions in the aviation sector and not merely rely on offsets to achieve the goal.
- (iii) Stringent criteria for offsets eligible for meeting compliance to ensure environmental integrity.
- (iv) A robust MRV and compliance system for all Parties.
- (v) Generating revenues, with no net incidence on developing countries, which should be used for climate mitigation and adaptation action in developing countries and within the aviation sector.

A regime to address GHG emissions could use the following approaches for integrating the CBDR & RC principle:

- (i) Mechanism to provide technical and capacity development support to developing countries in reporting as well as developing and implementing in-sector mitigation measures, including non-market measures adopted to reduce emissions.
- (ii) Mechanism to support technology transfer to developing countries, such as, use of sustainable alternative fuels, airport operations and air flight management, joint technology development for more efficient aircraft, etc .
- (iii) Differentiation could be achieved through the use of revenue generated, for example if allocation of allowances is used as a mechanism, in addressing GHG emissions. Revenue raised from a developing country should be reverted to that developing country, fully or partially (after deductions for operating the international system). The revenues thus reverted should be used for climate actions – taking into account that the revenues are generated on the basis of the “polluter-pays-principle”. Revenues from developed countries should be used as international climate finance where the need for climate action is the greatest, and should therefore be used for climate action in developing countries, preferably least developed or the most vulnerable countries, through the Green Climate Fund. This should be part of their

contribution towards the fulfillment of the commitment of developed countries made in Copenhagen and Cancún to mobilize by 2020 annually USD 100bn.

- (iv) Differentiation could also be achieved either through differentiating the allocation for targets/allowances among countries in accordance with their responsibilities and capabilities or by differential target/allowance for routes between different country groupings, where country grouping reflect their respective responsibility and capability. Such differentiation should be dynamic and take into account evolving responsibility and capability of countries. It should also take into account the differences regarding the different fraction of leisure and work travels.

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<sup>i</sup> Emissions from aviation in developed countries (domestic and international) account for approximately 3.5% of their total emissions.

<sup>ii</sup> In addition to CO<sub>2</sub> emissions, aircraft emit a number of other compounds into the atmosphere that have an impact on atmospheric warming. These emissions include Nitrogen oxides (NO<sub>x</sub>), Volatile organic compounds (VOCs), Carbon monoxide (CO), Black carbon (BC), Organic carbon (OC) and other aerosols as well as Sulphur dioxide (SO<sub>2</sub>). The emissions of aerosols and water vapour by aircraft engines in humid air layers also form contrails which contribute to cirrus cloud formation. These gases have a potentially strong climate impact, but it is extremely difficult to quantify these effects.

<sup>iii</sup> Assuming a global emissions of 20.52 GtCO<sub>2</sub>e (46% emissions below 1990 level, as per UNEP GAP report) to stay at a trajectory of on or less than 2° C degree, the projected aviation emissions will be 7 – 15%, of global CO<sub>2</sub> emissions<sup>iii</sup>

<sup>iv</sup> UNEP's 2012 Gap Report estimated that the emissions gap in 2020<sup>iv</sup> to reach a “likely” chance of being on track to stay below the 2°C target could be 8 to 13 GtCO<sub>2</sub>e. The report also estimates that the aviation sector could contribute about 0.1 GtCO<sub>2</sub>e of emission reduction potential in 2020. To put the reductions in short term perspective, UNEP 2012 Gap report states implementing the more ambitious “conditional” pledges by developed countries would reduce the gap by 2 GtCO<sub>2</sub>e, tightening Land Use, Land Use Change and Forestry (LULUCF) credits and surplus emission credits would reduce the gap by around 3 GtCO<sub>2</sub>e; and minimizing the use of the surplus Assigned Amounts from the 2008-2012 Kyoto period would reduce the gap by 1.8 GtCO<sub>2</sub>e.

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<sup>v</sup> ICAO's 32nd Assembly requested CAEP to further develop en-route levy or a fuel levy to address global emissions (preamble of Appendix H, Resolution 8.). The 35th Assembly in 2004 "endorse[d][ ] the further development of an open emissions trading system for international aviation" such future approach could then either be a voluntary trading scheme by interested Parties or could mean ICAO guidance on how emissions could be included into Parties' emission trading schemes. ICAO has also published draft guidance on the use of emissions trading schemes. At the 36th session of the Assembly, a majority of the contracting States endorsed the application of emissions trading for international aviation at the same time emphasizing that this has to be applied only on the basis of mutual agreement between States. However, 42 states, including EU countries, put down a reservation to this resolution.

<sup>vi</sup> The following key measures were adopted by the 37<sup>th</sup> Assembly: a voluntary goal of a 2% fuel efficiency improvement per year of the global fleet until 2020; a continued aspirational goal of 2% improvement per year until 2050; a medium-term global aspirational goal to stabilize the emissions from aviation sector at 2020 levels; and development of a framework for market-based measures (MBM), including further elaboration of the guiding principles (for consideration by the 38th Session of the ICAO Assembly), and to explore the feasibility of a global MBM scheme for international aviation. Further, the Assembly agreed on encouraging states to voluntarily develop action plans to address aviation emissions and assistance needs as well as reporting annual emissions and making significant progress on the development of a technical CO<sub>2</sub> certification standard for aircraft. It is expected that CAEP will now undertake work on defining certification procedures and the standard's scope of applicability, which will be followed by the analysis of an appropriate regulatory limit for the standard.

<sup>vii</sup> ICAO has addressed the CBDR & RC principle to an extent by adopting a de minimis threshold of "international aviation activity of 1 per cent of total revenue tonne kilometres" below which states are not to be subject to an MBM, not required to report on their international aviation CO<sub>2</sub> emissions, and are not expected to submit action plans – above the de minimis threshold reporting and submission are in any event voluntary. The application of this principle though will exclude a number of developed countries and results in inclusion of some of the big developing countries. However, its application is not yet clear and many developed countries argue it has implications for competition for foreign flights flying into and out of the exempted countries.