European Parliament

Briefing

ENVIRONMENT, PUBLIC HEALTH AND FOOD SAFETY (ENVI)

Main options for a GMBM at ICAO during its High-level Meeting in May 2016

KEY FINDINGS

- In 2010, the International Civil Aviation Organization (ICAO) adopted an aspirational goal to achieve **Carbon Neutral Growth from 2020 (CNG2020)**.
- Despite efficiency improvements, **CO_2 emissions** from international aviation are projected to be **seven times higher** in 2050 than in 1990.
- At the Paris climate conference (COP21), countries agreed to limit climate change to well below 2°C. Without **considerable contributions of the aviation sector** to global mitigation efforts, this goal will be much harder to achieve. CNG2020 is unlikely to be sufficient in the long term.
- In 2013, the International Civil Aviation Organization (ICAO) established a working group for developing a **Global Market-Based Measure (GMBM)**, which should be adopted in 2016 and come into force in 2020.
- The main **issues at stake** at the high-level meeting are the **design options** of the **GMBM,** particularly how the **offset obligation can be distributed** among airlines, how special circumstances and respective capabilities (**SCRC**) of states can be reflected, how the target of **carbon neutral growth** from 2020 onwards can be achieved and how **environmental integrity** can be ensured through environmentally reliable offset units.
- It is recommended that the ENVI delegation use opportunities such as **bilateral meetings** with delegations from other countries and **informal conversations** in the corridors to promote the development of **comprehensive, reliable and environmentally sound GMBM**.

1. INTRODUCTION

In the period of 1990 to 2010, CO_2 emissions from international aviation increased by 79 %, or 3.0 % per year (IEA 2014). In comparison, the total global GHG emissions only rose by 1.1 % per year during the same period (van Vuuren, D. P. et al. 2011). Consequently, international aviation increased its share of global CO_2 emissions from 0.9 % in 1990 to 1.3 % in 2012. International and domestic aviation together accounted for 2.1 % of global CO_2 emissions in 2012. In addition to carbon dioxide, emissions from aviation also impact cloud formation, ozone generation and methane reduction, amongst other effects. These non-CO_2 effects increase the impact of aviation on climate change by a factor of at least 2 (Cames et al. 2015). Despite technological and operational improvements, emissions are still projected to be seven times higher in 2050 than in 1990; without the improvements, projections are ten times above 1990 levels in 2050 (ICAO 2013c).

External Authors: Martin Cames, Hans Pulles
EN
Policy Department A: Economy and Scientific Policy, Responsible administrator: Tina Ohliger
European Parliament
PE 578.983

During the Climate Change Conference in Paris in 2015, countries agreed to limit climate change to well below 2°C compared to pre-industrial levels. If the world at large followed an emissions trajectory compatible with such a target[1] but emissions from international aviation increased as forecast in the ICAO baseline scenario, the sector would use up 22 % of the global carbon emissions budget in 2050 (Cames et al. 2015).

The EU strongly promoted the inclusion of emissions from international aviation and maritime transport in the Paris Agreement while policies to address these emissions should be developed and implemented by ICAO and IMO (International Maritime Organization). However, the Parties to the United Framework Convention on Climate Change (UNFCCC) could not agree on such a provision. Parties, nevertheless, agreed implicitly that these emissions need to be reduced. Art. 4.1 of the Paris Agreement states that they aim to achieve a balance between anthropogenic emissions and removals of greenhouse gases (GHG) in the second half of this century. Since emissions from aviation are clearly anthropogenic, international aviation has to contribute to this goal and cannot be ignored.

One important instrument to incentivise the contribution of international aviation to GHG mitigation efforts is a GMBM. This briefing describes ICAO's process of developing such a GMBM (Chapter 2), the main design features currently discussed (Chapter 3), positions of ICAO Member States (MS), other stakeholders and the role of the EU (Chapter 4) and provides, finally, conclusions and recommendations (Chapter 5).

2. ICAO'S PROCESS ON GMBM DEVELOPMENT

As early as 2001, ICAO had decided that an emissions trading system is the most appropriate instrument to address GHG emissions from international aviation. With Resolution A-33-7, Appendix I, the ICAO Assembly "endorses the development of an open emissions trading system" and "requests the Council to develop as a matter of priority the guidelines for open emissions trading" (ICAO 2001, pp. 28-31). Since then a lot of work has been carried out; however, no consensus was reached, so that in effect little formal progress had been made. It was only in 2010, at its 37th Assembly, that ICAO agreed a global aspirational goal of Carbon Neutral Growth from 2020 onwards (CNG 2020). Three years later, in 2013, ICAO established a working group for developing a GMBM to achieve this goal. According to its work program, the GMBM should be adopted in 2016 and come into force in 2020.

Initially three different options for a GMBM were discussed:

1. **Global mandatory offsetting**;
2. **Global mandatory offsetting** complemented by a **revenue generation** mechanism;
3. **Global emissions trading** using a cap and trade approach (ICAO 2013b).

However, already in 2014 discussions focused on option 1 while options 2 and 3 were not pursued further, mainly because international aviation was expected to be a net buyer and because offsetting appeared to be simpler since it would avoid the issuance of units under ICAO.

The main design elements of the GMBM were discussed by ICAO's Environmental Advisory Group (EAG) and by the Global Market-Based Measure Task Force (GMTF) established for developing the GMBM. Within EAG, a decision-making body, the core design features were elaborated. From now on EAG's work will be continued by the high-level meetings with a view to adopting the GMBM at ICAO's Assembly in September/October 2016. The GMTF, an expert group within the CAEP, provided assistance on developing the rules for monitoring, reporting and verification (MRV) of CO_2 emissions and quality and eligibility criteria for offset units. So far, the GMTF has reached an agreement on a number of general principles to ensure the environmental integrity of offsets, but is unlikely to provide more specific

recommendations on how to meet these requirements due to considerable uncertainties as to which types of units will be available post-2020.

At its 37th Assembly, ICAO also initiated work on the so-called basket of measures to reduce aviation CO_2 emissions (ICAO 2013a). In addition to the work on a GMBM and CO_2 standards, the basket of measures also includes the development of CO_2 standard for new aircraft (which was recently agreed at ICAO's CAEP/10 meeting), the development of guidance documents on operational measures as well as initiatives to promote the development and testing of alternative sustainable drop-in fuels from non-fossil sources.

In March 2016, ICAO published a "Draft Assembly Resolution text on a Global Market-based Measure (GMBM) Scheme" (ICAO 2016a). This draft forms the basis for both the five Global Aviation Dialogue meetings (GLADs) conducted in March and April 2016 and the high-level meeting from 11 to 13 May in Montreal. In the next Chapter (3), the most important issues of this draft entitled "Carbon Offsetting Scheme for International Aviation" (COSIA) are identified and discussed.

3. MAIN DESIGN OPTIONS FOR A GMBM

The basic principle of the ICAO's COSIA is that emissions which exceed the target need to be offset. To achieve this, airlines are obliged to purchase and surrender offset units which ensure that the emissions are reduced in other sectors. Even though that seems to be simple in principle, it involves a number of technical and highly political issues which need to be solved prior to implementation of the scheme, including the following:

- How should the obligation to offset emissions be distributed among airline operators? (Section 0)
- Should the obligation be differentiated between ICAO Member States to reflect SCRC and if so, how should this be realised? (Section 0)
- Should the situation of airlines which are already more efficient (early movers), with fast traffic and emissions growth (fast growers) or which newly enter the market (new entrants) be reflected and if so how? (Section 0)
- Should emissions which are exempted from the mitigation obligation also be offset and if yes by which airlines? (Section 0)
- How can the environmental integrity of the offset units be ensured? (Section 0)
- What governance and enforcement arrangements are necessary? (Section 0)

Distribution of the mitigation obligation

Collectively as a sector, airlines need to ensure that emissions do not exceed the 2020 baseline. Airlines would thus need to buy enough offsets so that the total amount of offsets equals the amount of emissions exceeding the CNG2020 target. Each aircraft operator would therefore need to know how many offsets it is obliged to buy. Basically there are the following options:

1. **Individual rate**: Divide the obligation among aircraft operators so that each of them has its own specific obligation. Each aircraft operator would be required to offset all emissions above its 2020 level. Aircraft operators with emissions below or equal to their 2020 emissions would have no need to acquire offsets. In this way, the sector-wide target would be divided among the aircraft operators. There are several ways to divide the offset obligation among aircraft operators. The division could be based on emissions in a base period, or on transport performance in a base period (benchmarking).
2. **Sectoral rate**: Determine a share of actual emissions which needs to be offset. The target would not be divided. All aircraft operators would instead be obliged to offset a certain share of their actual emissions. If the aggregated emissions in a given year

are, for example, 20 % above the baseline, each aircraft operator would have to offset 20 % of its emissions in that year. New fast-growing airlines like many of those from Arabic or Asian countries, with emissions growth above the sectoral average, would quite naturally prefer the sectoral rate because they would only need to offset a part of their emission growth. Long-term established airlines like many airlines from industrialised countries including Europe, with a larger market share and emission growth below the sectoral average, would be disadvantaged because their offset obligation would exceed their actual emission growth.

3. **Hybrid option**: One part of the obligation to offset emissions would be determined through option 1 while the other part would be determined through option 2. Parts of the airlines mitigation obligation would be determined by option 1 (x %) while the other part would be determined by option 2 (y %). In terms of determining the actual offset requirement, the contribution of option 1 and 2 may also vary over time, e.g. the contribution of one of the options may decrease over time while the contribution of the other option may increase.

If the target is not divided (option 2), all entities need to acquire the same amount of offsets per unit of emissions, whereas in the case of a division of the target (option 1) some operators might have to acquire offsets and others might need to acquire offsets to a lesser extent or not at all. So in the case of non-division of the target, all aircraft operators would have a similar incentive to reduce emissions as it would reduce their costs whereas in the case of a subdivision of the threshold only those operators with a shortfall would have this incentive.

Both options are aligned with the polluter pays principle for emissions above 2020 levels, though not entirely. If the target is not divided, each polluter pays for only a share of the additional emissions it causes. If the target is divided, growing aircraft operators pay the full costs of additional emissions, but stagnant or decreasing aircraft operators do not pay, even though they emit.

An advantage of option 1 is that the marginal costs of emitting CO_2 equal the social costs. In theory, this would lead to a socially optimal level of emissions. In option 2, the marginal costs of emitting CO_2 would be lower than the social costs, resulting in emissions that are higher than socially optimal, but lower than in a situation without the COSIA.

An advantage of option 2 is that it does not necessitate the politically difficult process of dividing the target among aircraft operators. To avoid a lock-in of the aviation market's current structure, such division would involve designing several additional provisions for fast growing routes or aircraft operators, for reflecting early action, and for new entrants and aircraft operators ceasing operations. In several market-based instruments and in setting standards, these issues have proven to be very difficult to handle. It is expected that dealing with such issues in a global system with very different starting points of states, routes and aircraft operators, would be even more difficult.

The hybrid option could somehow balance the pros and cons of options 1 and 2. The part of the mitigation determined by the individual rate would provide incentives to limit emission growth and would benefit incumbent airlines while the part determined by the sectoral rate would benefit new, fast-growing airlines. An administrative disadvantage of the hybrid option may be that it requires determining both the individual and the sectoral rate. However, from an administrative perspective the sectoral option is certainly leaner than the other options.

The current COSIA draft suggests a 100 % sectoral rate without adjustments for fast growers or early movers (Para. 9). This accommodates demands of fast growing airlines mainly from Arabic and Asian countries and provides for administrative simplicity.

Differentiation to reflect SCRC

Climate change and global policies to address climate change are handled under the UNFCCC. Since neither the contribution of individual countries to the global thread nor the potential to contribute to GHG mitigation is identical among the countries, one basic principle of the UNFCCC (1992, Art. 3.1) is "common but differentiated responsibility and respective capabilities" usually referred to as CBDR. Under ICAO a similar principle is known as "special circumstances and respective capabilities" (SCRC), which has to be balanced with the principle of non-discrimination. Against this background two basic approaches can be distinguished for the distribution of obligations:

- **Aircraft operator-based**: Different aircraft operators would have different requirements, depending on the country in which they are registered. This approach would be administratively simpler because all flights of an aircraft operator would fall within the same regime. However, it would also distort competition when aircraft operators from different countries operate on the same route. Aircraft operators which face lower requirements would have lower costs and could increase their market share at the expense of aircraft operators which face higher requirements. Hence, while this could be seen as a way of taking the specific situation of countries into account, it would strongly contribute to market distortion.
- **Route-based**: Different routes would have different requirements, depending on the country of departure and/or arrival. This approach would imply that aircraft operators fly routes with different CO_2-related requirements. This would probably be administratively more complex than an aircraft operator-based differentiation. However, it would have the advantage that on direct routes, there would be no distortion of competition as all aircraft operators would face the same requirements. On indirect routes there could still be a distortion of competition, but only when the passenger has a choice between hubs in countries with different requirements. In this way, SCRC can be taken into account without problems arising.

In Para. 8 of the COSIA, it is clearly stipulated that any differentiation in mitigation requirements should be route-based to minimise market distortion. This is perhaps the most important progress made in ICAO's efforts to address climate change because earlier considerations of reflecting CBDR and SCRC were always based on a differentiation of aircraft operators. Since this would have resulted in severe distortions of competition and carbon leakage, these considerations were not acceptable for countries whose airlines would have faced mitigation requirements.

SCRC is reflected through phased implementation (Para. 7) which excludes routes to and from low emitting states (LES). In a first phase from 2021 to 2025, routes to and from countries with a market share in international aviation that is below 1 % and all routes to and from countries which are not classified as high income States are exempted from the COSIA. In a second phase from 2026 onwards, routes to and from countries classified as middle income States are included as well, while the threshold for the market share is reduced from 1.0 % to 0.5 %. In addition, COSIA does not apply to Least Developed Countries (LDCs), Small Island Developing States (SIDS) or Landlocked Developing Countries (LLDCs), unless they meet the above-mentioned criteria or opt for voluntary participation. On routes to and from countries exempted from mitigation obligations airlines would, nevertheless, need to comply with simplified reporting requirements (Para. 8). Figure 1 provides an example how these criteria may be applied.

Figure 1: Phased implementation (illustrative example)

State	High Income	>1% ind. RTK	Top 80% RTK	Upper Middle Income	>0.5% ind. RTK	Top 95% RTK	LDC, SIDS, LLDC	Phased Implementation
State A	X	X	X					Included from 2021
State B	X							Included from 2021
State C		X	X				X	Excluded
State D	X	X	X				X	Included from 2021
State E				X	X	X		Included from 2026
State F					X	X		Included from 2026
State G						X	X	Excluded
State H				X		X	X	Included from 2026
State I	*- State does not meet criteria -*						X	Excluded

Source: ICAO 2016b

Note: ind. RTK = individual revenue tonne kilometer.

Specific rules

New policies usually imply some distortion of the current situation. Some of the covered entities will be more affected than others. To avoid abrupt changes in the structure of the sector, specific rules may be introduced with a view to alleviating the changes. However, such rules may again introduce other distortions and make the regulation more complex and complicated to administer. In the context of ICAO's GMBM, a number of specific rules modifying the mitigation obligation were discussed:

- **Fast growth**: If the offset obligation were based on an individual airline baseline, airlines which predominantly serve strongly growing routes would bear a relatively larger share of the aggregated offset obligation than those serving routes which are somewhat more matured, which is considered as unfair from the perspective of those airlines. To mitigate this effect, it was suggested less stringent offset obligations are established for those airlines which can qualify as fast growers.
- **Early movers**: Some airlines may have already invested in more fuel-efficient aircraft and/or improved their operations in such a way that already today they emit less CO_2 per km than others. From a fairness perspective, these additional efforts should be rewarded but would be ignored if the offset obligation were allocated based on the sectoral rate or on historic emissions. One way to reflect these efforts would be if a historic performance benchmark $(CO_2/pkm)^2$ were applied in allocating the offset obligation. Early movers would then need to offset relatively fewer emissions than their competitors with higher emission rates in the base period.
- **New entrants**: Airlines which start operations after COSIA came into force might be required to offset all their emissions if the requirement would be allocated according to the individual rate because they would not have any emissions in the base period. If the sectoral rate were applied, this effect should be irrelevant since new entrants would, relative to their emissions, face the same offset requirements as incumbents. One way of addressing this issue is by exempting new entrants for a certain period of

time (e.g. 3 years) and/or up to a maximum emission threshold from mitigation requirements. This, however, requires that new entrants can be clearly identified and distinguished from the extension of operations of existing airlines, which is often difficult in practice.

- **De minimis thresholds**: Due to the normal distribution of emissions among operators the vast majority of emissions are induced by a small share of operators. The same applies in terms of aircraft size: the vast majority of emissions are emitted by a small share of large aircraft, while many small aircraft only emit a negligible share of emissions. Since many administrative procedures including monitoring, reporting and verification (MRV) involve a fixed amount of efforts and costs, these so-called transaction costs constitute a much larger share of the total implementation costs for small airlines and aircraft. Therefore, usually smaller entities of both, airlines and aircraft, are exempted from such market-based instruments. The emissions forfeited are negligible (<0.1 %) while the savings in transaction costs both for the regulated entities and the administration are considerable.

The current COSIA proposal includes provisions for new entrant (Para. 10) and de minimis thresholds (Para. 11), though there are no provisions for fast growers or early movers. New operators are exempted from COSIA for a period of 3 years or if their annual emissions exceed 0.1 % of the total emissions of international aviation in 2020. This seems somewhat awkward since a new entrants rule would be a measure of addressing perceived unfairness if offset obligations are allocated based on the individual rate, though the current proposal is based on the sectoral rate. This introduces a distortion to competition and in the first year this exemption may, in the worst case scenario, amount to almost 2 % of the total global offset requirement. However, over the entire period of the COSIA this exemption is not likely to exceed 0.3 % of the aggregated global offset obligation.

A de minimis threshold is recommended as a means of limiting transaction costs while the emissions exempted through this rule are marginal, usually considerably below 1 %. The thresholds suggested in the COSIA proposal – aircraft operators with >10,000 t CO_2/a and aircraft >5.7 t maximum take-off mass (MTOM) – are identical with those applied in the EU emissions trading system (ETS) and thus seem reasonable.

Carbon neutral growth

The main aim of the COSIA is to stabilise international aviation CO_2 emissions at the level of 2020, usually referred to as carbon neutral growth 2020 (CNG2020). However, the current draft of the COSIA includes a number of exemptions so that it may be questioned whether this goal will be achieved or not. The exemptions due to the new entrant provision and due to the de minimis thresholds are relatively small when considered individually. The impacts of the exemptions due to phased implementation depend considerably on the assumptions and data used for determining which routes are exempted. Estimates of the share of these exemptions were conducted under the auspices of the EAG but are not publicly available. They are expected to range from a small one digit percentage point to substantial two digit figures, depending on the assumptions and on the year considered.

Basically these exemptions could be addressed if they were reallocated to those routes which are not exempted. In this way it could be ensured that the CGN2020 goal is met precisely though airlines which would then have to offset more emissions as induced by their own growth. However, since the COSIA is based on the sectoral rate, the offset obligation is already somewhat unlinked from the actual activity of an individual airline so that reallocation of offset obligations may be quite consistent. Nevertheless, Para. 12 clearly determines that exempted emissions are not redistributed.

Another thread for achieving the CNG2020 goal may come from the so-called cost safeguard provision (Para. 15). In certain events, the ICAO Council should intervene and review the COSIA in order to prevent an “inappropriate economic burden on international

aviation due to market failure". This provision seems to be simple but triggers a number of issues which are likely to become very complicated: Firstly, it is not easy to determine whether such an event applies or whether there are, for example, a few price spikes of limited permanence and in a market with little turnover. Secondly, which measures should then be taken? Thirdly, how quickly can the event, which triggers action by the Council, be identified and what will happen in the period between the event and the Council's intervention? The list of issues to be clarified can certainly be extended. But this list already illustrates that this provision, particularly due to the decision-based character of the intervention, will provide room for speculation and therefore rather induce the market distortions which it aims to prevent. The thresholds discussed for triggering these events are not publicly available but trading is likely to stop at a point at which the aviation industry is not at risk at all.

Offset quality

The quality of offsets is important for the environmental integrity of the COSIA because CO_2 emissions will not be reduced in the aviation sector itself but elsewhere. If the certificates used to offset CO_2 emissions in the aviation sector are not issued for real emission reductions, global CO_2 emissions would not be reduced. Therefore only offsets which represent measurable and additional emission reductions with long-term benefits for the environment should be eligible under the COSIA:

- Emission reductions need to be additional to ensure that the emission reduction would not have happened anyhow because it would have been economically attractive or required for other reasons (air quality, etc.).
- Long-term benefits are required in order to guarantee that the reductions are permanent and are not released again.

If the offsets stem from cap and trade schemes, it needs to be ensured that the targets of these schemes are significantly below the business-as-usual projections and do not result in so-called hot air, i.e. offsets which do not represent a real emission reduction. Moreover, it has to be ensured that units surrendered for offsetting emissions under COSIA are not used for other purposes elsewhere so as to avoid any double counting. The variety of potentially eligible offsets may include:

- Units generated under the **UNFCCC** including Certified Emission Reductions (CERs) from the Clean Development Mechanism (CDM) or under Art. 6 of the Paris Agreement.
- Units issued by **countries or groups of countries** under domestic emissions trading schemes or other domestic market-based instruments.
- Units issued by **private initiatives** such as the Gold Standard or the Verified Carbon Standard (VCS), currently mainly aiming at offsetting emissions from companies under corporate social responsibility (CSR) initiatives.

In addition to offsets generated by technologies to reduce emissions from fossil fuels by improving efficiency or substituting fossil fuels by renewable energies, the inclusion of units from activities which reduce emissions from deforestation and degradation of boreal forests, so called REDD+ activities, has also been discussed.

Despite the importance of the quality of offset units for the overall success of the COSIA, the current proposal is somewhat vague with regard to this issue. Para. 13 takes note of the work on this issue that has already been conducted by CAEP and requests this work to be continued to enable full implementation of the COSIA. Para. 17 further specifies that guidance material for Emissions Unit Criteria (EUC) should be developed (e) and that an advisory body should be established to support the application of the EUC (g). Moreover, the Council is requested to promote the use units generated under the UNFCCC (Para. 18) and to further develop aviation-related methodologies for CDM projects (Para. 19). However, the current draft does not include a provision which aims at "ensuring

environmental integrity" or provides more specific criteria for offset units such as "real, measurable, permanent and additional". In Para. 19 the draft refers to the avoidance of double counting of offset units, though only in the context of CDM projects and not more generally as an important criterion for all offset units.

Duration and governance

The current proposal suggests that the COSIA lasts from **2021 to 2035** (Para. 16). It involves phased implementation with a

- first phase from **2021 to 2025**, in which a larger share of routes are exempted, while in the
- second phase from **2026 to 2035** the routes exempted from the COSIA are reduced (Para. 7).

Emissions need to be reported on a yearly basis while airlines have three years to comply with their offset obligations (Para. 14). The design element of the COSIA should be reviewed, also on a three-yearly basis, while it should be reviewed in 2032 whether a continuation of the COSIA beyond 2035 is required.

The proposal also includes a sunset clause, which ends the scheme if the aspirational goal is met through technical and operational improvements or the shift to biofuels, while it does not include any review of whether the goal could or would need to be strengthened due to new technological breakthrough or alarming scientific results which suggest that the efforts to reduce aviation's climate impacts would need to be increased.

4. THE POSITIONS OF THE MAIN PARTIES, THE AVIATION INDUSTRY, NGOS AND OTHER STAKEHOLDERS

ICAO Member States

China favours the so-called accumulative approach for the allocation of the 2020 baseline emissions. This approach takes into account the emissions from 1992 onwards and would be beneficial for those airlines that entered the market more recently. Along with some other States, particularly Russia and India, China also wants States to be accountable rather than the airlines (EU, US, Canada and IATA positions). However, they only took this position in late 2015 and it remains to be seen whether this was a tactical move or a substantive position to question the route-based approach of the current proposal.

Recently, China together with the other BASIC countries (Brazil, India, South Africa) expressed concerns that the current COSIA proposal may impose inappropriate economic burdens on developing countries, where the aviation market is still maturing, and stressed that they consider the current proposal as not consistent with the CBDR principle and the Paris Agreement without specifying what exactly would need to be changed to address their concerns (Government of India 2016).

Previously, particularly China but also the International Air Transport Association (IATA) had insisted on provisions for fast growers and early movers. The new proposal includes neither of these provisions.

Offset obligations will be distributed pursuant to sectoral rate. This gives an advantage to fast growing airlines from Arabic and Asian countries and disadvantages incumbent airlines in industrialised countries. However, since the proposal is also based on the route-based approach and only excludes routes to and from countries with low incomes or emissions, industrialised countries will likely accept this compromise

In terms of redistribution of the exempted emissions, industrialised countries are somewhat split. While EU Member States request that the exempted emissions should be redistributed

so that meeting the CNG2020 goal is ensured, the USA together with other industrialised and developing countries are opposed to any redistribution.

Aviation industry

IATA is very supportive of the development of a GMBM because they feared most a scattered development of several incompatible policies for addressing the GHG emissions of international aviation. They suggested both the development of a CO_2 emission target and a GMBM even before ICAO decided to follow this route.

NGO

ICSA, the International Coalition for Sustainable Aviation, is the only environmental non-governmental organization (NGO) registered as an observer under ICAO. However, they involve various NGOs which are active in the field of international aviation, including the Aviation Environment Federation (AEF), the International Council for Clean Transportation (ICCT) and Transport and Environment (T&E). ICSA is also supportive of the development of a GMBM in principle. However, they prefer emissions trading rather than offsetting, emphasise the importance of high quality offsets to ensure environmental integrity, promote the redistribution of exempted emissions to ensure that the CNG2020 goal is actually met and underline that ICAO's current target of CNG2020 is not sufficiently ambitious in terms of the challenge of climate change.

Role of the EU

The EU is constructively engaging in discussions to ensure a GMBM can be adopted at ICAO's Assembly in 2016 and that the design of the GMBM actually enables that the CNG2020 target is met and not undermined by exemptions.

The European Commission is an observer and therefore has no vote. Usually the EU position is coordinated prior to the ICAO session at several meetings in Brussels and during the ICAO sessions at shorter coordination meetings before and after the daily ICAO sessions. In general, EU Member States can act independently unless there is European legislation. However, these efforts usually lead to one coordinated position, although in a few cases individual EU countries have adopted different positions.

The European Civil Aviation Conference (ECAC) involves other European non-EU countries, such as Turkey or Ukraine. Its position is usually not much different than the EU's position, since the non-EU countries are usually not that vocal. However, they can take an entirely different position at the Assembly.

Based on the result of the GMBM discussion at the ICAO Assembly in October 2016, the EU has to decide how to deal with the so-called 'stop-the-clock' decision (EU Regulation 421/2014). Currently this regulation exempts flights to and from airports outside the European Economic Area (EEA) from mitigation requirements under the EU ETS (Directive 2003/87/EC). If no agreement on a GMBM is reached, the full scope of the EU ETS would automatically be formally re-established.

5. CONCLUSIONS AND RECOMMENDATIONS FOR THE ENVI DELEGATION

ICAO's high-level meeting on the GMBM is an important meeting. It is expected that further steps towards the adoption of this new instrument can be achieved though progress is not guaranteed. The current proposal for the COSIA is already a major step towards the adoption of the GMBM in autumn 2016. It requires concessions from all groups of countries. Some developing countries may, for example, have to 'swallow' the clearly **route-based approach** while industrialized countries may need to 'digest' the **100 % sectoral rate**. However, these suggestions have not yet been adopted and will certainly be heavily

debated. In addition to these issues, the following issues are likely to also draw some attention:

- **Reflection of CBDR**: The composition of the socio-economic and aviation indicators and their respective thresholds for exemptions of routes to and from LES will certainly be discussed. Despite these exemptions, the BASIC countries still believe that the current proposal does not sufficiently accommodate CBDR. One option for addressing this concern may be to establish, for example, three different route-groups and differentiated offset obligations among those groups in a way that routes among industrialised countries would face the highest offset requirements while routes to and from other groups of countries would face less stringent offset requirements (Öko-Institut 2014). However, developing countries have not yet taken up this suggestion but rather insist on establishing special provisions for fast growers or the consideration of accumulated emissions since 1992.
- **Redistribution of exempted emissions**: Given the majorities, it is unlikely that the offset obligations are allocated in a way, which ensures that the CNG2020 goal will be exactly met. However, it makes a difference whether fewer than 5 % of emissions are exempted or more than, say, 20 %. So, if the amount of exempted emissions is kept small, forgoing redistribution may be acceptable.
- **Environmental integrity**: The current proposal remains reserved about the details of how environmental integrity of the offset units can be ensured. Since this is a very complex issue, it is understandable that the elaboration of detailed rules is postponed after the adoption of the GMBM. However, since the GMBM is in the first place an environmental instrument, it is indispensable that general requirements, such as ensuring environmental integrity, avoiding double counting and requesting that offset units are real, measurable, permanent and additional are somewhere included in the assembly resolution while detailed provisions may be worked out in the next three-year term.
- **Review of the target**: COSIA includes a sunset clause if the CNG2020 goal is achieved prior to the end of the scheme in 2035. This seems somewhat one-sided. If the CNG2020 were actually achieved, there would at least be two options: to stop the scheme or at least alleviate the offset obligation on the one hand and to make the goal more ambitious on the other hand. Given the fact that the Parties agreed in Paris to balance anthropogenic GHG emissions and removals of GHG emissions in the second half of this century, it appears peculiar that this option is not at all reflected in ICAO's current proposal for a GMBM.

The ENVI delegation should use opportunities such as bilateral meetings with delegations from other countries or informal conversations in the corridors to discuss these issues and to promote the further development of a comprehensive, reliable and environmentally sound GMBM and reiterate the EU's readiness to cooperate with all other countries towards that goal.

6. REFERENCES

- Cames, M.; Graichen, J.; Siemons, A. & Cook, V. (2015). Emission reduction targets for international aviation and shipping. http://www.europarl.europa.eu/RegData/etudes/STUD/2015/569964/IPOL_STU(2015)569964_EN.pdf.
- Government of India (2016). Basic has Played a Proactive and Constructive role in Combating Global Climate Change and International Climate Change Negotiations. http://pib.nic.in/newsite/PrintRelease.aspx?relid=138685.
- ICAO (2001). Resolutions Adopted at the 33rd Session of the Assembly (2001). http://www.icao.int/Meetings/AMC/MA/Assembly%2033rd%20Session/plugin-resolutions_a33.pdf.
- ICAO (2013a). Basket of Measures to Reduce Aviation CO2 Emissions. http://cfapp.icao.int/tools/38thAssyiKit/story_content/external_files/Flyer_US-Letter_ENV_Basket-Measures_2013-08-28.pdf.
- ICAO (2013b). Market-based Measures (MBMs). http://www.icao.int/meetings/a38/documents/wp/wp029_en.pdf.
- ICAO (2013c). Present and future trends in aircraft noise and emissions (Assembly 28th Session No. Working paper). http://www.icao.int/Meetings/a38/Documents/WP/wp026_en.pdf.
- ICAO (2016a). Draft Assembly Resolution text on Global Market-based Measure (GMBM) Scheme. http://www.icao.int/Meetings/GLADs-2016/Documents/Draft%20Assembly%20Resolution%20text%20on%20GMBM%20for%202016%20GLADs.pdf.
- ICAO (2016b). Global Aviation Dialogues on Market-Based Measures to address Climate Change: Draft Assembly Resolution Text - Design Elements. http://www.icao.int/Meetings/GLADs-2016/Documents/20160316%20GLADs_Global%20MBM%20Design%20Elements.pdf.
- Öko-Institut (2014). An Aviation Carbon Offset Scheme (ACOS) Version 3.0 - Update. http://www.oeko.de/oekodoc/2150/2014-701-de.pdf.
- UNFCCC (1992). United Nations Framework Convention on Climate Change (UNFCCC) (1992). http://unfccc.int/files/essential_background/convention/background/application/pdf/convention_text_with_annexes_english_for_posting.pdf.
- van Vuuren, D. P.; Stehfest, E.; den Elzen, M. G. J.; Kram, T.; van Vliet, J.; Deetman, S.; Isaac, M.; Klein Goldewijk, K.; Hof, A.; Mendoza Beltran, A.; Oostenrijk, R. & van Ruijven, B. (2011). RCP2.6: exploring the possibility to keep global mean temperature increase below 2°C. Climatic Change (Climatic Change), 109(1-2), pp. 95-116. doi:10.1007/s10584-011-0152-3.

[1] The share is expressed in relation to the RCP 2.6 scenario which would lead to a mean temperature increase of 1.6 ± 0.7 °C compared to pre-industrial levels by the end of the century. To achieve this, the scenario assumes a rapid decline of GHG emissions after peaking in 2020 and a complete decarbonisation of the world by 2090. Emissions of methane and N_2O also decrease but much more moderately.

[2] CO_2 emissions per person kilometer.

This document is available at: www.europarl.europa.eu/supporting-analyses
Contact: Poldep-Economy-Science@ep.europa.eu
Manuscript completed in April 2016
© European Union
Internal Ref: ENVI-2016-05
PE 578.983

CATALOGUE: QA-02-16-419-EN-C (paper)
CATALOGUE: QA-02-16-419-EN-N (pdf)
ISBN: 978-92-823-9186-0 (paper)
ISBN: 978-92-823-9185-3 (pdf)
doi:10.2861/073391(paper)
doi:10.2861/670636 (pdf)