
Possible legal arrangements to implement a global market based measure for international aviation emissions

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Possible legal arrangements to implement a global market based measure for international aviation emissions

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Abstract

This study analyses whether a legal vehicle for a single global market based measure for the offsetting of international aviation greenhouse gases, in particular CO₂ emissions, can be construed in such a fashion that it provides equal treatment to airlines operating the same routes, and complies with other parameters such as environmental integrity, governance, enforcement and dispute resolution.

An amendment of the Chicago Convention, supplemented with the establishment of technical Standards of ICAO, and a new treaty to which technical annexes are attached, would be the perfect legal solution. However the time needed for an amendment to enter into force for all States, and the adoption of a new treaty was not favoured by ICAO in 2004, necessitating the examination of other options. ICAO resolutions are not legally binding, and recent resolutions on climate change have had many points where States submitted reservations to point at their disagreement. ICAO Standards are better placed under the legal parameters than ICAO resolutions. They can provide advantages in terms of environmental integrity and can also be seen as allowing for a better governance structure. The legal concepts of equal treatment, CBDR and SCRC have been a source of disagreement, and States will have to agree on how they are to be reconciled. Downsides of Standards pertain to the uncertain legal status of such Standards which also affects their enforceability, and whether they could be applied for issues other than monitoring and reporting of emissions.

The responsible authorities could decide to apply multiple instruments simultaneously, provided that each individual instrument is legally sound and has strong political support from all States, for instance, without reservations or notification of differences, and without prejudice to the need for an oversight mechanism to overlook the functioning of the GMBM.

Executive summary

The objective of this study is to analyse how a single global market based measure (GMBM) for the offsetting of international aviation greenhouse gas emissions, in particular CO₂ emissions, can be construed in such a legal fashion that it provides assurance of equal treatment to airlines operating the same routes, and confidence that there would be a *de facto* and *de iure* level playing field for airlines to operate their services on such routes. As the Kyoto Protocol to the United Framework Convention on Climate Change (UNFCCC) has referred the limitation of greenhouse gasses from international aviation to the International Civil Aviation Organization (ICAO), the work carried out in this study proceeds from the methods which have been developed by this organisation, with special reference to the 'strawman' approach which is based on an offsetting system without revenue generation.

We have examined four principal global legal vehicles which could carry the GMBM, to wit:

- An amendment of the Chicago Convention of 1944 forming the constitution of international civil aviation, and establishing ICAO;
- A new multilateral treaty;
- An ICAO Resolution;
- Standards adopted by ICAO for inclusion in an Annex to the Chicago Convention.

These legal vehicles can supplement each other, as explained below.

We have tested the eligibility of the above legal vehicles against the following parameters:

- *Environmental integrity*, determining the capability of the vehicle to robustly contribute to the achievement of the environmental measures;
- *Governance*, discussing the strength, and weaknesses, of the institution(s) as which are responsible for the preparation, the rule making process, its administration through, among others, the Monitoring and Verification Process (MRV), remedies, sanctions and dispute settlement;
- *Transparency*, referring to, among others, the clarity, registration and accessibility of the measures, reckoning with questions pertaining to confidentiality;
- *Equal treatment* of airlines on routes, taking into account the concepts of *Common But Differentiated Responsibilities* coming from the UNFCCC/Kyoto Protocol regime and the *Special Circumstances and Respective Responsibilities* (SCRC) of ICAO;
- *Enforcement*, which is related to governance but focuses on the reliability of the responsible persons to make the measures work in practice, that is, for instance, achieving the environmental goals while maintaining equal treatment;
- *Remedies and dispute settlement*, pursuant to which States, competent regional organisations, the operators and other affected persons or entities dispose of legal means (remedies) to seek compliance with the promulgated rules before competent administrative and judicial institutions such as courts and arbitration tribunals, which are empowered to enforce their decisions with sanctions;

- *Time for operationalisation* of the measures, meaning the period between the preparation and adoption of the measure and its implementation, which analysis is also related to political, policy and legal considerations.

The above parameters, especially governance, enforcement and transparency are aligned with each other. Moreover, while our discussion is based on a legal analysis, other elements such as political realism and, in some instances, economic factors, have been regarded.

The study has been divided into two substantive chapters, A and B. Chapter A sets out the current agenda for the offsetting of aviation emissions, clarifies our methodology which is based on a global and sectorial approach, using principally legal sources of international law, with special reference to international air law and environmental law, while also touching on policy factors, and explains the parameters which are listed above. Finally, Chapter A also introduces the four legal vehicles and attempts to provide a link with Chapter B, analysing these vehicles in the light of the mentioned parameters. Chapter C contains the attachments as indicated in the Table of Contents.

We conclude that instruments could be combined provided that each individual instrument is legally sound and has strong political support from all States, that is, without notification of reservations or differences.

From a legal perspective, an amendment of the Chicago Convention, supplemented with the establishment of Standards, and a new treaty to which technical annexes are attached, would be the perfect solution as they would be capable of regulating most the above parameters in the most comprehensive manner and ensuring legal certainty. From the two options – amendment of the Chicago Convention plus Standards or ‘new treaty’ with technical annexes, we would, again from a legal perspective, prefer the ‘new treaty’ approach, as the Chicago Convention avenue departs from an existing framework with well-established principles which can be made compatible with the goals envisaged under environmental integrity, but they may have to be fine-tuned because of existing structures and principles as outlined in Chapter B. Remarkably, the last substantive amendment of the Chicago Convention was made more than thirty years ago. The ‘new treaty’ option departs from a ‘clean slate’ scenario.

However, the two legally preferred options have a weak point which pertains to time for operationalisation of the amendment and the preparation and adoption of the new treaty. This is basically a policy factor but realistically we could not ignore it.

The last mentioned conclusion brought us closer to the two other options which could likely be adopted quicker in terms of time for operationalisation, but have legal deficiencies which have been addressed below. Uncertainty reflects on parameters such as environmental integrity, governance, enforcement and dispute resolution. Resolutions can at least serve as a strong – depending on the conditions mentioned below – sign on the wall, preceding or accompanying the other legal vehicles. Thus, a resolution can pave the way for a new treaty,

or refer to the need for the establishment of ICAO Standards, as to which see also below under the discussion of the ‘mixed approach’.

ICAO Standards are better placed under the legal parameters than ICAO resolutions. They provide advantages in terms of boosting environmental integrity, a relatively simple and transparent governance structure. The legal principles and concepts of equal treatment, CBDR and SCRC have been a source of disagreement, and States will have to agree on how equal treatment and SCRC are to be reconciled. If this is done, the likelihood of States filing differences or failing to implement Standards is significantly reduced. A dispute settlement regime is available to States while, if all States apply a Standard, the time for operationalisation is manageable. Downsides of this option pertain to the uncertain if not weak status of ICAO Standards under international and domestic law, which also affects their enforceability. While realising that ICAO Standards on CO₂ emissions are under way by way of inclusion – as Volume III – in Annex 16, we have analysed this method of norm setting in somewhat greater detail and one approach could be attaching the regulation of CO₂ emissions to existing Annexes, in particular Annex 6 in conjunction with Annex 8 on the Certification of aircraft. As the standards for the certification of aircraft are designed as ‘minimum standards’ with which all aircraft operating international services under the Chicago Convention must comply, we have attempted to give this solution – via ICAO Standards, as referred to in Annex 9 – a ‘multilateral treaty’ status.

No detailed examination has taken place in ICAO of whether Standards can be used for rules determining offsetting obligations of aircraft operators or eligible types of units, which involve applying economic obligations to operators. ICAO Standards have been mentioned in discussions in ICAO for containing all GMBM rules. Also, it has not been analysed whether ICAO would have a mandate to do so; however, as we shall explained below, the mandate of ICAO under the Chicago Convention is broadly, and openly formulated.¹ The legal issues to do with making an enforceable sharing out of obligations among operators have not been addressed by ICAO either.

If States do not accept to apply a Standard or fail to implement it, for reasons such as the difficulty of reaching a single common understanding on CBDR,² such a situation would prevent the implementation of the measure, and put at risk equal treatment on routes and non-discrimination.

¹ See, for instance, Art. 44(i) pursuant to which ICAO is tasked to “i) Promote generally the development of all aspects of international civil aeronautics.”

² See, for example, the 2001 study conducted for IATA which notes that ‘Although from an equity and environmental perspective it is desirable to have global participation, it may be politically difficult to achieve this. The wider the geographical scope of emissions commitments (i.e. to developing as well as developed countries), the greater the potential contribution to mitigating climate change and the less the disruption to competition. Clearly then, global participation would be desirable. But it may be politically difficult to achieve’ (<http://www.scribd.com/doc/82335740/2001-IATA-Arthur-Andersen>)

Under a ‘mixed approach’, instruments could be combined provided that each individual instrument is legally sound and has strong political support from all States, without reservations or notification of differences. The strength of the political support for the chosen instruments from States depends on factors such as the perceived urgency, political circumstances, formulation, enforceability and other factors which are mentioned below.

This ‘mixed approach’ identifies the variable geometry of a global MBM as it combines the different elements of the design of an MBM and explains the benefit of using different legal instruments for each or at least various specific elements. Envisaged combinations include but are not limited to the following options:

- An ICAO Resolution accompanied by technical standards;
- A multilateral Treaty to which a technical annex is attached;
- An ICAO Resolution encompassing a model clause for inclusion in ASAs;
- ICAO Resolution forming the basis for a treaty and/or an amendment of the Chicago Convention of 1944.

For instance, an ICAO Resolution may contain the framework and policy objectives of the GMBM setting out goals, scope, duration and principles of implementation while SARPs, to which the resolution may refer, can regulate Monitoring, Verification and Reporting and possibly other technical elements of the GMBM³ such as offsetting of CO₂ emissions, compliance, establishment of an international registry on CO₂ emissions and settlement of disagreements. Thus, under a mixed approach an ICAO ‘recommendatory’ resolution can be combined with another instrument addressing specific, that is, the more ‘technical’ elements of a global MBM. A resolution could allude to this avenue, shaping a ‘mixed’ approach while combining the principal instruments discussed in this report.

In parallel with the establishment of SARPs, States could amend all their Air Services Agreements (ASAs) to provide for these SARPs to be specifically enforced under ASAs as is the case with those made under Annex 8, 6, 16 and other Annexes.⁴ However, the amendment of all ASAs would obviously take significant time, and if any States did not agree on a SARP, noting that CBDR and SCRC have been a source of disagreement, then it is unlikely that such States would agree to amend ASAs to provide for enforcement.

Depending on the formulation of the legal instruments and their enforceability, the ‘mixed approach’ could provide an *effective level playing field* and equal treatment between airlines. Critical elements of the global MBM shall need a robust legal design, while others can be left to ‘soft-law’. Thus, enforcement is an important challenge when a global approach is under discussion, because enforcement has always been considered as a specific weakness of the international legal order, and more specifically, of the UN organisations including ICAO.

³ See subsections B.2.5 and B.4.2 below

⁴ States – may - agree (in ASAs) that designated airlines normally must comply with SARPs when flying international routes agreed upon in ASAs. We added the word “normally” as this is the rule but there may be exceptions.

As stated variously in this report, it will depend on the commitments which States are prepared to make in 2016 and beyond to assess whether the argumentation which is followed above can be upheld in reality.

Résumé analytique

L'objectif de cette étude est l'analyse des arrangements juridiques susceptibles d'être retenus pour l'établissement d'une mesure globale fondée sur le marché (GMBM), afin de réduire les émissions de gaz à effet de serre par l'aviation, et plus précisément les émissions de CO₂, tout en permettant de maintenir une égalité de traitement et d'assurer une concurrence loyale entre compagnies aériennes opérant sur les mêmes routes.

En constatant que le protocole de Kyoto a reconnu la compétence de l'Organisation de l'aviation civile internationale (OACI) pour limiter ou réduire les émissions de gaz à effet de serre par les aéronefs, cette étude se base sur les méthodes envisagées par cette organisation. Elle s'appuie sur l'approche '*strawman*' privilégiant un mécanisme de compensation carbone, sans génération de revenus, et mise en œuvre selon une approche par route.

L'analyse se concentre alors sur quatre options juridiques - ou instruments - pouvant servir de supports éventuels d'une GMBM :

- Un amendement de la convention de Chicago, charte fondatrice du droit international de l'aviation civile, et traité constitutif de l'OACI ;
- Une convention multilatérale ;
- Une résolution de l'Assemblée générale de l'OACI ;
- Un standard adopté par le Conseil de l'OACI et intégré aux annexes à la convention de Chicago.

Ces différents instruments peuvent également se compléter mutuellement.

Cette étude examine la faisabilité de ces différentes options à l'aide d'une série de paramètres juridiques à savoir :

- L'*intégrité environnementale*, indiquant la capacité de l'instrument choisi à atteindre les objectifs préalablement associés à la mise en œuvre de la mesure ;
- La *gouvernance*, permettant l'analyse des points forts et des faiblesses de l'institution, ou des institutions responsable(s) de la préparation, de l'adoption, de l'administration, des recours, des sanctions et du règlement des différends ;
- La *transparence*, renvoyant, entre autres, à la clarté de la mesure, à l'inscription aux registres et aux possibilités d'accès aux éléments constitutifs de la mesure, ce paramètre se trouvant également lié aux questions entourant la confidentialité des données ;
- L'*égalité de traitement* des compagnies aériennes desservant les mêmes routes, tout en prenant en compte le principe des responsabilités communes mais différenciées et des capacités respectives (CBDR), issu notamment de la Convention cadre des Nations Unies sur le changement climatique et du protocole de Kyoto, ainsi que le concept des circonstances spéciales et des capacités respectives (SCRC) développé par l'OACI ;
- La *mise en œuvre*, elle-même liée au paramètre de la gouvernance, mais se concentrant plus précisément sur la fiabilité des personnes et des institutions responsables de la mise en œuvre de l'instrument adopté, et permettant, à titre d'exemple, d'atteindre les objectifs environnementaux tout en assurant une égalité de traitement des compagnies aériennes ;

- Les *recours et le règlement des différends*, permettant aux Etats, aux organisations régionales compétentes, aux opérateurs et aux personnes concernées de disposer des recours nécessaires pour garantir le respect de la règle de droit devant les institutions administratives ou judiciaires compétentes, ainsi que devant les tribunaux arbitraux, ces derniers se trouvant habilités à exécuter des décisions associées à d'éventuelles sanctions ;
- La *durée de mise en œuvre*, s'écoulant entre la période de préparation et d'adoption de la mesure, et sa mise en œuvre effective, une telle analyse devant concilier les considérations d'ordres politique et juridique.

Les paramètres qui viennent d'être énoncés, et notamment la gouvernance, la mise en œuvre et la transparence, sont intimement liés. En outre, et bien que cette étude se focalise sur des questions d'ordre juridique, d'autres éléments tels que le réalisme politique et, dans certains cas, les aspects économiques, ont été pris en compte.

Cette étude est divisée en deux chapitres, les chapitres A et B. Le premier chapitre se réfère tout d'abord au calendrier d'adoption et de mise en œuvre de la mesure de compensation carbone, délimite l'objet d'étude – à savoir une mesure globale et sectorielle – et précise la méthodologie employée, centrée sur l'analyse des sources de droit international public, et notamment sur les sources spécifiques de droit international de l'environnement et du droit international de l'aviation civile. Ce chapitre permet également de préciser les paramètres politiques entourant l'adoption d'une GMBM, ainsi que les divers paramètres juridiques énumérés ci-dessus. Ce premier chapitre permet, enfin, d'introduire les instruments juridiques envisagés, afin d'effectuer la transition vers un Chapitre B ayant pour ambition d'analyser ces instruments à la lumière des paramètres précédemment indiqués. Le Chapitre C inclut quant à lui les annexes signalées dans la table des matières.

D'un point de vue juridique, un amendement de la convention de Chicago, complété par l'adoption d'un Standard OACI, ou l'adoption d'une convention multilatérale accompagnée d'annexes techniques, apparaissent comme les solutions idéales puisque ces instruments permettent une approche globale prenant en compte de manière adéquate l'ensemble des paramètres susmentionnés. Face à ces deux options, le choix se portera néanmoins, d'un point de vue ici encore strictement juridique, sur l'adoption d'une convention multilatérale. En effet, l'éventualité d'une modification de la convention de Chicago soulève le problème d'une remise en cause d'un cadre juridique et de principes solidement établis, eux-mêmes compatibles avec les objectifs encadrant l'intégrité environnementale de la mesure envisagée. En outre, le dernier amendement d'une norme substantielle de la convention de Chicago remonte à plus de trente ans.

Néanmoins, ces deux premières options juridiques ont pour points faibles : s'agissant de l'amendement, la durée de sa mise en œuvre et, s'agissant de la convention multilatérale, le temps nécessaire à sa préparation et à son adoption. Bien que de nature politique, ces paramètres ne peuvent néanmoins être ignorés dans les conclusions de cette étude.

Cette toute dernière remarque amène les auteurs de ce rapport à considérer deux instruments juridiques dont la durée de mise en œuvre effective semble réduite, mais

présentant néanmoins certaines faiblesses juridiques. Ainsi, bien que les réflexions sur les résolutions de l'Assemblée générale de l'OACI, et plus généralement sur les résolutions dans le cadre des Nations Unies, semblent évoluer vers un renforcement de leur force juridique, il faudra néanmoins admettre que de telles conclusions dépendent d'une analyse au cas par cas, et de la prise en compte et de l'interprétation de nombreux facteurs sous l'angle du droit international. Cette incertitude se reflète ainsi sur les paramètres essentiels de l'intégrité environnementale, de la gouvernance, de la mise en œuvre et du règlement des différends. L'instrument de la résolution peut néanmoins indiquer, par la combinaison des facteurs juridiques précédemment évoqués, une intention ferme des acteurs en présence, et accompagner ou devancer ainsi l'adoption d'un instrument juridique plus contraignant. Sous cet angle, l'adoption d'une résolution pourrait ouvrir la voie à l'adoption d'un nouveau traité, ou souligner l'adoption nécessaire d'un standard OACI dans ce domaine.

Il est ensuite souligné que les standards OACI renferment certaines caractéristiques juridiques faisant défaut aux résolutions. Ils ont l'avantage de posséder, en termes d'intégrité environnementale, une structure de gouvernance relativement simple et transparente, et de permettre de concilier les principes et concepts juridiques d'égalité de traitement, de CBDR et de SCRC. En outre, un mécanisme de règlement des différends est disponible à différents niveaux et la durée de mise en œuvre semble adéquate. L'inconvénient d'un tel instrument repose sur les incertitudes liées à leur statut juridique, dont la force contraignante est parfois amoindrie, un constat se reflétant directement sur la question de leur mise en œuvre. Remarquant néanmoins que l'intégration, au sein d'un volume 3 de l'annexe 16, d'un Standard sur les émissions de CO₂, est en cours d'analyse dans le cadre de l'OACI, ce rapport étudiera cette question, de manière particulièrement approfondie, puisque sera envisagée l'ajout d'un Standard CO₂ aux annexes 8 ou 6 à la convention de Chicago notamment. En constatant que les standards relatifs à la navigabilité des aéronefs sont qualifiés de « standards minimaux », se devant ainsi d'être respectés par l'ensemble des aéronefs assurant des services aériens internationaux, cette étude envisagera la qualification multilatérale d'une telle approche.

Aucune analyse n'a néanmoins été effectuée, au sein de l'OACI, quant à l'utilisation éventuelle d'un standard OACI en tant que règle distributive des obligations de compensation entre compagnies aériennes ou permettant l'identification des critères d'éligibilité des unités de compensation. Un tel standard impliquerait en effet l'imposition d'obligations économiques aux compagnies sans lien direct avec un aéronef précis ou son opération. L'hypothèse d'un standard OACI a toutefois été mentionnée par l'OACI en tant qu'instrument support des éléments normatifs GMBM, sans se limiter aux règles relatives au calcul, à la vérification et à la déclaration (MRV) des émissions. La problématique juridique liée à la mise en œuvre d'obligations partagées entre les compagnies aériennes n'a pas été examinée en détail par l'OACI.

Si les Etats n'acceptent pas d'appliquer un standard ou échouent lors de sa mise en œuvre, notamment en cas de désaccord sur l'appréhension commune du principe CBDR,⁵ cela empêchera la mise en œuvre de la mesure, entraînant le risque d'une absence d'égalité de traitement et de concurrence loyale entre compagnies opérant sur les mêmes routes.

Par le biais d'une 'approche mixte', les différents instruments étudiés peuvent également être combiné à condition que chaque instrument apparaisse justifié d'un point de vue juridique et reçoive un appui politique solide de l'ensemble des Etats, appui illustré notamment par l'absence de réserve ou de notification de différence. La force du soutien politique des Etats vis à vis des instruments choisis dépend de facteurs tels que la perception de l'urgence, les circonstances politiques, la formulation, la mise en œuvre ainsi que d'autres éléments mentionnés ci-dessous.

Cette 'approche mixte' se base sur la géométrie variable d'une GMBM, combinant les différents éléments de conception de la mesure tout en justifiant les avantages liés à l'utilisation d'instruments différents pour chaque, ou du moins certains, de ces éléments. Une liste non exhaustive de combinaisons possibles comprend :

- Une résolution OACI accompagnée de standards techniques
- Un traité multilatéral auquel se trouve jointes des annexes techniques
- Une résolution OACI comprenant une « clause modèle » mise en œuvre par l'intermédiaire des ASAs
- Une résolution OACI servant de base à l'adoption d'un traité ou à l'amendement de la convention de Chicago

Ainsi, une résolution OACI peut inclure le cadre juridique et les objectifs politiques de la GMBM, énonçant ainsi les buts, le champ d'application, la durée et les principes de mise en œuvre. L'adoption de SARPs, auxquels la résolution ferait référence, permettrait quant à eux de régler non seulement les éléments techniques de la GMBM, y compris la compensation des émissions de CO₂ dans un volume 3 de l'annexe 16 ou au sein de différentes annexes préexistantes, mais également d'autres éléments tels que la conformité, la déclaration, la mise en place d'un registre international des émissions de CO₂, ou le règlement des différends. Ainsi, l'« approche mixte » permettra de combiner une résolution OACI, sous le forme d'une recommandation, à un autre instrument s'occupant d'aspects spécifiques, et plus techniques, de la GMBM. Une résolution peut ouvrir cette voie, façonnant l'« approche mixte » par une combinaison des instruments discutés dans ce rapport.

⁵ V., par exemple, l'étude de 2001 entreprise par l'IATA, et constatant que 'although from an equity and environmental perspective it is desirable to have global participation, it may be politically difficult to achieve this. The wider the geographical scope of emissions commitments (i.e. to developing as well as developed countries), the greater the potential contribution to mitigating climate change and the less the disruption to competition. Clearly then, global participation would be desirable. But it may be politically difficult to achieve' (<http://www.scribd.com/doc/82335740/2001-IATA-Arthur-Andersen>).

L'utilisation de SARPs peut également être combinée aux accords de services aériens (ASAs). Ces SARPs pourront ainsi, et plus précisément, être mis en œuvre par l'intermédiaire des ASAs comme dans le cas des annexes 6, 8, 16 et autres.⁶ Le processus d'amendement de l'ensemble des ASAs prendrait néanmoins, et logiquement, un certain temps. Et si un Etat se trouve en désaccord avec le contenu du SARP, notamment face à la question controversée du principe CBDR ou de la notion des SCRC, il est fort peu probable que cet Etat accepte la modification de son réseau de ASAs afin de permettre la mise en œuvre de ce SARP.

Suivant la formulation des instruments et de leur applicabilité, l'« approche mixte » peut également être un moyen d'assurer une concurrence loyale et une égalité de traitement entre les compagnies aériennes. Certains éléments essentiels nécessiteront ainsi une structure juridique solide, alors que d'autres pourront être laissés aux mains de la « soft law ». La mise en œuvre est quoi qu'il en soit un défi d'envergure lors des discussions sur l'éventualité d'une GMBM, puisque la mise en œuvre a toujours été considérée comme le point faible de l'ordre juridique international, et plus précisément des organisations du système onusien, auquel appartient l'OACI. Comme indiqué à plusieurs reprises au sein de cette étude, tout cela dépendra néanmoins de la volonté des Etats de s'engager en 2016 et au-delà. Ce paramètre est essentiel pour évaluer si l'argumentation présentée dans le présent rapport est justifiée sous l'angle du réalisme politique.

⁶ Les Etats s'accordent, ou peuvent s'accorder, par l'intermédiaire des accords de services aériens, sur l'obligation normale de conformité aux SARPs des compagnies aériennes en charge des services sur les routes désignées par l'accord. Nous ajoutons l'adjectif 'normal' puisque cela constitue le principe, et qu'il peut y avoir des exceptions.

List of Principal Abbreviations and Acronyms

AASL	<i>Annals of Air and Space Law</i>
ACDM	Aviation Clean Development Mechanism
ADP	Ad Hoc Working Group on the Durban Platform for Enhanced Action
AFDI	<i>Annuaire Français de Droit International</i>
AFTF	Alternative Fuel Task Force
AGD	Aviation Global Deal
AJIL	<i>American Journal of International Law</i>
ANC	Air Navigation Commission (of ICAO)
ANSP	Air Navigation Service Provider
AOC	Air Operator Certificate
ASA	Air Service Agreement
ASBU	Aviation System Block Upgrade
ATA	Air Transport Association
ATCONF	ICAO's Worldwide Air Transport Conference
BYIL	<i>British Yearbook of International Law</i>
CAEP	Committee on Aviation Environmental Protection
CBDR	Common but Differentiated Responsibilities and Respective Capabilities
CDM	Clean Development Mechanism
CJEU	Court of Justice of the European Union (formerly ECJ)
CNG	Carbon Neutral Growth
COP	Conference of the Parties
DOT	United States Department of Transportation
CO ₂	Carbon Dioxide
CRS	Computerised Reservation System (see also GDS)
EANPG	European Air Navigation Planning Group
EAG	Environmental Advisory Group
EASA	European Aviation Safety Agency
ECAC	European Civil Aviation Conference
ECJ	European Court of Justice
EEA	European Economic Area
EFTA	European Free Trade Association
EJIL	<i>European Journal of International Law</i>
ERU	Emission Reduction Unit
ETS	Emissions Trading Scheme
EU	European Union
EUAAs	European Union Aviation Allowances
EUA	European Union Allowances
EUC	Emissions Units Criteria
EU ETS	European Union Emissions Trading Scheme
FAB	Functional Airspace Block
FIR	Flight Information Region
FAA	Federal Aviation Administration of the United States
GA	General Assembly
GANP	Global Air Navigation Plan
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDS	Global Distribution Systems (formerly CRSs)
GHG	Greenhouse Gas/ Greenhouse Gases
GIACC	Group on International Aviation and Climate Change

GLAD	ICAO's Global Aviation Dialogue
GMBM	Global Market-based Measure
GMTF	Global Market-based Measure Technical Task Force
HGCC	High Level Group on International Aviation and Climate Change
HLG	High-Level Group
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICJ	International Court of Justice
IGO	Intergovernmental Organization
IMO	International Maritime Organization
INDC	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
LJIL	<i>Leiden Journal of International Law</i>
LMDCs	Group of Like-minded Developing Countries
MARPOL	International Convention for the Prevention of Pollution from Ships
MBM	Market-based Measure
MEPC	Marine Environment Protection Committee
MRV	Monitoring, Reporting, and Verification
N ₂ O	Nitrous Oxide
NDRC	National Development Reform Commission
NGO	Non-Governmental Organization
NO _x	Nitrogen Oxide
NYIL	<i>Netherlands Yearbook of International Law</i>
OECD	Organization for Economic Co-operation and Development
OJEU	Official Journal of the European Union
RANA	Regional Air Navigation Agreement
RANP	Regional Air Navigation Plan
RGGI	Regional Greenhouse Gas Initiative
RM	Rebate Mechanism
RTK	Revenue Tonne Kilometre
SARPs	Standards and Recommended Practices
SBSTA	Subsidiary Body for Scientific and Technological Advice
SCRC	Special Circumstances and Respective Capabilities
TFEU	Treaty on the Functioning of the European Union
UK	United Kingdom
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UNTS	United Nations Treaty Series
USAP	ICAO's Universal Security Audit Programme
USOAP	ICAO's Universal Safety Oversight Audit Programme
VCLT	Vienna Convention on the Law of Treaties
WCI	Western Climate Initiative
WTO	World Trade Organization

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A. CONTEXT OF THE STUDY

1. WORK ON A GLOBAL MBM

At the International Civil Aviation Organisation (ICAO), work on a Global Market Based Measure (GMBM) scheme is currently being undertaken pursuant to Assembly Resolution A37-19, paragraph 13, which:

“requests the Council, with the support of member States and international organizations, to continue to explore the feasibility of a global MBM scheme”.⁷

On October 4th 2013, ICAO concluded the 38th Session of its General Assembly with a new resolution dealing with the impact of international air transport on climate change.⁸ More specifically, the Assembly “decides to develop a global MBM scheme for international aviation” and requests the Council to “identify the mechanisms for the implementation of the scheme from 2020” and “report the result of the work for decision by the 39th Session of the Assembly”.⁹

At the same time, environmental protection remains a principal objective of the policies conducted by the European Union (EU). The EU has often taken the lead in global efforts to mitigate climate change. This goal is laid down in the Treaty on the Functioning of the European Union (TFEU), and in particular in its article 191,¹⁰ whereas the reduction of greenhouse gases has been targeted in EU Directive 2003/87.¹¹ Despite the extension of the scope of this latter directive in 2008,¹² so as to encompass greenhouse gases emitted by civil aviation, the EU decided in 2014 to temporally amend the former Directive 2003/87, excluding inbound and outbound EU flights from its scope, in order “to secure a future international agreement to control greenhouse gas emissions from aviation.”¹³

⁷ ICAO, General Assembly Resolution A37-19, *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change*, available at http://www.icao.int/environmental-protection/37thAssembly/A37_Res19_en.pdf [last accessed on 19/07/2015].

⁸ ICAO, General Assembly Resolution A38-18, *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change*, Available at http://www.icao.int/publications/Documents/10022_en.pdf [last accessed on 19/07/2015].

⁹ Id., § 18 and 19.

¹⁰ Article 191 TFEU: “Union policy on the environment shall contribute pursuit to (...) promoting measures at international level to deal with regional and worldwide environmental problems, and in particular combating climate change”. See the Consolidated version of the Treaty on the Functioning of the European Union, OJEU, C 326/47, Article 191.

¹¹ See EU Directive 2003/87 of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.

¹² See EU Directive 2008/101 of the European Parliament and of the Council of 19 November 2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community.

¹³ See EU Regulation 421/2014 of the European Parliament and of the Council of 16 April 2014 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in view of the implementation by 2020 of an international agreement applying a single global market-based measure to international aviation emissions, at 2.

While up to date technologies, including improvements of aerodynamic designs and avionics, are gradually introduced into new aircraft models, and current models are adapted to efficiency standards, the achievement of a *global* agreement addressing mounting CO₂ emissions from international aviation is welcome. At the same time, the timeframe seems tight as this GMBM must be adopted in 2016 in order to be operational by 2020.

2. THE PURPOSE OF THIS STUDY

It is crucial to have a good understanding of how legal issues will be addressed if there is to be a global market-based measure. As long ago as 2001, it was recognised that:

“There is no legal basis for legal entities (e.g. airlines) themselves to be capped directly by an intergovernmental body. It will be up to sovereign governments to decide whether (and, if so, how) to devolve their commitments to the entity level.”¹⁴

The 2013 ICAO Assembly Resolution is a significant change in position from the conclusion of the ICAO Committee on Aviation Environmental Protection in 2004 that “an aviation-specific emissions trading system based on a new legal instrument under ICAO auspices seemed sufficiently unattractive that it should not then be pursued further.”¹⁵

In order to comply with the environmental targets and objectives set by UNFCCC, a large basket of measures and policies were analysed, including regulatory measures, operational measures, alternative fuels and market-based measures. At the same time, all of the stakeholders seem nowadays to acknowledge the necessity of market-based measures.

The technical, environmental and economic aspects of such a global scheme have been and are extensively studied by ICAO, in particular the Committee on Aviation Environmental Protection (CAEP) and its Working Groups, and the Environment Advisory Group (EAG) working under the guidance of the ICAO Council, whereas policy directions found their way in Resolutions adopted by ICAO bodies, including the General Assembly. However, little attention has been paid since 2004 to the legal vehicle of a GMBM implemented by all 191 of the ICAO Member States. Hence, all of these factors, combined with the urgency created by climate change, its Member States and stakeholders, call for worldwide consensus in the time frame agreed upon in ICAO Resolution A38-18. Thus, the purpose of this study is to identify the legal feasibility of arrangements for the implementation of a GMBM, and analyse how this single GMBM can be enforced, including in the context where not all States agree.¹⁶

¹⁴ See report at <http://www.scribd.com/doc/82335740/2001-IATA-Arthur-Andersen>

¹⁵ See recital 9 of Directive 2008/101/EC

¹⁶ See <http://www.publications.parliament.uk/pa/cm201415/cmselect/cmenergy/739/739.pdf> for a report by the UK Parliament on the establishment of global carbon pricing

3. APPROACH

3.1 Methods for addressing the purpose of this study

This study examines and analyses the principal legal instruments that may affect the establishment of a GMBM, including but not limited to the Chicago Convention on international civil aviation of 1944, henceforth: the Chicago Convention, the Annexes thereto, Resolutions and other measures adopted by ICAO, selected provisions of Air Services Agreements (ASAs), UNFCCC and Kyoto Protocol provisions, and studies, policies and regulations developed by States, supranational organisations, notably the EU, and renowned experts in this field.

As the subject is moving on rapidly, interviews with national authorities, representatives of relevant international organizations and experts have been an important tool for examination and analysis. The same is true for cases and case law.

We adopt a pragmatic approach in this study, taking into account the regulatory regimes and the realities of the policy relations between States, international and supranational organisations, and the time needed for operationalisation. Also, the position of developing States should be examined, in particular under the UNFCCC process, as it may constitute a challenge for the adoption of a GMBM and its implementation. At the same time we shall have due regard for the maintenance of a level playing field guaranteeing a high degree of equal treatment of the airlines operating their services.

3.2 A sectorial approach

The Kyoto Protocol provides in Article 2.2 that

“the Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation (...) bunker fuels, working through the International Civil Aviation Organization.”

Thus, the UNFCCC requires Annex I countries to work through ICAO for the application and implementation of measures regarding the reduction of aviation emissions.

The Kyoto Protocol refers to *aviation*, and not to civil aviation, Again, ICAO's mandate under the Chicago Convention is explicitly limited to the operation of *civil* aircraft; hence we shall not examine options for emission coming from State aircraft.

Also, we shall make no distinction between civil aircraft carrying passengers or cargo, or operating scheduled and non-scheduled services as these distinctions do not play a role in the Resolutions adopted so far by ICAO on the present subject.

3.3 A global measure

This study will focus on *international* civil aviation, while also looking at the possible application of ICAO regulations to domestic aviation. The cited provision seems to recommend such an approach, by referring to the “*limitation or reduction of emissions of greenhouse gases (...) from aviation*”, omitting the word “international”.¹⁷ As said, ICAO’s mandate under the Chicago Convention is in principle restricted to *international* civil aviation,¹⁸ which is the principal scope of the current initiatives where competitive distortion on international routes must be avoided.

While a main advantage of a global approach lies in the avoidance of duplicating and conflicting regimes as air transport is a worldwide undertaking, existing and planned emission trading systems including aviation would not duplicate nor conflict. Taking into account the objective of a *non-duplicative policy*,¹⁹ such a global policy should avoid airlines to be charged more than once for their emissions. Operators should also be prevented from ‘double claiming’ of emissions units, which objective goes even beyond the *non-duplicative policy* as it ensures the environmental integrity and the credibility of the GMBM.

3.4 Global mandatory offsetting

While insisting on market based measures, ICAO States also endorsed a flexible and ‘low-cost’ approach for the industry. During the 196th Session of the ICAO Council in June 2012, options for a GMBM were reduced to the following three measures:

- (1) Global mandatory offsetting without revenue generation;
- (2) Global mandatory offsetting combined with a revenue generation mechanism;
- (3) Global emissions trading scheme using a cap and trade approach.

Focus has now been placed on the first option also known as the ‘*strawman* approach’ for a GMBM scheme for international aviation. According to this approach, and in simple terms, offsetting will be accomplished through the purchase of emissions units that certify emissions reductions. In order to achieve stabilisation of carbon dioxide emissions at 2020 levels, the industry can focus on a net’s CO₂ emissions reduction,²⁰ by balancing a measured amount of carbon released with an equivalent amount offset, or buying enough carbon credits from other undertakings to make up the difference. Thus, the GMBM would use emissions units available through the carbon market but the global scheme will not generate emissions reduction credits.

¹⁷ See Kyoto Protocol to the United Framework Convention on Climate Change, 1997, Kyoto, EMuT, 992 : 35/A, Art. 2(2).

¹⁸ As indicated by the Article 44 of the Chicago Convention, “the mains and objectives of the Organization are to develop the principles and techniques of *international* air navigation and to foster the planning and development of *international* air transport.” *Italics added*. Convention on International Civil Aviation, 7 Dec. 1944, 15 UNTS 295.

¹⁹ See, ICAO General Assembly Resolution A38-18, cited above, principle (f).

²⁰ 3.16 kg CO₂ is emitted per ton fuel which is combusted. The consumption of fuel is measured by a, among others, a fuel meter on board the aircraft. These facts may be used when analysing legal instruments in Chapter B.

Beyond the debate regarding the choice of this offsetting mechanism, which can be seen as not complying with the article 2.2 of the Kyoto Protocol asking for the “*limitation or reduction of emissions*”, we shall refer in this report to the “*offset*” of emissions in the case of international aviation.

In order to enhance the effectiveness of the GMBM, the *cost-effectiveness* of the measure should also be considered. Thus, in the view of the Aviation Global Deal group:

“any economic measures applied to aviation under a global sectorial approach must offer the greatest environmental benefit while simultaneously providing the most cost-effective outcome for the industry.”²¹

Hence, the *cost-effectiveness* of the global measure is one of the main reasons of ICAO’s policy surrounding the adoption and implementation of a global GMBM. In this connection, and based on policy discussions on taxes and charges, air navigation charges and passenger taxes/charges have been excluded from the scope of this study.

²¹ Aviation Global Deal Group, *A Sectoral Approach to Addressing International Aviation Emissions*, Discussion Note 2.0.09 June 2009. Available at http://www.agdgroup.org/pdfs/090609_AGD_Discussion_Note_2.0.pdf [last accessed on 19/07/2015].

4. PARAMETERS FOR THE ESTABLISHMENT OF THE GMBM

4.1 Identification of the parameters

The parameters for the establishment of the global instrument, that is:

- Environmental integrity (4.2)
- Equal treatment (4.3)
- Transparency (4.4)
- Governance (4.5)
- Enforcement (4.6)
- Remedies and dispute settlement (4.7)

will be addressed in the next subsections. The legal vehicles for a GMBM will be checked in light of the above parameters, in Chapter B.

The legal vehicles will also be analysed under the criteria pertaining to *time for operationalisation including political feasibility, administrative burden and cost effectiveness*. We have linked these subjects as we believe that they have an intrinsic relationship and their examination is only marginally based on legal analysis.

4.2 Environmental integrity

In simplified terms, the concept of “environmental integrity” aims at ensuring that *“human activities do not erode earth’s land, air, and water resources.”*²². Even though it results difficult to assess in legal terms, the concept of environmental integrity when applied to the GMBM shall be examined with regard to the practical consequences of the implementation of the scheme: a measure in conformity with the environmental integrity principle should reduce international aviation net’s CO₂ emissions in line with predetermined policy targets. During the General Assembly of ICAO held in Montreal in 2013, such targets were included in the ICAO General Assembly Resolution A38-19:

“ICAO and its Member States with relevant organizations will work together to strive to achieve a collective medium term global aspirational goal of keeping the global net carbon emissions from international aviation from 2020 at the same level.”²³

²² FLOURIS (T.G.), KUCUK YILMAZ (A.), 2011, *Risk Management and Corporate Sustainability in Aviation*, Farnham, Ashgate, 240 pp., at 25.

²³ ICAO, General Assembly Resolution A38-18, cited above, para. 7. See, however, the reservation filed by the European Union regarding this target: *“the 28 Member States of the European Union, and 14 other Member States of ECAC believe that the collective ‘aspirational’ goal formulated to apply from 2020 is insufficiently ambitious. By 2020, global international aviation emissions are projected to be around 70% higher than 2005 levels, even with the 2% per year fuel efficiency improvement foreseen in the Resolution. Accordingly, the European Union has consistently advocated that the global reduction target for greenhouse gas emissions from international aviation should be a 10% reduction by 2020 compared to 2005 levels.”* Statement of Reservation by Lithuania on behalf of the Member States of the European Union and 14 others Member States of the European Civil Aviation Conference (ECAC) with regard to ICAO Assembly Resolution A38-18.

It should be avoided that emissions continue to increase while markets are distorted. Thus, the possible distortions are not so much produced on a route basis – as all air carriers flying the selected routes must be subject to the same rules and measures – but from a global network perspective pursuant to which competing carriers will avoid the selected routes. These opportunities confirm the linkage between the operation of international air services.

4.3 Equal treatment in relation to CBDR/SCRC

4.3.1 The relationship between these concepts

The ‘*equal treatment*’ principle which is one of the cornerstones of the GMBM policy must be matched with the *Common But Differentiated Responsibilities* (CBDR) principle coming from the UNFCCC/Kyoto Protocol regime following which only developed States (including mainly ‘Annex I States’ of the Kyoto Protocol) bear commitments for quantified emissions reductions. The CBDR principle has found its way into ICAO language via the concept of *Special Circumstances and Respective Capabilities* (SCRC).²⁴ Thus, SCRC may be interpreted as tantamount to the CBDR principle in order to take into account the specificities of the international aviation community as the classification of States as developing countries ought to be fine-tuned.

The possible tension between the CBDR and SCRC concepts on the one hand, and the *non-discrimination* principle laid down in the Chicago Convention/ICAO regime on the other, was illustrated by the Statement of Reservation made on the behalf of the EU to Assembly Resolution A38-18, where Lithuania stated that the application of the UNFCCC principle:

“would result in market distortions and discrimination among operators if there were to be differing treatment between operators on the basis of their nationality for activities to and from airports in Europe. As such, this would be in contradiction with the principles enshrined in the Chicago Convention and which govern ICAO’s work.”²⁵

Also, in the words of the representative of the United States, this country:

“.. does not consider that principles of the United Nations Framework Convention on Climate Change, including the principle of ‘common but differentiated responsibilities and respective capabilities’, apply to ICAO, which is governed by its own legal regime. Accordingly, the United States reserves to guiding principle (p) in the Annex to this resolution.”²⁶

4.3.2 Equal treatment and non-discrimination in relation with CBDR and SCRC

²⁴ See, for instance, ICAO, *Report of the Assessment of Market-based Measures*, ICAO Doc 10018 (2013), at 6-3.

²⁵ Statement of Reservation by Lithuania on behalf of the Member States of the EU and 14 others Member States of the European Civil Aviation Conference (ECAC) with regard to ICAO Assembly Resolution A38-18 cited in footnote 22, above

²⁶ Statement of Reservations the United States regarding the 38th ICAO Assembly Resolution: Consolidated Statement of Continuing ICAO Policies and Practices Related to Environmental Protection – Climate Change.

Under the Chicago Convention, the non-discrimination principle has a limited scope. The objective set for ICAO in the article 44 (g) of the Chicago convention, only provision mentioning the term “discrimination”, is limited to “*avoid discrimination between contracting States*”, and has never been tested in practice, including case law. Implicitly, the non-discrimination principle, to be understood as ‘national treatment’, that is, national aircraft must be treated in the same manner as aircraft registered in another ICAO State, is enshrined in other provisions of the Chicago convention.²⁷

In an effort to reconcile CBDR/SCRC with the equality and the non-discrimination principles, the ICAO Secretariat has listed technical, policy, financial and market based tools which are designed to address SCRC in the context of the introduction of GMBM. Also, they can be used to differentiate the *route-based approach*,²⁸ avoiding market distortions and ensuring equal treatment on routes. States could agree that ICAO should supervise the application and implementation of this process.

Thus, States may be able to agree that a *route-based approach* could be implemented while taking into account equal treatment, the CBDR and SCRC in the following fashions:

- (1) Exemption from compliance with MBM’s on routes to and from *developing States* whose share of international air transport activities is below a threshold of, for instance, 1% of total revenue ton kilometres, also referred to as *de minimis*,²⁹ and in accordance with the above CBDR/SCRC principles.
- (2) Gradual introduction of MBM’s on *selected routes*, for instance, founded on the quantity of the international aviation activities to begin with, upon which the number of selected routes will be expanded in accordance with a time table and criteria based on an international agreement and the agreed quantum. Candidates for selected routes are routes between the EU and the US/Canada, and Australia, New Zealand.
- (3) A *mixed approach*, combining the two above options.

Further a *route-based approach* could be combined with a phase-in period. This means that the scheme could start with covering routes to and from certain States first (for instance,

²⁷ See Chicago Convention, Art. 9 (a) and (b), 11, 12 and 15

²⁸ A route-based approach may be defined as a “*method for allocating offset obligations based on differentiation at the route level.*” See ICAO Environmental Advisory Group Meeting (EAG/11), May 26-27, 2015, Preliminary Results of Technical Analyses by CAEP, Presented by ICAO CAEP, at 6. The origin of such approach may first be found in the search for alternative ‘Methods for Allocating Offset Obligation’, which is different from the operator-based approach. In fact, a route-based approach differs from the operator-based approach, based for instance in basic calculation, fast grower or adjustment, even if a route-based approach needs to include a mechanism in order to distribute the obligations to the operators. As it is designed to stay neutral with respect to the operators, the intended purpose of a route-based approach may be understood as a way to reconcile the equality of treatment, non-discrimination and the CBRD principles.

²⁹ See also ICAO General Assembly Resolution A38-18, cited above, at 16 b.

industrialized countries), while routes from and to other States (for instance, developing countries) could be integrated in the geographical scope of the scheme at a later stage.³⁰

However, ICAO warns that “the key aspect when choosing the optimal approach would be to ensure that *market distortion is minimized*.”³¹ (*italics added*). It seems to us that all of these measures are designed to differentiate responsibilities among developing and developed States (*de facto* equality), and to apply diverging conditions for market access to international routes, while ensuring equal treatment on identified routes.

4.4 Transparency, confidentiality and public access

Transparency remains a central requirement for the implementation of the global market-based measure as recalled by one of the guiding principles of the annex to ICAO Resolution A38-18: “MBMs should be transparent and administratively simple.”³² Indeed, transparency and public access also represent basic principles of the European Union.³³ At the same time, transparency could also play a role in specific design elements of the GMBM, for instance, in the context of the Monitoring Reporting and Verification (MRV) process.

Compliance by airlines with the GMBM must be assured by adequate supervision measures such as MRV and other processes. Hence, lessons could be learned from existing ICAO audit programmes on aviation safety and security, but one must be careful to apply these programmes one by one to the protection of the environment, as there are important differences between the promotion of safety and security targets under international air law regimes on the one hand, and environmental targets on the other.

Also, an adequate balance should be maintained between transparency and confidentiality, as the information involved can contain strategic information about the airline daily business. The 35th Session of the ICAO General Assembly recognised anyway that transparency should play a central role in a safe air transport system which led to, among others, to the above audits conducted by ICAO. States could agree that ICAO should play a central role in enhancing transparency and providing public access to information as a comprehensive regime should be fostered. Thus, ICAO could be requested by its Member States to publish reports or to create a registry identifying routes, airlines operating those routes and allowable CO₂ emissions. The reports may preferably be public, using the USOAP model.³⁴ At the same time, transparency as a way to facilitate enforcement must be matched with an adequate level of confidentiality of sensitive information, which could drive to the implementation of the ‘limited transparency’ concept already used for the security audits.

³⁰ See ICAO General Assembly Resolution A38-18, cited above. § 21 calls for a phased implementation as an option on routes to developing States.

³¹ ICAO, *Report of the Assessment of Market-based Measures*, cited above, at viii.

³² *Ibid.*

³³ See, Article 11(3) of the TFEU: “the European Commission shall carry out broad consultations with parties concerned in order to ensure that the Union's actions are coherent and transparent”, Art. 11(3).

³⁴ See <http://www.icao.int/safety/Pages/USOAP-Results.aspx> [last accessed on 19/07/2015].

4.5 Governance

Governance is a crucial element of *all* phases of establishment of a global MBM, including preparation, the rule making process, administration through, among others, the Monitoring, Reporting and Verification (MRV) process³⁵ and the registration of allowances, and enforcement of the MBM, compliance with the MBM by the airlines, remedies and penalties, and dispute settlement. As we are talking about a GMBM, the obvious candidate for securing governance is ICAO, as other worldwide bodies such as WTO and UN related bodies such as United Nations environment programme (UNEP) have no competence to govern aviation emissions.

ICAO's role has been, and still is, articulated in some of these phases, in particular policy making and preparation of studies preparing for the establishment of the GMBM; however, as ICAO has limited enforcement powers and its resources in the field of dispute settlement have hardly been used for political and other reasons, attention shall be devoted to all of these functions of governance in the subsequent subsections, and in Chapter B. As all of these functions must be secured in order to make the GMBM work, we shall make proposals for enhancing ICAO's functions in these respects.

As the MBM is expected to be launched on the global level, the following tasks should perhaps be administered on that level, in order to assure other parameters, in particular equal treatment on a route-based approach:

- Checking of equivalence between units of emissions as recorded in the registries of the participating administering States;
- Starting an examination procedure in case of infringement of the conditions pertaining to the units of emissions;
- Compliance with exemptions as established by the legal instrument envisaged in Chapter B below, pursuant to the CBDR and SCRC concepts, while taking into account the maintenance of a level playing field on a route or bundle of routes basis;
- Oversight of compliance in each ICAO State and the MRV process as administered by the ICAO Contracting States (see above) in which context regard could be had to procedures adopted in the existing oversight programs of ICAO, namely, the Universal Safety Oversight Audit Programme (USOAP) and the Universal Security Audit Programme (USAP);
- Assurance of cohesion between domestic regimes and the GMBM;
- Making proposals for adjustments with a view of fast growers, the early movers and/or the new entrants, and other conditions for exemptions;
- Studying the impact of the GMBM on traffic developments in all regions;

³⁵ In this context, use can be made of Commission Regulation 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC.

- Collection of information on, and analysis of, economic factors including cost implications in order to avoid market distortions, including but not limited to the costs of the GMBM as implemented in national jurisdictions, and the establishment of rules for the inclusion of those costs in the ticket price or other prices or charges.

It would seem that ICAO, and its expert bodies such as AEG and CAEP, and related Working Groups are equipped to carry out these and other functions on the global level. The legal instrument, as to which see next Chapter, forming the basis for the GMBM could address said tasks, and translate them in legal terms.

Moreover, as aircraft move between States, they must be *assigned* to an administrating entity or entities. Both States, and airlines as the operators of the aircraft, are the persons which are likely to have compliance obligations under the GMBM.

4.6 Enforcement

In order to realise the objectives of the GMBM, enforcement is crucial, and must be considered as a central parameter in order to assure equal treatment between airlines in a route-based approach. At the same time, enforcement is an important challenge when a global approach is under discussion, because enforcement has always been considered as a specific weakness of the international legal order, and more specifically, of the UN organisations including ICAO.

First of all, a distinction should be drawn between the different enforcement mechanisms. As discussed previously, transparency can contribute to enforcement, using for example the mechanism of ICAO Audits. Also, penalties and sanctions, as traditional mechanisms of enforcement, and the revocation of traffic rights of designated airlines under relevant provisions of ASAs will be analysed. Finally, the designation of the most appropriate international or national entity charged with enforcement shall be discussed.

As to the last point, the enforcement function could be performed by the following actors:

- Member States
- Delegation to ICAO
- Delegation to a new entity
- Regional organisations having a mandate in aviation matters
- Self-enforcement by the industry.

As enforcement is closely linked with the chosen legal instrument, the model comes with the choice for that instrument. Thus, we shall come back to this subject in Chapter B.

4.7 Dispute settlement

We consider the following avenues:

- Consultations and negotiations, involving more or less formal discussions among State bodies, including but not limited to representatives of the Ministries responsible for the protection of the environment, and Civil Aviation Authorities, ICAO, regional organisations represented by competent bodies such as the EU Commission, and other stakeholders as the most tried, and also the least cumbersome should be the first option as they have proven to yield the most effective results, both in terms of timely operationalisation and political feasibility.
- The ICAO Council has 'quasi jurisdictional' powers under Art. 84 of the Chicago Convention, but we question whether this track should be followed as the ICAO Council is a political body whose Member States may be involved with the proceedings at stake, the more as this subject affects the entire world community.
- In light of the multifaceted character of the questions which may be submitted to it, thought could be given to the establishment of an *ad hoc*, or permanent Panel of Experts appointed by the ICAO Council, following the examples of, for instance, the WTO Panels and the WTO Appellate Body which are confronted with similar complex questions, including those pertaining to the protection of the environment.
- In case ICAO Standards are chosen for the introduction of elements of the MBMs, enforcement and judicial remedies may *either* have to follow the provisions of the – mostly bilateral – Air Services Agreements (ASAs) which form the legal basis for such remedies, *or* ICAO States may choose another avenue, for instance, a Panel of Experts as suggested in the previous option if such an alternative option can be pursued from a legal perspective.
- Finally, States, or undertakings, may wish to take recourse to existing institutions should they agree to do so, in which case the International Court of Justice (ICJ), the Permanent Court of Arbitration and the Shanghai International Economic and Trade Arbitration Commission come to mind.

In short, the remedies follow from the chosen legal instrument.

5. CHOICE FOR LEGAL INSTRUMENTS IN CHAPTER B

The main task of this study pertains to the identification of the most suitable legal vehicle, made on a global basis, to implement the GMBM. The report will examine the following options in Chapter B, below:

- Amending the Chicago Convention;
- The adoption of an International Convention under the auspices of ICAO;
- The adoption of an ICAO Resolution;
- The adoption of an ICAO Standard.

As a ‘one size fits all’ approach cannot be envisaged as the only option, this study will also envisage a ‘mixed approach’ which will consider how elements can be combined for an effective GMBM. In this regard, one can identify the different elements of the design of an GMBM,³⁶ examining the benefits and drawbacks of using different legal vehicles for each or at least various specific elements. We shall explain in Chapter B that SARPs can form a legal vehicle for the regulation of technical elements of the GMBM, and possibly other elements such as compliance, reporting, establishment of an international registry on CO₂ emissions and resolution of disagreements, if the various obstacles for this can be overcome.

A ‘mixed approach’ could be a way to assure an effective level playing field, provided that some elements of the GMBM, which are critical in this respect, shall need a robust legal design, while some others can be left to ‘soft-law’.

As we see it, the options for such a ‘mixed approach’ include:

- Multilateral Treaty to which a technical annex is attached;
- ICAO Resolution accompanied by technical standards;
- ICAO Resolution paving the way for a treaty.

Finally, the legal form follows, or is at least closely connected, with the substance. For instance, the ‘lighter’ the commitments engaged into by the parties with respect to the subject of the legal instrument, the higher the level of binding force. However when ICAO would propose more detailed commitments, with defined targets and binding timetables, a ‘lighter’ form of regulation may have to be envisaged as a matter of *Realpolitik* and ‘International Paretianism.’³⁷

³⁶ See *supra*.

³⁷ See, POSNER (E.A.), WEISBACH (D.A.), 2012, “International Paretianism: A Defense”, Working papers, University of Chicago Law School, at 1: “a treaty satisfies what we call International Paretianism if it advances the interests of all states that join it, so that no state is made worse off”.

B. LEGAL ANALYSIS OF THE OPTIONS

1. AMENDMENT OF THE CHICAGO CONVENTION

1.1 Introduction

The Chicago Convention forms the constitution of international civil aviation. It was signed in 1944 and entered into force on 4 April 1947 and 191 States are a party to it, including all of the EU Member States. While the EU cannot accede to this convention as long as accession is reserved to States,³⁸ it has cooperation agreements with ICAO.³⁹ The EU Commission takes part in various working groups coming under the ICAO Council.

The Chicago Convention focuses on the promotion of safety and security. Environmental protection was not a high agenda point in 1944, but receives increasing attention from ICAO as evidenced by, for instance, the establishment of Annex 16 on this subject as to which see further below, in particular Section 4 of this chapter.

1.2 Environmental integrity

As the Chicago Convention constitutes the fundamental instrument regulating international civil aviation, an amendment would create clarity on a variously debated subject and make it an up to date instrument encompassing provisions on the protection of the environment. At the same time, contracting States might wish to seize the opportunity to table other proposals for amendment such as a more articulated recognition of the position of developing States, the confirmation of a duty rather than a right to close national airspace in case of military necessity and public safety and the acceptance of Regional Economic Integration Organizations (REIOs) as parties to the Convention and full members of ICAO.

Also, States might agree on matters of principles, that is, adding an article on environmental protection rather than committing to specific provisions on CO₂ offsetting which would make the Chicago convention less robust in terms of environmental integrity. Thus it would most likely not only target the offsetting of those emissions but also the reduction or limitation of other emissions, and noise. Knowingly, those environmental objectives are already regulated in Annex 16 to the Chicago Convention as to which see further Section 4 of this Chapter B. Hence, other measures would be needed to supplement this option.

³⁸ Chicago Convention, Articles 91 to 93

³⁹ See, Memorandum of Cooperation between the European Union and the International Civil Aviation Organization providing a framework for enhanced cooperation, entered into force in 29 March 2012, OJ L 232, 09/09/2011, at 2.

1.3 Governance

ICAO would have to manage this process, and has proven in the past that it can do so in other areas. It can rely on the work carried out in the ICAO Council, the Committee for Aviation Environmental Protection (CAEP) and working groups which the ICAO Council has established in order to promote the CO₂ targets. We shall discuss work carried out in this context in Section 4 of this Chapter B.

As regards *substantive* changes such as the one which is envisaged in the current section, the Chicago Convention has been amended only twice since its inception. In 1980, Article 83bis was designed to regulate responsibilities of the State in which an aircraft is operated pursuant to a lease agreement by an airline which has its principal place of business in that State, while the aircraft is registered in another State, whereas in 1984 Article 3bis was added in order to enhance the security of civil aircraft in flight. Other minor amendments of the Chicago Convention concerned more technical and organisational matters, such as the increase of the number of ICAO Council members and the recognition of languages for authenticity and, as a corollary thereof, interpretation purposes.

Rules regarding amendments are stringent as an amendment must be approved by a two-thirds vote of the General Assembly.⁴⁰ In addition, the amendment comes into force only in respect of States which have ratified such amendment, when ratified by the number of contracting States specified by the Assembly, which must be at least two-third of the total number of contracting States. In the present case, it is possible to expect the Assembly to establish a higher threshold in order to bind all the Member States of ICAO. Proceeding from the current 191 contracting States, this means that (at most) 128 States must give their consent,⁴¹ and ratify the amendment.

1.4 Transparency

As stated above, a reference to the promotion of environmental protection as an objective of the Chicago Convention would give it a stronger legal basis for action by the contracting States, the ICAO Council and other bodies. The current reference to environmental protection is rather thin as its Preamble only refers to the agreement that “*international air transport services may be operated ... soundly and economically*”.⁴²

⁴⁰ Chicago convention, Art. 94.

⁴¹ For arguments defending the necessary revision of the Chicago Convention, see MILDE (M.), 2004, “Chicago Convention at Sixty: Stagnation or Renaissance?”, *AASL*, vol. 29, at 443. The author stated that “*the Chicago Convention deserves major amendments not only in its constitutional provisions mentioned above but in numerous aspects of the codified public international air law that have remained untouched for 60 years and that are patently out of date.*” For an opposition conclusion, see HAVEL (B.), SANCHEZ (G.S.), 2011, “Do We Need a New Chicago Convention?”, *Issues Aviation L. & Policy*, vol. 11, n°1, at 7. The authors concluded by affirming that “*though imperfect, the Chicago Convention is a fixed compass within international law because of its demonstrated cooperative benefits. Calls for a replacement Convention, this Article argues, fail on grounds of political feasibility and normative efficiency.*”

⁴² See, Chicago Convention, Preamble.

On the other hand, the tasks which ICAO may assume are open ended as Article 44(i) states that it should “*promote generally the developments of all aspects of international civil aeronautics.*”⁴³ This provision enables ICAO to draw up measures on CO₂ reduction, or offsetting, as it is doing in Annex 16. More detailed discussion on ICAO’s initiatives will follow in section 4.

1.5 Equal treatment, CBDR and SCRC

Under the Chicago Convention, contracting States are committed to:

- (i) Provide non-discrimination, which is mentioned only once as such, namely, in Article 44(g) of the Chicago Convention prescribing the *avoidance* – rather than prohibition - of “discrimination between States”;
- (ii) Ensure the *uniform* application of national laws and regulations of a State to the admission to or departure of aircraft from its territory, or while such aircraft operates in the national airspace of such a State (Art. 11);
- (iii) Secure “the *highest, practicable degree of uniformity*” (see Article 37 of the Chicago Convention) when adopting Standards in its Annexes.

As to (i) we put forward that it is rather vaguely formulated whereas its terms have never been tested in case law. Also, it concerns “avoidance” of discrimination between States. Hence we conclude that this principle can hardly be used as an obstacle for the introduction of GMBM measures for reducing CO₂ emissions on a route based approach.

The commitment made under (iii) also supports equal treatment on a route basis in a defined geographical market.⁴⁴ In our view, it must be balanced with another basic principle laid down in the Preamble and provisions of the Chicago Convention which is “equality of opportunity” as operators from all (ICAO) States, including those from developing States, should be allowed to participate in the operation of international air services.⁴⁵

Moreover, Article 33 of the Chicago Convention, which has been termed in some jurisdictions as “self-executing”,⁴⁶ regards certain ICAO Standards, especially those on certification of airworthiness and personnel licensing, as “minimum standards”. This status also affects the goal of “highest degree of uniformity” as higher Standards are allowed. We shall further discuss the applicability of minimum and other Standards in Section 4 below.

⁴³ See, Chicago Convention, Art. 44(i)

⁴⁴ As defined by one of the legal instruments envisaged in Chapter B below.

⁴⁵ See, ICAO Resolution A37-20: “Whereas it is becoming increasingly difficult, particularly for developing countries, to secure the necessary resources required to optimize the opportunities and meet the challenges inherent in the development of air transport, and to keep pace with the challenges posed by demands on air transport;”

⁴⁶ Meaning that this provision can be directly be relied on in court by private individuals such as airlines as to which see: *British Caledonian v. Langhorne Bond*, Administrator, Federal Aviation Administration, Respondent, *Balair AG, Lufthansa German Airlines, Swissair, Petitioners*, and *v. Langhorne Bond*, Administrator, Federal Aviation Administration, Respondent, and *Alitalia-Linee Aeree Italiane-S.P.A.*, Intervenor, Case No. 665 F.2d 1153; 214 U.S.App.D.C. 335, Nos. 79-1662, 79-1737; United States Court of Appeals, District of Columbia Circuit, Decided Sept. 2, 1981, Par. 27

1.6 Enforcement

The Chicago Convention provides for the following enforcement mechanisms:

- (i) Contracting States undertake not to allow the operation of an airline of another contracting State in their airspace if the ICAO Council has decided that the airline in question infringes a decision made by the ICAO Council;⁴⁷
- (ii) The General Assembly is entitled to suspend the voting power of a State in the Assembly if that State does not act in accordance with a decision made by the ICAO Council in the context of the provisions pertaining to Dispute Settlement of the Chicago Convention.⁴⁸

These measures have never been applied as they may be perceived as being too sensitive. As States want to avoid losing face in international relations they prefer to solve their disagreements more informally, that is, through consultations and negotiations as to which see the next subsection.

ICAO has been set up and operates as an intergovernmental organisation on a global level. Implicitly, its enforcement powers are restricted. In the 1990s and the first decade of the 21st century it has acquired limited enforcement powers in the field of safety and security supervision (see Sections 4.4 and 4.5 of Chapter A). We will make suggestions for the establishment of a 'Universal Environmental Oversight Programme' (UEOAP) in Section 4.

States traditionally enforce ICAO Standards through the mechanism of – mostly – bilateral Air Services Agreements (ASAs). They reserve the right to suspend or revoke the traffic rights – referred to in the citation below as “*revoking, suspending or limiting operating authorizations*” granted under the ASA – when the airline of the other State does not comply with the Standards, including the Standards of ICAO Annex 8 on Certification of Aircraft (see citation below) set forth by ICAO whereas the ASAs typically confirm the respect of the States party to the ASA to the provisions of the Chicago Convention and national regulations governing aviation safety and security.⁴⁹

As explained in section 4.1 below, ICAO Standards are not binding *per se* but must be implemented in national law to receive such force.

⁴⁷ See Chicago Convention, Art. 87

⁴⁸ See Chicago Convention, Art. 88

⁴⁹ See, for instance, the following formulation: Article on Revocation and limitation of authorisation.

“1. The aeronautical authorities of each Contracting Party shall have the right to withhold the authorisations referred to in Article V of this Agreement with respect to a designated airline of the other Contracting Party, to revoke or suspend such authorisations or impose conditions, temporarily or permanently:

(a) in the event of failure by the airline to qualify before the aeronautical authorities of that Contracting Party under the laws and regulations normally applied by those authorities in conformity with the [Chicago] Convention;

(b) in the event of failure by the airline to comply with the laws and regulations of that Contracting Party;

2. Unless safety or security require immediate action under this Article and Article VIII, the rights enumerated in paragraph 1 of this Article shall be exercised only after consultations with the aeronautical authorities of the other Contracting Party in conformity with Article XVIII of this Agreement.”

Air Services Agreement between Australia and Argentina (1992), to be found at

<http://www.austlii.edu.au/au/other/dfat/treaties/notinforce/1992/1.html> [last accessed on 19/07/2015].

In practice, States have relied on the mechanism laid down in ASAs in regard to the enforcement of ICAO Standards as to which see one of the few cases which have been handled by national courts applying provisions of the Chicago Convention:

“We agree that this provision allows the United States to take immediate action, *without consultations*, if such action is necessary to prevent further *non-compliance with U.S. laws and regulations* (subparagraph (1)(b)) or with the *applicable airworthiness standards* We recognize the *diplomatic sensitivity* of an allegation that a foreign nation has been derelict in complying with law or relevant standards; but if the government wishes to rely on the dereliction it must grasp that nettle. (*italics added*)⁵⁰

We shall revert to this subject in Section 4 of this Chapter, below.

1.7 Dispute resolution

Chapter XVIII of the Chicago Convention of 1944 regulates *Disputes and Default*. If the object of the dispute is the interpretation or application of the Convention, and the dispute cannot be resolved by negotiation, the ICAO Council, which is a political body, is charged with the task of deciding the matter.⁵¹ The *Rules for the Settlement of Differences* which were adopted by the ICAO Council in 1957 contain an option for what is termed an ‘expert opinion’.⁵²

The Convention also provides for an appeal procedure, either before an *ad hoc* arbitration tribunal or before the International Court of Justice of the UN.⁵³ The mechanism pertaining to sanctions has been mentioned in the previous section on Enforcement.

In the history of international air law, little use has been made of the above means of settlement. So far, less than ten cases were brought to the attention of the ICAO Council for reasons set out above: States prefer to solve their differences through consultations and negotiations, as the more formal methods of disputes settlement and the revocation of traffic rights are ‘diplomatically sensitive’. These methods are practically the same: they refer to talks between representatives of the States, mostly of the Civil Aviation Authorities of the concerned countries, accompanied by representatives of the Ministries of Foreign Affairs, with attendance from airlines and sometimes airports. For instance, in the arbitration case on user charges at Heathrow airport, the tribunal requested information from the parties, namely, the US and the UK governments, on their compliance with the requirement of holding consultations and negotiations, and exhausting *local remedies* before being allowed to proceed to international judicial proceedings. The two governments had indeed exchanged views for more than ten years, and tried to find a solution of their

⁵⁰ *British Caledonian v. Langhorne Bond*, Administrator, Federal Aviation Administration, Respondent, *Balair AG, Lufthansa German Airlines, Swissair, Petitioners*, and *v. Langhorne Bond*, Administrator, Federal Aviation Administration, Respondent, and *Alitalia-Linee Aeree Italiane-S.P.A.*, Intervenor, Case No. 665 F.2d 1153; 214 U.S.App.D.C. 335, Nos. 79-1662, 79-1737; United States Court of Appeals, District of Columbia Circuit, Decided Sept. 2, 1981.

⁵¹ Chicago Convention, Art. 84. See also, ICAO Assembly Resolution, *Authorization to the Council to Act as an Arbitral Body*, ICAO Doc 9848.

⁵² *Rules for the Settlement of Differences*, ICAO Doc. 7782/2 (2nd ed. 1975).

⁵³ Chicago Convention, Art. 84, third sentence.

disagreement on the administrative and political levels.⁵⁴ Obviously, negotiations on the subject matter at hand would, could and should imply that representatives of the Ministries for the Protection of the Environment, and also the EU Commission, would take part in them.

1.8 Time for operationalisation including political feasibility, administrative burden and cost effectiveness

As said substantive changes have been made to the Chicago Convention in exceptional cases only. In 1980, Article 83bis which has been referred to in subsection B.1.3, above, was added; we shall refer to this provision in subsection B.4.9, below.

The most recent example concerns the introduction of Article 3bis on the prohibition of military force against aircraft in flight in 1984, following the tragic shooting down of the aircraft operating flight KE007 (Korean Airlines) in – then – Soviet airspace in the preceding year. After that, it took fourteen years to come into force among the contracting States which had ratified this amendment, at present 144 States. Another security related initiative concerned the updating of ICAO Annex 17 in less than two years after the 9/11 disaster, which follows another procedure for adoption of norms as discussed in Section 4 below.

Hence, contracting States can act swiftly if the need is perceived to do so. The question is whether there is enough political support as expressed in consensus in for instance ICAO Assembly Resolutions on this subject as to which see Section 3, for proceeding on the same fast track in case of the offsetting of CO₂ emissions. In other words, the question is whether globally there is a same sense of urgency, and whether the stakeholders agree on the measures requiring urgent action – which is a political or policy rather than legal question.

⁵⁴ See, WITTEN (S.), 1995, “The U.S.-UK Arbitration Concerning Heathrow Airport User Charges,” *AJIL*, vol. 89, n° 1, at 174-192. See also VAN HAERSOLTE-VAN HOF (J.), 1995, “US/UK Arbitration Concerning Heathrow Airport User Charges -- Some Procedural Aspects,” *LJIL*, vol. 8, at 203-216. In the ‘hushkit’ procedure between the US and the – then – EC, the EC member States relied on Art. 2(g) of the *Rules for the Settlement of Differences* (ICAO Doc. 7782 (1959)). According to the EC States, a claimant must prove that it has raised during the negotiation process all the legal claims, and exhausted “the scope for arriving at a satisfactory solution.” See, Preliminary Objections Presented by the Member States of the European Union, Disagreement Arising Under the Convention on International Civil Aviation Done at Chicago on 7 December 1944, at para. 9-19

1.9 Conclusions

From a legal perspective, an amendment of the Chicago Convention would give the protection of the environment a sound basis for implementation of more detailed measures which could be laid down in, for instance, Standards and Recommended Practices in an ICAO Annex – as to which see Section 4, below. Moreover, it would make this convention an up to date instrument governing all facets of international civil aviation and meet the needs of the industry and other stakeholders such as the people of the world in light of traffic increase and pollution. In short, it would create clarity on a topical subject.

Realistically, there is a risk of tabling of modifications of this convention on other points – than environmental protection – provoking trading of concessions, softening of the environmental purposes and prolonged discussions in various fora, both on the ICAO level, and in national circles and transnational interest groups. States must ratify the amended convention in accordance with national procedures, requiring in many cases Parliamentary approval. Moreover, the amended convention will only come into force as between the ratifying States, and must be published in national Treaty Gazettes.

2. THE TREATY-BASED APPROACH

2.1 Introduction

Treaties represent the main source of international public law. According to the '*pacta sunt servanda*' principle, as codified in Article 26 of the Vienna Convention of the Law of Treaties (VCLT), a treaty contains binding norms for its contracting States.⁵⁵

The present section will discuss the adoption and implementation of an international treaty under the auspices of ICAO as, pursuant to the Kyoto Protocol, the UNFCCC referred the reduction of international aviation emissions to Annex I countries working through ICAO, as briefly explained in section 3.2 of Chapter A. With respect to the function of an intergovernmental organisation like ICAO, it has been argued that "*the far more usual way in which organizations contribute to the development of international law is by sponsoring the conclusion of treaties.*"⁵⁶

2.2 Environmental integrity

The 'treaty option' may be in a better position than the option targeting an amendment of the Chicago Convention as in the latter case the new provision or provisions must be formulated in such a fashion that they fit in the framework of this convention. That means, for instance, that the environmental provision(s) must be formulated in a general if not abstract fashion without references to periods within which the target must be achieved, for instance, 2020, or which targets must be achieved, for instance, the stabilisation of emissions at 2020 levels from 2020. In the Chicago Convention regime these matters are left to regulation in ICAO Annexes which are knowingly updated from time to time.

Thus a new treaty can depart from a 'clean slate' ('*tabula rasa*'), formulating measures on the level of detail as asserted by the States participating in the preparations. Those States are of course also free to negotiate general terms which are drawn up in the Treaty while leaving technical implementation measures to Annexes, which can be more swiftly amended.

Those States may wish to take the undertaking of Article 82 of the Chicago Convention into account when negotiating the terms of their new treaty. Pursuant to that provision they must "not enter into ... any obligations or understandings" which "are inconsistent with its terms". Again, this is one of these provisions of the Chicago Convention which has been hardly relied on in practice. In any case it does not seem to constitute an obstacle for the new

⁵⁵ "Every treaty in force is binding upon the parties to it and must be performed by them in good faith". Vienna Convention of the Law of Treaties, 23 May 1969, 1155 UNTS 331, Art. 26.

⁵⁶ KLABBERS (J.), 2002, *An Introduction to International Institutional Law*, Cambridge University Press, at 217. See also MORGENSTEN (F.), 1986, *Legal Problems of International Organizations*, Cambridge University Press, at 104. The author actually referred to multilateral treaty as the 'favourite tool' in the law-making activities of international organizations.

treaty option as we concluded in the previous subsection that the Chicago Convention does not prevent contracting States from entering into obligations on environmental protection.

Finally, the main concern regarding environmental integrity originates from the risk that not all States would accept to be bound by a new Treaty on environmental protection in aviation. According to the well-known *pacta sunt servanda* principle,⁵⁷ non-contracting parties are normally not bound by its provisions. Since a new treaty establishing stringent objectives on carbon emissions could be interpreted as an obstacle to economic growth by some States, there is a risk that not all the States of the international community would sign and, subsequently, ratify it.

2.3 Governance

ICAO can convoke an international conference to adopt the treaty in question, and open it for signature and ratification. Thus, ICAO can be seen as the main ‘sponsor’ of the international convention.⁵⁸ In the field of public air law ICAO has prepared about fifteen Protocols amending the Chicago Convention on technical, linguistic and organisational matters as explained in Section 1.3 of this Chapter, and seven treaties designed to promote aviation security. Apart from the most recent ones which were concluded in 2009 in Montreal and 2010 in Beijing, those treaties have generally been well ratified.

In that context, ICAO Resolutions may yield a ‘pre-legislative’ role of an ICAO resolution: “in ICAO, a new treaty (...) will first take the form of an Assembly resolution.”⁵⁹

ICAO bodies such as the Council, the Legal Bureau, the EAG and the GMFT play a prominent role in drafting the main provisions. Finally it has to be approved by all ICAO contracting States as *consent* is of fundamental importance (see Section 3.4.2 below).

2.4 Transparency

The multilateral treaty-based approach is certainly one of the most obvious legal options, if not the most obvious one, to ensure a global coverage of the MBM mechanism, guarantee legal certainty and establish detailed rules encompassing all of the specific purposes of offsetting of emissions, including the CBDR principle and SCRC principles, and the operational aspects of the measures. Another point in favour of the ‘treaty approach’ lies in

⁵⁷ “Every treaty in force is binding upon the parties to it and must be performed by them in good faith.” Vienna Convention of the Law of Treaties, Art. 26

⁵⁸ Cheng considered the ICAO’s function in the preparation of treaties as a “pre-legislative function”; see CHENG (B.), 1962, *The Law of International Air Transport*, Stevens & Sons Ltd., at 63-76.

⁵⁹ HUANG (J.), 2009, *Aviation Safety and ICAO*, PhD Leiden University, at 186

its legal effects, even prior to its actual entry into force, on the basis of the principle of *good faith* according to Article 18 VCLT.⁶⁰

Furthermore, a *provisional application* of the treaty⁶¹ could be envisaged. While it is not a common practice for the agreements concluded under the patronage of ICAO and, to date, the EU used this possibility only for bilateral or plurilateral agreements having a limited territorial scope. As a consequence, it seems that the provisional application option would not be a practical solution, given the numbers of contracting parties involved and the legal uncertainty that it can give rise to. In any way, the treaty option would most certainly be preceded by a – strongly – formulated ICAO resolution, as to which see the next section.

At the same time, new treaty provisions must be aligned with principles and provisions laid down in the Chicago Convention such as the provision on equality of opportunity, uniformity of rulemaking and non-discrimination pursuant to Article 82 of this convention.⁶² We concluded above (see subsection 2.2) that this coherence should not create major problems, as the Chicago Convention does not regulate environmental protection, thus neutralising possible conflicts, whereas its generally formulated provisions do not create obstacles either.

2.5 Equal treatment, CBDR and SCRC

As the new treaty proceeds from a ‘clean slate’ position as stated above its contracting States and other parties such as Regional Economic Integration Organisations (REIOs) can formulate the above provisions as they deem fit, that is, taking into account the principles and mandatory provisions of the UNFCCC and the Kyoto Protocol, and, when necessary, provisions of the Chicago Convention.

As it will be shown in Section 4 below, work is undertaken to update Annex 16 of the Chicago Convention by adding a volume III regulating CO₂ emissions on a technical level. It would of course be advisable to use those efforts by aligning them to the new treaty, which could, for instance, refer to those undertakings.

⁶⁰ “A State is obliged to refrain from acts which would defeat the object and purpose of a treaty when: (a) It has signed the treaty or has exchanged instruments constituting the treaty subject to ratification, acceptance or approval, until it shall have made its intention clear not to become a party to the treaty; or (b) It has expressed its consent to be bound by the treaty, pending the entry into force of the treaty and provided that such entry into force is not unduly delayed.” Vienna Convention of the Law of Treaties, Art. 18

⁶¹ Vienna Convention on the Law of Treaties, Art. 25

⁶² “The contracting States accept this Convention as abrogating all obligations and understandings between them which are inconsistent with its terms, and undertake not to enter into any such obligations and understandings.” Chicago Convention, Art. 82

2.6 Enforcement

The same remarks as those which have been made in the previous subsection appear to apply to this subject. The new treaty can devise an enforcement regime in accordance with the commitments which States are prepared to engage into in the context of the new treaty.

Again, lessons can be learned from the past. As variously stated above and below, new avenues for enforcement could be found in, for instance, the establishment of Audits carried out by or under the auspices of ICAO. The new treaty could give legal force to these – or other methods of enforcement – by formulating them in its provisions

2.7 Dispute resolution

We repeat here what we have put forward in the previous sections, namely that:

- A new treaty can set up its own dispute resolution regime, while
- Relying on experiences made in the past in the aviation, and other sectors such as the WTO regime which has an effective system for dispute resolution;

We believe it would be outside the scope of this study to make concrete proposals for a new regime on either of these subjects.

2.8 Time for operationalisation including political feasibility, administrative burden and cost effectiveness

The political feasibility of ratification and the time needed for operationalisation should be a point of particular attention. However, the time needed for operationalisation and the ratification process do not necessarily represent the main issues, because such ‘obstacles’ mainly depend on the political will of the States and competent regional organisations (REIOs) such as the EU.

In the present scenario, the preparation for the establishment of the treaty may take time as ICAO, its bodies, with special reference to its Legal Bureau, and working groups, contracting States, other stakeholders such as the EU Commission, the International Air Transport Association (IATA) and environmental interest groups must draw up the Terms of Reference of that treaty following which ICAO must convene a diplomatic conference at the end of which the agreement can be signed. After that, the parties must be prepared to ratify it in accordance with their national procedures and publish it.

As shown by the experience with Article 3bis of the Chicago Convention, a treaty may be negotiated and adopted in no more than two years, and may even enter into force in two or three years, a time scale that will maintain this approach inside the timeframe adopted by the General Assembly Resolution A38-18. However, given the numerous debates

surrounding the question of mitigation of emissions in aviation, the risk of having groups of States not willing to be bound by a multilateral agreement must be reckoned with.

In recent times, the bigger powers, including but not limited to the US, are reluctant to accede to new multilateral treaties. The last multilateral convention, or one of the last conventions, which the US government has ratified concerns the Montreal Convention on airline liability in 2003. A treaty can only be ratified under US law after approval from Congress, a step which can represent a dead-end for the actual implementation of a GMBM, or at least a 'delay' concern. This fate is illustrated by the late entry into force of the Kyoto Protocol as it is clear that the lack of ratification of this instrument by the US heavily influenced the ratification process.

The challenges faced by the multilateral treaty approach are twofold.

- (1) Either the number of ratifications may not be sufficient for the treaty to enter into force or,
- (2) even if it enters into force, some States can decide not to ratify it and not to be bound by its provisions.

In either case, the objective of equal treatment on routes and a global coverage of the mechanism is threatened.

Global consensus can be mitigated by techniques such as the 'opting out' model. Following such a model, and instead of insisting on ratification ('opting in' model), the member States of the ICAO will have a certain period of time in which they can notify that they do not accept a certain convention. However, this avenue may affect the comprehensiveness and integrity of the measures under consideration (GMBM) which we discussed in Chapter A.

2.9 Conclusions

We conclude that the treaty-based approach can be seen as the most desirable legal option, as it would underpin, and design, environmental integrity, equal treatment, transparency, enforcement and dispute settlement and remedies in an innovative fashion without being affected or hampered by existing regimes and procedures. All of these advantages have of course an intimate correlation with the political will of the contracting States to move ahead with the purpose of reducing CO₂ emissions on a global scale *via* a route based approach. For the EU an extra advantage could be that REIOs could play a much more prominent role, possibly that of a contracting party, as it has done with respect to, for instance, the Montreal Convention on airline liability of 1999, and the Cape Town Convention on financing methods of aircraft of 2001.

As remarked in Section 5 of Chapter A, the legal form follows the substance. As perhaps also evidenced by the success of the Chicago Convention, the more general the commitments engaged into by the parties regarding the achievement of the purposes of the international convention, the higher the number of ratifications, and *vice versa*. Consequently, more

detailed commitments in terms of quality may yield fewer results in terms of quantity, that is, as expressed in the number of ratifications or accessions.

Thus, the practical challenges and realities of political interests of the some concerned parties make this approach dependent on resolving the political debates surrounding climate change in the context of aviation. This option should be seriously studied.

3. AN ICAO RESOLUTION

3.1 Introduction

Resolutions adopted by the General Assembly of an Intergovernmental Organization (IGO) may be categorised in terms of their legal effect. Despite the principal distinction between ‘internal’ resolutions concerning the structure and functioning of the IGO, and ‘external’ resolutions, directly addressing the member States of the organisation, the ‘functional’ classification will be followed here in order to extract the type of ICAO resolution which is relevant as a possible legal vehicle for the implementation of a GMBM.

A resolution, being a specific act adopted by the ICAO General Assembly, must be distinguished from mere ‘guidance material’ adopted by ICAO. Hence, a distinction is made between the following resolutions:

- A ‘pre-legislative’ resolution in which context a distinction must be made between an ICAO Resolution as a pre-treaty (*see above*) and an ICAO Resolution including a model clause which may be incorporated into domestic law or international aviation agreements, as to which see further below;⁶³
- A ‘directive’ resolution, also called ‘internal rules’, referring to those which give instructions to subordinate bodies of the General Assembly of the IGO;⁶⁴ which may be relevant in our discussion, for instance as the legal basis for an enforcement of the GMBM by bodies of ICAO;
- A ‘recommendatory’ resolution concerning a large category of acts directly addressing member States of the organisation.

These forms of resolutions will be examined in the next subsections.

3.2 Environmental integrity

The terms of an ICAO resolution may not infringe, and are subordinate to, the provisions of the Chicago Convention. In Section 1 of this Chapter we signalled that the Chicago Convention is basically silent on environmental protection but that nothing prevents, and has prevented, ICAO States and bodies from regulating environmental protection, including limitations of CO₂ emissions, in ICAO Standards, resolutions made by the General Assembly and other policy and legal documents.

Thus, the objective of securing environmental integrity through limitation of CO₂ emissions on a route based approach may be foreseen in a Resolution provided that principles of the

⁶³ “One example is Assembly Resolution A33-4 dealing with the issue of unruly passengers (...). Similarly, Appendix G of Assembly Resolution A35-9 urges all member States to insert into their bilateral agreements on air services a clause on aviation security, taking into account the model clause adopted by the Council on 25 June 1986 and to take into account the model agreement adopted by the Council on 30 June 1989. The same approach was also taken regarding the model clause on technical safety”. HUANG (J.), cited above, at 187.

⁶⁴ See HUANG (J.), cited above, at 188.

Chicago Convention are complied with. These principles pertain to the non-discriminatory treatment, which, as concluded in section 1.5 of this Chapter, should not pose a problem. Also, regard must be given to the aviation tradition of solving disagreements through consultations and negotiations resulting in a new agreement on a subject matter (as to which see Section 1.7 of this Chapter), and to the purpose of achieving agreement through cooperation whether in a bilateral, plurilateral or multilateral setting, based on the Preamble and provisions of the Convention.⁶⁵

3.3 Governance

Despite its qualification as the ‘supreme body’ of ICAO, the General Assembly has mainly ‘deliberative’ functions, as opposed to the ‘normative’ functions of the ICAO Council, which is “*the real focus of the ICAO decision-making process*”.⁶⁶ This attribution of functions explains the distinction between the legal effect of the General Assembly resolutions,⁶⁷ and the legal effect of SARPs adopted in various domains by the ICAO Council.⁶⁸

These broad powers may be interpreted as encompassing the power to address ‘recommendatory’ resolutions to its member States, as demonstrated by the practice of the organisation. The legal force of such resolutions depends on a number of factors which we shall discuss under the heading ‘Transparency’ in the next subsection.

3.4 Transparency

- The legal force of an ICAO resolution generally

The legal force of an ICAO ‘recommendatory’ resolution is not legally binding but could be considered as ‘*quasi law*’ or ‘soft law’. Rules may exert influence without being qualified as ‘hard’ law, that is, rules which can be enforced in legal, and other proceedings, as well as in consultations and negotiations between States, REIOs and their representative bodies. Subject to the remarks which will be made below, resolutions of the ICAO General Assembly come within this category of ‘soft law’. However, provisions of ‘*quasi law*’ may, under specified (below) conditions, also create obligations which have a certain legal force. This

⁶⁵ “WHEREAS it is desirable to avoid friction and to promote that cooperation between nations and peoples upon which the peace of the world depends; THEREFORE, the undersigned governments having agreed on certain principles and arrangements 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;” And see also Art. 6: “No scheduled international air service may be operated over or into the territory of a contracting State, except with the special permission or other authorization of that State, and in accordance with the terms of such permission or authorization.” Chicago convention, Preamble

⁶⁶ MILDE (M.), 2012, *International Law and ICAO*, Essential Air and Space Law, vol. 10, Eleven Law, at 130.

⁶⁷ The ICAO General Assembly is mandated to “*examine and take appropriate action on the reports of the Council and decide on any matter referred to it by the Council.*”. See, Chicago Convention, Art. 49(c), whereas the ICAO GA must also “*deal with any matter within the sphere of action of the Organization not specifically assigned to the Council.*”. See, Chicago Convention, Art. 49(k)

⁶⁸ See Section 4 of this Chapter

statement is not only based on the principles of loyalty and good faith governing the relations between Member States and the organisations to which they are a party,⁶⁹ but also by other circumstances surrounding the adoption of the resolution.

Putting aside the eventual recognition of either State practice or *opinio juris* necessary to establish international customary law, the acknowledgement of a binding effect of a resolution may transform it in a *treaty-like* norm, and will have important consequences on the voting behaviours of the member States who may become aware of the binding implications. The flexibility, and the time needed for operationalisation of resolutions are in many cases preferred to the formality of legally binding treaty provisions. This conclusion is exacerbated by the factors as described below.

- Factors strengthening the legal effect of Resolutions

Which factors could give binding effect to an ICAO resolution establishing a GMBM? We shall respond to this question by a discussion of the following factors.

- *The need for a rule*

This factor may be linked to the consideration of *Realpolitik*.⁷⁰ Indeed, transformation and modification in international law become at some point imperative due to shifting community values and/or interests, combined with obvious lacunae in existing law as may be perceived by a growing number but not yet all States and other stakeholders to be the case with the need to curb CO₂ emissions. Also, the progressive and shifting goals of the air transport sector by recognising the necessity to deal with its own contribution to climate change.

- *The formal acceptance of the resolution*⁷¹

The mere fact that some Member States of ICAO, included European Union Member States, express reservations to resolutions is a strong indication that, once approved, said resolutions can produce not only political but also legal consequences, may it be only hypothetical ones. Indeed, “*extrinsic effects spring from the resolution but are, due to the adopting body’s lack of the necessary powers, directly based on international customary law*”.⁷² In the first place, a Resolution can have evidentiary or interpretative value of

⁶⁹ See *Border and Transborder Armed Actions (Nicaragua v. Honduras)*, Jurisdiction and Admissibility, Judgment, ICJ Reports 1988, at 69, para. 94

⁷⁰ “... the most powerful incentive in applying a rule may be that the States participating in an international organization recognize the necessity for common regulation in a particular field.”. See, SCHERMERS (H.G.), BLOKKER (N.M.), 2003, *International Institutional Law: Unity Within Diversity*, Martinus Nijhoff Publishers, at 774

⁷¹ “... resolutions may embodied the agreement of the states that voted for them and can therefore be considered as agreement in simplified form”. See, KLABBERS (J.), cited above, at 209; MOTA DE CAMPOS (J.), 2010, (Ed.), *Organizações Internacionais*, Coimbra, Wolters Kluwer Portugal, 804 pp., at. 145-14

⁷² DIVAC ÖBERG (M.), 2006, “The Legal Effects of Resolutions of the UN Security Council and General Assembly in the Jurisprudence of the ICJ”, *EJIL*, vol. 16, n°5, pp. 879-906, at 881.

existing law. The reasoning employed by the ICJ in its *Nicaragua Case*⁷³ when dealing with UN General Assembly Resolutions can be applied *mutatis mutandis* to ICAO General Assembly's Resolutions: "This *opinio juris* may, though with all due caution, be deduced from, *inter alia*, the attitude of the Parties and the attitude of States towards certain General Assembly resolutions."⁷⁴ In the second place, the ICJ recognized in its *Nuclear Weapons opinion* that:⁷⁵

"General Assembly resolutions, even if they are not binding, may sometimes have normative value. They can, in certain circumstances, provide evidence important for establishing the existence of a rule or the emergence of an *opinio juris*. [...] Or a series of resolutions may show the gradual evolution of the *opinio juris* required for the establishment of a new rule."⁷⁶

The main problem with this approach is the lack of legitimacy, in the absence of systematic agreement on the legal significance of IGO resolutions, and in the absence of 'general community agreement.' However, it is clear that the reservations formulated by the States or by Regional Organisations can prevent the creation of new customary rules, by reflecting the lack of common State practice, or can at least protect them from the application of any newly created customary rule, given the lack of *opinio juris* and according to the *persistent objector rule*.⁷⁷ As a consequence, if a Resolution of ICAO's General Assembly can produce legal effects, they can only be indirect or extrinsic, building on customary international law, and they would in any case only be applicable to the States which consented or acquiesced.

o The vocabulary employed in Resolution A38-18

Analysis of ICAO Resolution A38-18, with regard only to the recommendations addressed directly to the member States of the Organisation, reveals that the General Assembly used, for that purpose, the words "*resolves*", "*agrees*", "*recognizes*", "*encourages*" and "*invites*."⁷⁸ The word "*resolves*" in this list seems to be the one with the strongest expected effect, whether such effect being interpreted as a legal, political

⁷³ ICJ, *Military and Paramilitary Activities in und against Nicaragua* (Nicaragua v. United States of America), Merits, Judgment, ICJ Reports 1986, at 14

⁷⁴ *Ibid.*, para. 188, at 100

⁷⁵ ICJ, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Reports 1996, at 226

⁷⁶ *Ibid.*, para. 70, at 254-255 (emphasis added)

⁷⁷ See ICJ, *Fisheries case (United Kingdom v. Norway)*, Judgment of December 18th, 1951: ICJ Reports 1951, at 116; ICJ, *Colombian-Peruvian asylum case (Colombia/Peru)*, Judgment of November 20th 1950: ICJ Reports 1950, at 266; ICJ, *North Sea Continental Shelf* (Federal Republic of Germany/Denmark; Federal Republic of Germany/Netherlands), Judgment, ICJ Reports 1969, at 3 ; See also ELIAS (O.), "Persistent Objector", Max Planck Encyclopedia of Public International Law

⁷⁸ "the language used may be relevant to determine the effect of a resolution, provided the effect intended does not go beyond the effect determined by the constitutional context." See, AMERASINGUE (C.F.), 2005, *Principles of the institutional law of international organizations*, Cambridge University Press, at 175. For an analysis of the vocabulary employed by the General Assembly, see SLOAN (F.B.), 1948, "The Binding Force of a Recommendation of the General Assembly of the United Nations", *BYIL*, vol. 25, n°1, at 3: "resolutions have not been forced into a stereotyped form. On the contrary, the General Assembly has shown considerable ingenuity in its selection of operative words. In resolutions addressed to states it has employed such words as 'recommends', 'requests', 'invites', 'urges', 'calls upon', 'expresses the hope', 'draws the attention of', 'firmly maintains', 'considers', 'takes note of', and 'appeals to'."

or moral one. The General Assembly used this verb to address key points of the MBM, such as the establishment of the aspirational goals of the measure (para. 5 and 7), or its main principles of implementation, and more precisely:

- o The cooperation in order to reach an agreement (para. 16(a));
- o The special position of developing States, in particular by including the principle of CBDR and the use of “exemptions” or “phased implementation” to respect such principle (para. 16(b), 20, 21, 22);
- o The establishment of a level playing field in order to minimize “market distortion” (para. 20);
- o The “environmental integrity” of the scheme (para. 22);
- o The cost-effectiveness of the scheme, by avoiding an unnecessary “administrative burden” (para. 22);
- o The necessity of “adjustments”;
- o The use of the revenue generated (para. 24).

Most of these principles are repeated in the annex to the resolution establishing the guiding principles for the design and implementation of market-based measures (MBMs) for international aviation. Interestingly, while addressing its “recommendation” to the Council, the General Assembly used such words as “requests”, illustrating the distinct authority of the General Assembly while recommending an action to the Council.

- o *The value of the voting behaviour*⁷⁹

The ICAO Council has acknowledged that States which have voted in favour of a resolution will abide by its terms following the principle of good faith governing international relations, unless there are compelling reasons to the contrary.⁸⁰ A resolution has the same legal effect for States which have acquiesced in a particular situation produced by the terms of the resolution.⁸¹ However, there is no unanimity as to this view as legal arguments are raised against it.⁸² Other commentators point at

⁷⁹ See SCHERMERS (H.G.), BLOKKER (N.M.), cited above, at 770 and 778

⁸⁰ ICAO Council Working Paper C-WP/12979, at para. 3.2

⁸¹ ICAO Doc 9738-C/1127 C-Min. 156/1-16, Council – 156th Session, Summary Minutes with Subject Index (1999), C-Min 156/16 at 188; see also, SANDS (P.), PEEL (J.), FABRA (A.), MACKENZIE (R.), 2012, *Principles of International Law*, Cambridge, Cambridge University Press, 926 pp., at. 110. SHAW (M. N.), 2014, *International Law*, 7th ed., Cambridge, Cambridge University Press, 981 pp., at. 73

⁸² As argued by H.G. Schermers and N.H. Blokker refusing to accept such legal effect: “a positive vote estops a member from later claiming that the organization lacked the competence to adopt recommendation in question, but it does not oblige the member to execute the recommendation. Members vote in their capacity as elements of the organization, as contributors to the development of legal rules, not as contracting parties. Accordingly, their vote expresses their desire to help establish a rule which is equally applicable to all members. Unless a member expressly declares otherwise, its vote cannot be interpreted as representing an undertaking by the State to adhere to the rule thus established.” SCHERMERS (H.G.), BLOKKER (N.H.), cited above, at 770

the political circumstances determining the voting behaviour of States.⁸³ Weight may also be attached to adoption of a resolution without a single dissenting vote.⁸⁴ Also, the ICAO Council has confirmed that the legal authority of the General Assembly resolution “*may vary according to the voting conditions. It may be stronger in case of unanimity than the case of majority vote.*”⁸⁵ Again, there is no unanimity on this point as authors have expressed different views on it.⁸⁶

o *The repetition factor*

This factor applies when the recommendation has been repeated in a series of General Assembly resolutions, and has become continuing policy and firm associated practice of ICAO and its Member States. Such continued practices can indicate the fulfilling of one of the two requirements for the recognition of an *international customary rule*. In any case, such resolutions “*may set forth an authoritative interpretation of the international agreement under which it was adopted.*”⁸⁷ The now 17 years history of ICAO resolutions on environmental protection and international aviation may be relevant here, despite the fact that such a long history may also demonstrate the lack of consensus at ICAO level over the adoption of a MBM to tackle the CO₂ emissions issue. As early as 1998, the 32nd General Assembly tasked the Council to explore “*policy options to limit or reduce GHGs emissions from civil aviation, taking into account the IPCC special report and the requirements of the Kyoto Protocol.*”⁸⁸ This commitment was reiterated in 200⁸⁹ and followed by the ICAO Committee on Aviation Environmental Protection in 2004 that “an aviation-specific emissions trading system based on a new legal instrument under ICAO auspices seemed sufficiently unattractive that it should not then be pursued further”⁹⁰ and the subsequent endorsement by the General Assembly, in 2004, of “*further development of an open-emissions trading system*” through inclusion in States’ emissions trading systems or on a voluntary basis.

As early as 1998, the 32nd General Assembly tasked the Council to explore “*policy options to limit or reduce GHGs emissions from civil aviation, taking into account the IPCC*

⁸³ As stated by C. Joyner, “coalition politics in that organ can and often do obscure the real reasons motivating votes for or against resolutions.” JOYNER (C.C.), 1981, “U.N. general assembly resolutions and international law: rethinking the contemporary dynamics of norm-creation.”, CAL. W. INT’L L.J., vol. 11, at 461

⁸⁴ See ICJ, *Certain expenses of the United Nations* (Article 17, paragraph 2 of the Charter), Advisory Opinion of 20 July 1962, I.C.J. Report 1962, at 170-171

⁸⁵ ICAO Council Working Paper C-WP/12979, at para. 3.2

⁸⁶ “The size of majority, or even consensus, has nothing to do with the intention of States voting for it” and “voting is not the same as making promises or as acting so as to give rise to expectation” KLABBERS (J.), cited above, at 210; and, “attaining an unanimous vote for a resolution (...) cannot obviate the fact that such recourses fail to alter its legal station; the resolution remains a non-binding recommendation”⁸⁶, and add that “the margin by which the General Assembly approves a resolution is not at all inconsequential or irrelevant, and that added normative weight is acquired when a resolution receives unanimous support in the General Assembly.” JOYNER (C.C.), cited above, at 464

⁸⁷ SANDS (P.), PEEL (J.), FABRA (A.), MACKENZIE (R.), cited above, at. 109

⁸⁸ ICAO General Assembly Resolution A32-8, Consolidated statement of continuing ICAO policies and practices related to environmental protection, Appendix F, para. 4

⁸⁹ ICAO General Assembly Resolution A33-7, Consolidated statement of continuing ICAO policies and practices related to environmental protection

⁹⁰ See recital 9 of Directive 2008/101/EC

special report and the requirements of the Kyoto Protocol".⁹¹ This commitment was reiterated in 2001⁹² and followed by the ICAO Committee on Aviation Environmental Protection in 2004 that "an aviation-specific emissions trading system based on a new legal instrument under ICAO auspices seemed sufficiently unattractive that it should not then be pursued further"⁹³ and the subsequent endorsement by the General Assembly, in 2004, of "*further development of an open-emissions trading system*" through inclusion in States' emissions trading systems or on a voluntary basis.⁹⁴ After having insisted, again, on the implications of the Kyoto Protocol for aviation in 2007⁹⁵ and 2010,⁹⁶ ICAO's General Assembly decided in 2013 "*to develop a global MBM scheme for international aviation*."⁹⁷ After having insisted, again, on the implications of the Kyoto Protocol for aviation in 2007⁹⁸ and 2010,⁹⁹ ICAO's General Assembly decided in 2013 "*to develop a global MBM scheme for international aviation*."¹⁰⁰

3.5 Equal treatment, CBDR and SCRC

ICAO has already acknowledged the above principles in its Resolutions as to which see our discussion and analysis in Section 4.3 of Chapter A. For an analysis of these principles to the principle of non-discrimination we refer to Section 1.5 of this Chapter.

3.6 Enforcement

The enforceability of ICAO resolutions remains a weak point. Neither the Chicago Convention nor ASAs refer to them, meaning that the ICAO Council has no powers to enforce them, and contracting States are not obliged to enforce them. Obviously, the "number of factors" referred to in the previous paragraph may promote the legally binding force but this does not mean that ICAO has concrete enforcement powers in their hands.

⁹¹ ICAO General Assembly Resolution A32-8, Consolidated statement of continuing ICAO policies and practices related to environmental protection, Appendix F, para. 4

⁹² ICAO General Assembly Resolution A33-7, Consolidated statement of continuing ICAO policies and practices related to environmental protection

⁹³ See recital 9 of Directive 2008/101/EC

⁹⁴ ICAO General Assembly Resolution A36-22, Consolidated statement of continuing ICAO policies and practices related to environmental protection, Appendixes J and K: The Assembly: "*Requests* the Council, in its further work on this subject, to focus on two approaches. Under one approach, ICAO would support the development of a voluntary trading system that interested Contracting States and international organizations might propose. Under the other approach, ICAO would provide guidance for use by Contracting States, as appropriate, to incorporate emissions from international aviation into Contracting States' emissions trading schemes consistent with the UNFCCC process. Under both approaches, the Council should ensure the guidelines for an open emissions trading system address the structural and legal basis for aviation's participation in an open emissions trading system, including key elements such as reporting, monitoring and compliance."

⁹⁵ ICAO General Assembly Resolution A35-5, Consolidated statement of continuing ICAO policies and practices related to environmental protection, Appendix I, para. 2

⁹⁶ ICAO General Assembly Resolution A37-19, cited above

⁹⁷ ICAO General Assembly Resolution A38-18, cited above

⁹⁸ ICAO General Assembly Resolution A36-22, Consolidated statement of continuing ICAO policies and practices related to environmental protection, Appendixes J and K

⁹⁹ ICAO General Assembly Resolution A37-19, cited above

¹⁰⁰ ICAO General Assembly Resolution A38-18, cited above

3.7 Dispute resolution

The same remarks can be made with respect this subject: neither the Chicago Convention nor ASAs make resolutions subject to the various mechanisms of dispute resolution which, as to the Chicago Convention, are discussed in Section 1.7 above.¹⁰¹

As far as we could see ICAO resolutions have not been relied on in order to support a claim or a defence in international aviation proceedings.

3.8 Time needed for operationalisation, political feasibility, administrative burden and cost effectiveness

A strong point of the ICAO Resolution is that one can be adopted at the General Assembly which will be held in September/October 2016. It can build on the previous resolutions which have been adopted in this field, the work carried out in the various ICAO bodies mandated to prepare GMBM designed to offset CO₂ emissions, and the results of the COP meeting which will be held in Paris in November/December 2015.

A Resolution should show agreement on time tables, special treatment or exemptions for operators from developing countries and other operators, the principle of selection of routes to which the GMBM are supposed to apply, implementation of measures through SARPs as to which see the next section, and next steps. Such a resolution will be adopted at a General Assembly which will be held anyway. Obviously, the strength of the commitment depends on the political will of the States subscribing to them. Previous Resolutions in 2007, 2010 and 2013 have had many reservations submitted by States. A Resolution aiming at leading to the effective implementation of a global market-based mechanism should have strong political support from all States, without, for instance, reservations.

3.9 Conclusions

While principally focusing on ‘recommendatory’ resolutions from the General Assembly, this section analysed ICAO resolutions with special reference to their legal status under international law. The above analysis is supported by an *evolutionary interpretation* of this specific instrument for regulating GMBMs by discussing the current distinction between binding and non-binding legal vehicles. In short, the above analysis shows that an ICAO resolution has weak points but can be adopted at the 2016 Assembly, show agreement and commitment to the implementation of a global market-based measure if there is strong political support from all States, without, for instance, reservations).

¹⁰¹ See, Art. 84 - *Settlement of disputes*: “If any disagreement between two or more contracting States relating to the interpretation or application of this Convention and its Annexes cannot be settled by negotiation, it shall, on the application of any State concerned in the disagreement, be decided by the Council.” (*italics added*). Chicago Convention, Art. 84

Its *strength* lies in its capability to lay down provisions on environmental integrity in a transparent manner, and on equal treatment being reconciled with the CBDR and SCRC concepts. Another strong point concerns the time for its adoption.

The *weak points* pertain to its lack of legal force, enforcement, the establishment of a compliance mechanism and its position in the aviation related dispute settlement mechanisms. As compliance is up to the decisions of the member States of ICAO, reference has been made to ‘supranational’ or international models for enforcement.¹⁰² Thus, the time for operationalization is of course a function of the political will of the ICAO States and other concerned parties such as the EU.

An option is to combine an ICAO ‘recommendatory’ resolution with another instrument addressing specific, that is, the more ‘technical’ elements of a GMBM. These elements will be envisaged in the next section elaborating the use of SARPs for this purpose.

¹⁰² See, Section 1.6 of Chapter A.

4. MBM'S ADOPTED VIA ICAO SARPs

4.1 Introduction

SARPs are not part of the Chicago Convention as they are laid down in the now 19 technical Annexes thereto. As will be explained below (in this subsection), they receive binding force through their implementation in national law via domestic procedures for that purpose.

The Chicago Convention does not limit the subjects which Annexes can cover as Article 37 of the Chicago Convention ends openly by laying down those SARPs may deal with "*such other matters concerned with the safety, regulatory, and efficiency of air navigation as may from time to time appear appropriate.*" While the protection of the environment is not explicitly mentioned here – as explained in Chapter A – there is no doubt that those SARPs may regulate noise and emissions standards as this is confirmed in ICAO Resolutions, ICAO Documentation, and, above all, Annex 16, as to which see below.

As SARPs are not an integral part of the Chicago Convention, ICAO States may choose to depart from them by giving notification to ICAO of the differences between the international standards and national regulations and practices.¹⁰³ While States have a right to file restrictions, they have to justify when they do so pursuant to an ICAO Assembly Resolution:

"If a Contracting State finds itself unable to comply with any SARPs, it should inform ICAO of the reason of non-implementation, including any applicable national regulations and practices which are different in character or in principle."¹⁰⁴

Thus, the right to notify differences has become a duty to justify non-compliance. For instance, the Supplement to Annex 8 – Airworthiness of Aircraft contains the following lists:

- i. States which have notified ICAO of differences between SARPs contained in this Annex and their national regulations and practices (79 States);
 - ii. States which have notified ICAO that no differences exist (38 States);
 - iii. States which have not transmitted information (74 States)
- (Total: 191 States).

Furthermore, that Supplement specifies the SARPs with respect to which differences have been notified. Thus, under Chapters 3 and 4 the following text is found under the notifications made by Belgium and Finland have made notifications to ICAO,¹⁰⁵ but not the

¹⁰³ In accordance with the provisions of article 38 of the Chicago convention

¹⁰⁴ Assembly Resolution A36-13, at II-3

¹⁰⁵ **BELGIUM: CHAPTER 3:** "3.3.2 Part 21 only requires the language of the European Commission Member State and does not impose the use of the English language. However, the Finnish version does include English Translation."

CHAPTER 4:

"4.3.1: There is no requirement in the European Commission Regulation 1702/2003 for Member States to do this. Notification to the State of Design is not made if mandatory continuing airworthiness information (MCAI) from that State is readily available." And:

other EU States. Under Annex 8, the above 79 States have filed differences covering about 100 pages. The EU States have not adopted a harmonised approach in this context.

Moreover, taking into account the number of States which have filed differences and of States from which ICAO has not received notifications, it would seem that one cannot speak yet of a unified or harmonised regime concerning air worthiness of aircraft regulations.

4.2 Environmental integrity

Whereas treaties, including the Chicago Convention, are the appropriate instruments for proclaiming general principles on environmental protection, thus supporting the legal and policy basis for conducting environmental policies, and resolutions may be employed to implement such aspirations in more or less specified terms, the technical Annexes of ICAO are made to translate such principles in more or less concrete measures. Hence, a combination between a treaty and technical regulations would supply the most robust support for environmental integrity. While the above sections targeted the more general considerations regarding the promotion of environmental integrity, this subsection will detail how SARPs can be used to serve the same purpose.

- *Current and future Standards laid down in Annex 16*

Annex 16 deals with environmental protection. Volume 1 and 2 of this Annex 16 regulate aircraft noise and aircraft emissions respectively. Standard 3.1.2 of Annex 16 dictates that the following gaseous emissions are controlled for the certification of aircraft engines, namely, HC, CO and NO_x. While CO₂ is not included in this list, this Annex refers to it variously, principally for the purpose of measurement and analysis rather than as a certification standard. Certain attachments contain rules on, for instance, blending CO and CO₂ gases, and the determination of their concentrations. Also, CO₂ is listed as a “Calibration and test gas”, next to HC, CO and NO_x.¹⁰⁶ We understand that this ‘omission’ is caused by the perception that

“CO₂ is not considered as a pollutant but its concentration is required for calculation and check purposes.”¹⁰⁷ (italics added)

“4.3.4: There is neither a requirement in the European Commission Regulation 1702/2003 for Member States to do this, nor an EASA procedure addressing this.”

FINLAND: CHAPTER 4:

“4.3.1: There is no requirement in the European Commission Regulation 1702/2003 for Member States to do this. Notification to the State of Design is not made if mandatory continuing airworthiness information (MCAI) from that State is readily available.

4.3.4 There is neither a requirement in the European Commission Regulation 1702/2003 for Member States to do this, nor an EASA procedure addressing this.”

¹⁰⁶ See, for instance, Attachment D to Appendix 5 of Annex 16

¹⁰⁷ Note under provision 3.1(c) in Attachment 3 to Appendix 5 of Annex 16, at APP 5-2, version of 20/11/08

Meanwhile this perception has changed as ICAO is preparing a Volume III of Annex 16 which must be achieved in two phases, to wit the development of a CO₂ requirement (1) and a CO₂ Standard setting process (2). While Phase 1 has now been completed using a metric system, Phase 2 is underway. The CO₂ standard is designed to not only regulate the emission of this gas, but also make a meaningful contribution to its reduction through the integration of fuel efficiency technologies into newly built aircraft type engines. We comprehend that the regulatory limits for this standard have not yet been set, but are currently being discussed in CAEP which hopes to finalise its work on this in February 2016.¹⁰⁸

Standards of Volume III may include but are not limited to the following:

- o Definitions
- o Applicability to types of aircraft
- o Geographical scope – international, and
- o Relationship with national measures
- o Governance and administration
- o Establishment of an international registry
- o Terms of reference: baseline 2018-2020; historical emissions
- o Measurement/calculation – in reality or via a standardised model, differentiated in accordance with the size or mass of the aircraft (see also Annex 6, below)
- o Instruments for measuring CO₂ emissions – actual or estimated
- o Compliance/MRV procedures
- o Procedure in case of failure
- o Phased-in approach
- o Introduction per route or bundle of routes
- o Rebate mechanism (*see below; for discussion*)

Some of these elements, in particular the establishment of an international registry, compliance and remedies, and the determination of offsetting obligations, may go beyond the ‘technically’ based limits of ICAO Annexes as they pertain to regulatory (compliance and remedies) and economic matters which are normally covered by an international agreement, as to which see our remarks made in the beginning of this subsection.

Moreover, these, and other matters also ought to find a place in the General Assembly Resolution as concisely elaborated in the previous section. Again, at the end of the day, States must be prepared to commit themselves to this interpretation, which is, in our view, a legally sound one, and follow it up in the measures mentioned below.

¹⁰⁸ See, Neil Dickson, *Environment Branch of ICAO*, presentation made at an ICAO Symposium “Destination Green” held from 14-16 May 2013, available at: http://www.icao.int/Meetings/Green/Documents/day%201pdf/session%203/3-Dickson_CO2%20Standardv2.pdf [last accessed on 19/07/2015].

- *Certification of aircraft under Annex 8 in conjunction with Annex 6*

Annex 8 obliges ICAO States to draw up requirements and procedures to ensure the airworthiness of the aircraft registered in their national registry. States that have registered aircraft in their national registry must ensure “*the continuing airworthiness of the aircraft regardless of where it is operated in the world.*”¹⁰⁹ Whereas some Standards are so detailed that they can be applied as such, others must be supplemented by national safety regulations.

Annex 8 establishes a – albeit thin – link with the requirements made under Annex 16 by stating the following at various places:

“Note .— Maximum operating mass may be limited by the application of Noise Certification Standards (see Annex 16, Volume I, and Annex 6, Parts I and II).”

We have not found a link between the Certifications Standards for environmental emissions as promulgated by Volume II in Annex 16, and, for obvious reasons, between the mandatory reduction of CO₂ emissions which are now considered for adoption in Volume III.

The relationship between Annex 6 on the *Operation of Aircraft*, and Annex 16 is more stringent.¹¹⁰ However, no reference is made to aviation emissions in this Annex 6.

- *The connection between aircraft emissions standards and the Chicago Convention*

For the purpose of the present study we believe that the following provision of the Chicago Convention is important:

“*Certificates of airworthiness and certificates of competency and licenses issued or rendered valid by the contracting State in which the aircraft is registered, shall be recognized as valid by the other contracting States, provided that the requirements under which such certificates or licenses were issued or rendered valid are equal to or above the minimum standards which may be established from time to time pursuant to this Convention.*”¹¹¹ (italics added)

Thus, Annex 8 prescribes the *minimum* airworthiness standards which form the basis for mutual recognition by contracting States of a certificate of airworthiness under Article 33 of the Chicago Convention. The reference to the certificates of airworthiness in Article 33 of the Chicago Convention give the provisions of Annex 8 a sound legal strength, since it allows member States of ICAO to revoke the authorization granted to operate traffic rights under bilateral agreements. Doing so, Article 33 of the Chicago Convention provides for a strong mechanism fostering the implementation of the most important safety standards, which is

¹⁰⁹ See, ICAO's *Safety Oversight Manual*, Part A (2006), section 2.3.4(d).

¹¹⁰ Annex 6 on the *Operation of Aircraft* contains two references to Annex 16, to wit Standard 5.2.7(d) limiting the mass of aircraft: “*In no case shall the mass at the start of take-off, or at the expected time of landing at the aerodrome of intended landing and at any destination alternate aerodrome, exceed the relevant maximum masses at which compliance has been demonstrated with the applicable noise certification Standards in Annex 16, Volume I, unless otherwise authorized in exceptional circumstances for a certain aerodrome or a runway where there is no noise disturbance problem, by the competent authority of the State in which the aerodrome is situated.*” Whereas Standard 6.13 provides the following: “*All aeroplanes complying with the noise certification Standards in Annex 16, Volume I. An aeroplane shall carry a document attesting noise certification. ...*” (italics added). Chicago Convention, Annex 6.

¹¹¹ Chicago Convention, cited above, Art. 33.

relevant for the purposes of the present study (see below). A resolution could allude to this avenue, shaping a 'mixed' approach. At the same time, SARPs establish other certificates, such as the air operator certificate (AOC) of Annex 6. Even if the AOC are not explicitly mentioned by Article 33 of the Chicago convention, AOC delivered by foreign countries are nevertheless examined by the competent authorities of ICAO's member States and can legitimate the revocation of an authorisation to operate a commercial service. According to Annex 6, Part I, para. 4.2.2.1, echoing Article 33 of the Chicago Convention:

"Contracting States shall recognize as valid an air operator certificate issued by another Contracting State, provided that the requirements under which the certificate was issued are at least equal to the applicable Standards specified in this Annex and in Annex 19."

According to Annex 6, Part I, para. 4.2.2.2:

"States shall establish a programme with procedures for the surveillance of operations in their territory by a foreign operator and for taking appropriate action when necessary to preserve safety."

We believe that the introduction of emissions rules in the form of Standards into Volume III of Annex 16 is a promising avenue. If the GMBM rules were to be integrated into an Annex, the norms herein included would have a legal status on a global basis. This legal status has to be seen in the context of the remarks we have made above as we noted that in practice most States abide by SARPs, and also have an interest to do so for legal reasons as evidenced by, for instance, Article 33 of the Chicago Convention and relevant provisions of ASAs.

We also pointed at the references made in Annex 8 in conjunction with Annex 6 to provisions of Annex 16. We would argue that this link is strengthened once the Council has adopted Volume III of Annex 16 which process may take place before the General Assembly of September/October 2016. In that case, Annex 8 can be modified so as to include references along the lines and wording of the Standards of Annex 6 which have been quoted above. As a corollary the Standards of Annex 16 will find their way into the provisions of the Chicago Convention via Annex 8 or 6 and Article 33 without the need for amending it.

In this connection, thought could be given to use the broad wording of Article 33 (cited in subsection 4.2, above) of the Chicago Convention by proposing the introduction of an "environmental licence" establishing a scheme pursuant to which compliance by the airline with environmental protection requirements set by Volume III of Annex 16 serves as a basis for Member States to deliver said certificates to the aircraft registered in their territories. Thus, Member States are responsible for, and must demonstrate compliance with the new CO₂ Standards of Annex 16 and with the GMBM scheme. It would need to be examined how *equal treatment* would be preserved on routes.

4.3 Governance

SARPs are adopted by the ICAO Council in accordance with the procedure laid down in that Convention. Article 90(a) of the Chicago Convention establishes that:

“The adoption by the Council of the Annexes described in Article 54, subparagraph i), shall require the vote of two thirds of the Council at a meeting called for that purpose and shall then be submitted by the Council to each contracting State. Any such Annex or any amendment of an Annex shall become effective within three months after its submission to the contracting States or at the end of such longer period of time as the Council may prescribe, unless in the meantime a majority of the contracting States register their disapproval with the Council.”

As a consequence, the adoption of SARPs requires the vote of a very limited number of States, since the Council is only comprised of 36 States, which must be taken into account for operationalisation (see below). Furthermore, unless a majority of the contracting States disagree with the Annex or if a States notifies a difference in accordance with article 38 of the Chicago Convention¹¹², it becomes effective (i.e. binding, at least for the standards) after a very short period. Before adoption they pass through ICAO bodies and panels preparing them, notably the Air Navigation Commission (ANC), in which it is necessary to secure a general consensus among the representatives of the contracting States. The EU Commission takes part in these bodies and panels, with an observer status, but developing States sometimes lack human and technical resources to be efficiently represented there. In the present context, their participation is crucial to influence the outcome of a process which is particularly important for their interests. Reference is made to our discussion of the CBDR and SCRC concepts, and the route based approach, in relation to the equal treatment principle, in Section 4.3 of Chapter A. Other features of governance are explained in the previous section on Environmental integrity, to which we refer.

As Article 38 of the Chicago Convention explains that any State may notify a difference, which means that the Standard in question will not apply to that State, the ability to effectively use of Standards depends on there being political support from all States. Reference is made to the discussion under 4.1, above.

¹¹² “Any State which finds it impracticable to comply in all respects with any such international standard or procedure, or to bring its own regulations or practices into full accord with any international standard or procedure after amendment of the latter, or which deems it necessary to adopt regulations or practices differing in any particular respect from those established by an international standard, shall give immediate notification to the International Civil Aviation Organization of the differences between its own practice and that established by the international standard. In the case of amendments to international standards, any State which does not make the appropriate amendments to its own regulations or practices shall give notice to the Council within sixty days of the adoption of the amendment to the international standard, or indicate the action which it proposes to take. In any such case, the Council shall make immediate notification to all other States of the difference which exists between one or more features of an international standard and the corresponding national practice of that State.” Chicago Convention, Art. 38.

4.4 Transparency

As SARPs are not part of the Chicago Convention, their legal force is not the same as that of treaty provisions. ICAO Member States are entitled to notify “differences” between their own national regulations and practices, and SARPs when they find it “impracticable” to comply with them. At the end of the day, it is up to States to decide whether implementation is “practicable” or not, affecting the legal certainty of their status. However, in the absence of notification of differences, States must comply with the Standards contained in the Annexes, in accordance with article 37 and 90 of the Chicago Convention¹¹³.

Thus, it appears that while notification is mandatory under the Chicago Convention, States do not always do so. This reluctant or sometimes inattentive attitude does not contribute to the achievement of the necessary uniformity of rulemaking under the Chicago Convention as signalled in Section 1 of this Chapter and may affect the binding force of SARPs.

Another question, which has legal and practical implications, concerns the implementation of SARPs in national law as they lack ‘treaty status’ under international law. While it is true that certain States, notably the States that apply a ‘dualist’ regime, including, for instance, the US, the UK and India, implement treaties through enactment of a national regulation encompassing the treaty provisions, this mode of implementation applies in any case – or State – to SARPs. Again, while hardly any studies have been conducted on the subject, variations exist as to the implementation of SARPs in national legislation of ICAO States.

At first sight it would appear that the adoption of SARPs – as they are technical regulations – do not require the same democratic control as for instance treaty provisions for implementation in national law. For instance, in the US, Standards which have been adopted by the ICAO Council do not need approval from Congress as the US Department of Transportation (DOT) and Federal Aviation Authority (FAA) have been granted authority by the Congress to implement them. In the Netherlands SARPs must be published in the Dutch Treaty Gazette before receiving legal force, and do not pass by Parliament. In principle, an ICAO standard should be applicable in France from the moment of its entry into force at the international level. The content of the annexes is usually integrated in the French legal order by means of administrative decisions (for instance, ‘*arrêtés*’). However, the legal status of SARPs in France has been raised in legal proceedings: in several cases of 1981, 1996, 1998 and 2001, the French ‘*Conseil d’Etat*’ affirmed the limited possibility of relying on an ICAO

¹¹³ Admittedly, Art. 37 of the Chicago Convention is not crystal clear in that respect, only prescribing that “*each contracting State undertakes to collaborate in securing the highest practicable degree of uniformity in regulations, standards, procedures, and organization in relation to aircraft, [...] in all matters in which such uniformity will facilitate and improve air navigation*”. See Chicago Convention, cited above, Art 37. However, a systematic interpretation of the Chicago Convention taking into account the terms of the treaty in their context and in the light of its object and purpose, in line with the general rules of interpretation of Treaties established in Article 31 VCLT comforts our interpretation. See Vienna Convention on the Law of Treaties, cited above, Art. 31. Article 38 allows States to depart from the annexes adopted in conformity with Article 37, which indicates that, *prima facie*, the SARPs are binding. See Chicago Convention, cited above, Art. 37 and 38. Moreover, the wording employed in Article 90 is more than convincing, since it states that annexes “*shall become effective*” and that the Council shall notify to the Member States “*the coming into force of any Annex or amendment thereto.*” See Chicago Convention, cited above, Art 90.

standard by French individuals: the individual may ask to its own State to comply with the ICAO requirements, construed as recommendations, but cannot directly rely on such requirements.¹¹⁴ In other words, according to the above mentioned cases of the '*Conseil d'Etat*,' ICAO standards constitute only mere recommendations for the State, but do not create obligations or direct rights for the individuals.

A number of African States adopt them fairly smoothly by attaching SARPs as technical regulations to their national aviation codes. Thus, State practice shows that those States, apply SARPs to domestic operations, be it, of course, on a voluntary basis. In doing so, they attach SARPs as technical regulations to their domestic Air Codes and give them legal force for both international and domestic operations.

The application of SARPs in a domestic environment is not restricted to the above situation. While ICAO's mandate is constitutionally restricted to *international* civil aviation, certain Annexes also apply to domestic air transport. Examples of SARPs which address domestic operations can be found in Annexes 6 on the *Operation of Aircraft*, 17 on *Aviation Security* and 18 on the *Safe Transport of Dangerous Goods*.¹¹⁵

We conclude that if States so wish, it is not impossible to apply international rules developed by ICAO under the Chicago Convention to their domestic services and operations. However, in order to achieve this result, States must be committed to do so, and express that commitment, preferably in the 'umbrella resolution' envisaged in the previous section.

4.5 Equal treatment, CBDR and SCRC

We also ought to check whether the above suggestions, especially those made in subsection 4.2 of this Chapter, meet the above principles. To begin with we observe yet again that the Chicago Convention itself makes room for a differentiated regime of rulemaking rather than a strict 'one fits all' approach which the principle of 'uniformity of rulemaking' and references to 'non-discrimination' as identified in Chapter A might suggest as the term "minimum" requirements of Article 33 Chicago Convention grants States the liberty to impose stricter certification norms which can be said to affect the principle of 'uniformity'.

Arguably, such a differentiated rulemaking procedure may meet the needs of developing States, as the minimum norms can be established for them on a relatively low, and even a 'zero' level to begin with, and promoted via a phased-in approach as agreed upon in an ICAO Resolution and confirmed in Volume III of Annex 16. Developed, or Annex I States, could start off in 2020 with norms that are higher than these minimum, or 'zero' norms. Thus, the principles of "equality of opportunity" as postulated by the Preamble of the Chicago Convention and the 'uniformity of rulemaking' would be reconciled. These proposals differentiate certification norms pursuant to the stage of development of the State,

¹¹⁴ See case law of the *Conseil d'Etat* in Attachment to the Description of the work in the first Annex, below.

¹¹⁵ Cited by HUANG (J.), cited above, at 87-88.

its participation to international air services, including its contribution to CO₂ pollution in the past by aircraft registered in its national registry. These proposals also pertain to the previous conditions, that is, the status of States under the UNFCCC framework.

While this suggestion would have important legal, policy and efficiency advantages, and can manage the phased-in approach for the benefit of developing States, it must also be linked with the ‘Strawman’ approach. Thus, the Standards drawing up CO₂ measures must provide equal treatment on routes so as to secure a level playing field on these routes.

The next question concerns the alignment of the above legal track, running from Volume III of Annex 16 through Annex 8, and also Annex 6, to Article 33 of the Chicago Convention, with the route based approach. *Firstly*, it seems to us that, should the route based approach be maintained, it should be agreed in the General Assembly Resolution of 2016.

ICAO has been described as

“an international organisation with wide quasi-legislative and executive powers in the technical regulatory field and with only consultative and advisory functions in the economic sphere.”¹¹⁶

No detailed examination has taken place in ICAO of whether Standards can be used for rules determining offsetting obligations of aircraft operators or eligible types of units, which involve applying economic obligations to operators, with conditions that are unrelated to aircraft and their operation. The Chicago Convention does not preclude this as Article 37(k) states that ICAO is tasked to adopt,

“as may be necessary, international standards and recommended practices ... dealing with ... such other matters concerned with the safety, regulatory, and efficiency of air navigation as may from time to time appear appropriate.”

Thus, this provision does not prevent ICAO States from adopting SARPs regarding new matters, falling outside the scope of the more ‘traditional matters’ such as safety and security. We already mentioned that the Chicago Convention ought to be perceived as living instruments which is adaptable to the requirements of times. This perception is built on the above provision of the Chicago Convention, and the interpretation of it, and other provisions, in the course of times, and underlined by the observation we made in section B.1.4, regarding the ‘open ended’ mandate of ICAO by virtue of Article 44(i) stating that it should “*promote generally the developments of all aspects of international civil aeronautics.*”¹¹⁷

ICAO Standards have been mentioned in discussions in the EAG and the GMTF of ICAO as the legal vehicle that would contain all GMBM rules, not only the ones pertaining to Monitoring, Verification and Reporting (MRV). Also, it has not been analysed whether ICAO

¹¹⁶ Michael Milde, *The Chicago Convention – After Forty Years*, IX ANNALS OF AIR & SPACE L. 119, 121 (1984)

¹¹⁷ See, Chicago Convention, Art. 44(i)

would have a mandate to do so. The legal issues to do with making an enforceable sharing out of obligations among operators have not been addressed by ICAO either.

The operator of a developing State, for instance, Air Botswana, might argue that such higher norms infringe the provisions of Article 33 of the Chicago Convention as it should have access to all routes in the world if it complies with minimum norms established by ICAO. However, the question is whether Article 33 of the Chicago Convention gives operators of aircraft such a broad entitlement, that is, including access to – all – international routes as it merely states “*Certificates of airworthiness ... shall be recognized as valid by the other Contracting States*” provided they comply with ICAO minimum norms. Recognition of certificates does not imply the automatic grant of route rights, as these are granted by international agreements between States (ASAs) pursuant to the provisions of Article 6 of the Chicago Convention, providing for the operation of international air services, or, in other words, international routes. In other words, the proposed attachment of Volume III identifying the routes which are subject to a stricter regime than other routes would form a commitment undertaken by those States on the footing of Article 6 of the Chicago Convention, which they are entitled to employ in this context pursuant to its terms.

Another way to deal with a differentiated treatment pertains to the use of a Rebate Mechanism (RM) which has been advanced in the maritime sector.¹¹⁸ Pursuant to this proposal, all ships – and aircraft – pay for their emissions, but specified States receive rebates, and the remaining revenues are allocated to climate change action. This RM can be fitted in the global approach, may be accommodated in the above air law based regime, and aligns with principles of equity and CBDR.

4.6 Enforcement

In practice, and this may be as least as important as legal considerations, States broadly comply with ICAO SARPs. If both States accept a Standard, compliance may be linked with the operation of the traffic rights granted to their airlines under ASAs. Thus, if an airline operating international air services does not satisfy the SARPs, which may be considered as minimum operating standards, it may be refused access to the airspace of another State party to the Chicago Convention, as to which see also the next section. This sanction pertains to the provisions of Article 33 of the Chicago Convention in conjunction with those prevailing in ASAs, which mechanism will be alluded to in subsection 4.6 below.

From a legal perspective, SARPs may be enforced in three ways, that is, via

- (i) The Audits conducted by ICAO, which is currently no more than a recommendation;
- (ii) Provisions of ASAs;
- (iii) National court proceedings if they are implemented in national law;
- (iv) The dispute settlement regime of Chapter XVIII of the Chicago Convention.

¹¹⁸ As suggested by STOCHNIOL (M.), *Ensuring Fair and Effective Carbon Pricing of International Transport*, presentation made at the COP 18 side event, 27 November 2012.

SARPs are also enforced through the regimes applied by the US FAA and the EU Commission under the so called ‘black listing’ policy which is conducted by the European Aviation Safety Agency and updated every three months. A discussion of these policies fall outside the scope of this study as they do not pertain to global policy making.

Finally, the above avenue has implications for enforcement.

- As to (i), we suggest that, because ICAO takes a leading role in this process, thought might be given to the establishment of a *Universal Environmental Audit Programme*, along the lines of the safety and security audits conducted by this organisation. Reference is made to our suggestions made in Section 4.5 of Chapter A.
- Regarding (ii), SARPs may be, and, indeed are enforced under ASAs as is the case with those made under Annex 8; Annex 6, 16 and other Annexes. States – may - agree in ASAs that designated airlines normally must comply with SARPs when flying international routes agreed upon in ASAs.¹¹⁹ Reference is also made to the¹²⁰ case of *British Caledonian v. US FAA*, in which minimum SARPs laid down in Annex 8 were enforced in legal proceedings, via, again, the mechanism of Article 33 of the Chicago Convention which was said to have a “self-executing effect”, as to which see our discussion in Section 1.5 of Chapter A.
- As to (iii), we refer to the next section indicating the judicial procedures.
- As to (iv), we also refer to the next subsection on Dispute settlement.

Finally, Volume III of Annex 16 may or should include norms for MRV,¹²¹ compliance and remedies. Another suggestion concerns the creation of Panels of Experts following the model of the WTO/GATS Panels and Appellate Bodies as referred to in section 4.7 of Chapter A.

4.7 Dispute resolution

Depending on the nature of the dispute, provisions on Dispute Settlement laid down in ASAs may also be available as, again, pointed at in Chapter A.

¹¹⁹ See, for instance, the following formulation: Article on Revocation and limitation of authorisation
“1. The aeronautical authorities of each Contracting Party shall have the right to withhold the authorisations referred to in Article V of this Agreement with respect to a designated airline of the other Contracting Party, to revoke or suspend such authorisations or impose conditions, temporarily or permanently:
(a) in the event of failure by the airline to qualify before the aeronautical authorities of that Contracting Party under the laws and regulations normally applied by those authorities in conformity with the [Chicago] Convention;
(b) in the event of failure by the airline to comply with the laws and regulations of that Contracting Party; [...]
2. Unless safety or security require immediate action under this Article and Article VIII, the rights enumerated in paragraph 1 of this Article shall be exercised only after consultations with the aeronautical authorities of the other Contracting Party in conformity with Article XVIII of this Agreement.” Air Services Agreement between Australia and Argentine (1992), cited above.

¹²⁰ See, footnote 46

¹²¹ See subsection 4.2 of this Chapter

Chapter XVIII of the Chicago Convention on *Dispute Settlement* between States becomes available for this purpose as it refers to the settlement of a disagreement between two or more States relating to the interpretation of the Convention *and its Annexes*. Hence, those States must first try to reach consensus via negotiations, as indicated in this provision, following which they are entitled to submit their disagreement – when has then become a dispute – to the Council, following which it may be appealed to an international arbitration tribunal or the International Court of Justice. As noticed in Section 1.7 of this Chapter, relatively little use has been made of these legal proceedings by States.

As SARPs are norms - which are mostly termed as “minimum norms” in that context - which must be complied with when airlines fly under ASAs, the dispute resolution provisions laid down in ASAs become an option. Routinely, States must engage into consultations and negotiations before they may decide to proceed to legal proceedings, that is, in most cases, submission of the dispute to an arbitration court as agreed upon in the terms of the bilateral agreement.¹²² Again, States have hardly made use of this option for the reasons pertaining to diplomatic sensitivities explained above.

SARPs that are accepted by a State should be implemented in national legislation. Once this is the case, national legislation must be complied with by foreign operators of aircraft when entering the national airspace of the other State pursuant to Article 11 of the Chicago Convention and ASAs, national court proceedings should form a first option for such foreign operators, certainly as under general international law *local remedies* must be exhausted before recourse can be had to international proceedings.¹²³ As stated in subsection 1.4.5 of this Chapter, a US Court has recognised the “self-executing” effect of the terms of Article 33 of the Chicago Convention so that foreign operators can rely on them in US Courts.¹²⁴

4.8 Time for operationalisation including political feasibility, administrative burden and cost effectiveness

As explained above, and knowingly, the preparation of SARPs on CO₂ emissions is under way. While SARPs do not have treaty status, the time for operationalisation is relatively concise as referred to above. No diplomatic conferences have to be convened for their adoption whereas generally national Parliaments do not need to approve them. In short they

¹²² See, for instance, a standard clause in an ASA on *Provision on Settlement of Disputes* reads:

1. “If any dispute arises between the Contracting Parties relating to the interpretation or application of this Agreement, the Contracting Parties shall in the first place endeavour to settle their dispute by bilateral negotiations.
2. If the Contracting Parties fail to reach a settlement by negotiation, the dispute may at the request of either Contracting Party be submitted for decision to a tribunal of three arbitrators, one to be named by each Contracting Party and the third to be agreed upon by the two arbitrators so chosen, provided that such third arbitrator shall not be a national of either Contracting Party.
3. The Contracting Parties undertake to comply with any decision given under paragraph 2 of this Article.”

¹²³ Meaning that parties must have gone through all other available methods of dispute resolution, including consultations, negotiations and litigation before domestic courts before embarking on proceedings in international fora such as the International Court of Justice and international arbitration tribunals.

¹²⁴ See discussion in subsection 1.5 of Chapter A

are not subject to a ratification process for adoption. Furthermore reference is made to the section on governance which briefly indicates the preparation of SARPs.

The establishment of SARPs – as technical norms – is politically feasible but the contents have yet to be determined. Other factors such as the administrative burden and the cost effectiveness depend on the contents of the measures which will be established and ought to be based on an economic rather than legal analysis.

4.9 Conclusions

It seems to us that the adoption of technical measures and procedures in ICAO SARPs, for the monitoring and reporting of emissions, that is, Volume III of Annex 16, following the above line of reasoning, is in line with the regulatory regime established by and under the Chicago Convention. The use of Standards for governance in other areas would require examination on a case-by-case. A dispute settlement regime is available to States.

So far, ICAO has not explored in a precise manner the possible use of Standards as rules determining offsetting obligations of aircraft operators or eligible types of units, which involve applying economic obligations to operators, with conditions that are unrelated to aircraft and their operation. ICAO Standards have been referred to discussions in ICAO for containing all GMBM rules. Also, it has not been analysed whether ICAO would have a mandate to do so. From the broadly formulated provisions of the Chicago Convention, such a mandate could be contained in it. The legal issues to do with making an enforceable sharing out of obligations among operators have not been addressed by ICAO either.

In this regard, to circumvent the abovementioned obstacle of regulating operators through SARPs, reference is made to an idea which is concisely described at the end of subsection 4.2, linking a GMBM to aircraft through an ‘environmental licence’ or other means. Accordingly, for an airline to comply with the GMBM, the State of registry of the aircraft operated by the airline licensed by that State would monitor CO₂, and other gaseous emissions produced by that aircraft by regulating and enforcing the conditions laid down in the ‘environmental licence’. The emissions of its aircraft would be monitored by the States of registry of said aircraft. In case an airline operates an aircraft registered in another contracting State, special arrangements would need to be made on supervision of safety, and environmental oversight pursuant to the terms of Article 83bis of the Chicago Convention, and it would be necessary to ensure that equal treatment would be ensured of all operators on the same routes.¹²⁵

¹²⁵ Article 83 bis *Transfer of certain functions and duties*

“(a) Notwithstanding the provisions of Articles 12, 30, 31 and 32(a), when an aircraft registered in a contracting State is operated pursuant to an agreement for the lease, charter or interchange of the aircraft or any similar arrangement by an operator who has his principal place of business or, if he has no such place of business, his permanent residence in another contracting State, the State of registry may, by agreement with such other State, transfer to it all or part of its functions and duties as State of registry in respect of that aircraft under Articles 12, 30, 31, and 32(a). The State of registry shall be relieved of responsibility in respect of the functions and duties transferred.”

Downsides of this option, and the proposed scheme (see subsection 4.2, end), are the uncertain if not weak status of SARPs under international and domestic law, which also affects their enforceability. Moreover, SARPs are meant to be technical norms which implies, in our view, that they cannot be dissociated from another legal instrument warranting strong commitments from ICAO States and other parties in the form of an international treaty or at least an ICAO resolution to begin with. That combination would, according to us, provide the most solid legal vehicle – or vehicles – carrying the GMBM designed to offset CO₂ emissions. As stated variously in this report, it will depend on the commitments which States are prepared to make in 2016 and beyond to assess whether the argumentation which is followed above can be upheld in reality.

C. ANNEXES

1. DESCRIPTION OF THE WORK

Introduction

This Annex describes the work undertaken by the consultants pertaining to the study on possible legal arrangements to implement a GMBM for international aviation emissions.

The report is based on an analysis of legal instruments, discussions with representatives of the EU Commission as to which see further below, information obtained through websites and interviews (see also below), and doctrinal and jurisprudential research (see below). The consultants built upon this research and information to address the principal issues surrounding the adoption and implementation of a GMBM.

The final report reflects the results of this approach, while the consultants kept in mind to regularly obtain up-to-date information on the current ICAO process via the participation to ICAO events in relation with such process.

1. Research

This study was carried out by examining and analysing the principal legal instruments that may affect the establishment of a GMBM, the documents of international and private organizations, the legal literature focusing on different issues directly related to the adoption and implantation of a GMBM, and court cases.

The principal sources are attached to this report concerning the description of the work.

2. Meetings with the EU Commission

Several meetings were organized in Brussels with European Commission representatives. These meetings provided an opportunity to discuss the constructing structure of the report, as well as the main issues surrounding the adoption and implementation of a GMBM. It provided finally an up-to-date picture of the on-going negotiation at ICAO level to the consultants. Minutes of these meetings can be found in section 1.3 of this Annex.

The principal points made at those meetings are presented below.

3. Activities and Conferences attended related to the GMBM process

Thomas Leclerc participated, as part of the Dutch Delegation, to the ICAO 5th Global Aviation Dialogue (GLAD), held in Madrid on 27 to 28 April 2015. The objectives of the GLADs were to:

- Share information regarding MBMs and their role in a basket of measures adopted to address CO₂ emissions from international aviation;
- Provide up-to-date information on the work of ICAO on the development of a global MBM scheme;
- Serve as an opportunity to receive feedback from Member States and relevant organizations on the development of the global MBM scheme.

In May 2015, during the EAG/11 held at ICAO headquarter in Montréal, a consultant travelled to Montréal in order to obtain the last update of the ICAO process. He met during this week in Montréal Yue Yuang, D. Official at the Policy and Regulation Department of CAAC in China. She participated to the EAG and provided useful information with respect to the result of the EAG (see section 1.4 the summary of the meeting).

4. Interviews conducted by the consultants

As the subject of this report is moving on rapidly, interviews with national authorities, representatives of relevant international organizations and experts was an important tool for examination and analysis. The results of such interviews were a method for updating and sharpening the analysis. Several interviews have been used as background information, as the persons in questions did not want to make official statements. We only briefly address the contents of some of them.

Michel Adam and Andreas Hardeman were the first persons interviewed. Michel Adam is currently Manager in Environmental Policy at International Air Transport Association (IATA), while Andreas Hardeman is Assistant Director Environment Policy at IATA. The interview focused on the role and function of the industry, and in particular of IATA, in the ICAO process, and on the enforcement of the GMBM. In that sense, M. Adam underlined a clear and essential role of the industry in the adoption and implementation of a global MBM. In fact, the objective of implementation of a global MBM cannot be realistic without the industry, and in particular without airlines. Despite the fact that IATA could not be considered as a potential regulator, M. Adam explained that IATA and the Air Transport Action Group (ATAG) have a role in reaching out to the airline community to help ensure the industry accepts the potential outcome of the current discussions.

A general discussion with Bill Hemmings and Andrew Murphey, representatives of 'Transport and Environment', was conducted in February 2015 by Prof. Pablo Mendes de

Leon. Mr Hemming and Mr Murphey stressed the relevance of enforcement and asked us to examine enforcement methods used in, for instance, the maritime sector which we did.

The same month, Thomas Leclerc interviewed Dr. Alejandro Piera on the occasion of the IATA Legal Symposium that took place in Seoul 25-27 February 2015. Dr. Alejandro Piera published earlier in February 2015 his PhD thesis titled « Greenhouse Gas Emissions from International Aviation: Legal and Policy Challenges ». The intention was to discuss some of the conclusions reached by the author in his PhD thesis, and to obtain the author's views on specific issues which are central for the legal analysis conducted in this report.

A. Piera stressed out that the solution that may be adopted in 2016 will certainly not be an aggressive one, regarding the climate effect criteria, and one should then expect the adoption of a "minimum common denominator". However, the work is in progress under the auspices of ICAO, and one can then be satisfied that concrete proposals are now on the table of negotiation. In that respect, A. Piera expressed his clear support for a "treaty" approach, as the best theoretical option. He recognized at the same time the challenging obstacles of such legal vehicle, but indicated that the time needed for operationalization and the ratification process mainly depend on the political will of the sovereign States. With respect to an ICAO standard, in A. Piera's opinion, the major challenge of the "standard" approach remains the "free ride" issue, and more generally the actual enforcement of such instrument. A. Piera finally analysed the option of an ICAO General Assembly Resolution as a relevant solution, but only as a way to include some specific elements of the global MBM, making a "mixed approach" particularly relevant in that context.

In March 2015, a meeting was organized with Jeroen van Bochove, representative of the Ministry of Infrastructure and the Environment, Department for air transport, of the Netherlands. The discussion focused mainly on the technical elements of the envisaged GMBM, the institutional bodies in charge of the GMBM process, and the route-based approach. The persons interviewed indicated to the consultant that Annex 16 of the Chicago Convention should be expanded with a Volume III containing SARPs for the certification of aircraft, including engines, and taking into account CO₂ emissions. Such information allowed a specific research by the consultant on a link with Annex 8, as developed in the report.

The following month, an additional meeting with representatives of the Ministry of Infrastructure and the Environment of the Netherlands, Michael van Lunteren and Machteld Cambridge, was held in The Hague. The current development at ICAO level, the role of member States and other organizations to reach a consensus in 2016, and different issues related to the legal approach for adopting and implementing a GMBM, were examined. It was stressed out the proposition made by China to amend to Chicago Convention, warranting further analysis of this option in the report. The relevance of the GLAD process, and of the EAG Meeting held in Montréal on 26 and 27 of May, was also underlined.

The same month, the consultants held three other interviews:

- The first one with Frauke Pleines-Schmidt, representatives of the Federal German Ministry for Traffic and Digital Infrastructure;
- The second with Jean-Philippe Dufour, Counsellor of Civil Aviation and Aeronautic at the French Embassy in China. The discussion focused essentially on the position of China during the negotiation process of the GMBM at ICAO level. In J.-P. Dufour's opinion, the main challenge for China is now to show some willingness to discuss the adoption of a GMBM, in order to avoid being considered as the member State obstructing the adoption of the global scheme, without losing its qualification as developing State.
- The last one with Joanne Scott (Professor of European Law at the University College of London). The discussion raised the question of the compatibility of the non-discrimination principle with the CBDR principle in the light of the studies which Mrs Scott had carried out in the area of environmental law.

In May 2014, an interview, via a questionnaire prepared by the consultants, was conducted with Annie Petsonk (International counsel, EDF Washington Office) and Pamela Campos (Senior Attorney, EDF Boulder Office).

In the same month, Vincent Correia conducted two other interviews:

- The first one with Georges-Marie Baurens (SCARA). As a representative of French regional airlines and airlines operating to and from overseas regions, he insisted on the necessity to ensure an adequate level playing field among air carriers, taking into account the "network effect", moreover if the CBDR principle is being implemented through a route-based approach;
- The second with Jérôme Lesourd (Head of ETS Unit, Direction Générale de l'Aviation Civile, France). Involved in many high-level groups and committees working on aviation emissions, he insisted on the necessary comprehensiveness of the envisaged GMBM and the need to guarantee an effective enforcement at a global level.

Finally, following the 11th meeting of the Environmental Advisory Group (EAG) held in the ICAO headquarter, an interview was conducted with Yue Yuang in Montréal (D. Official, Policy and Regulation Department, CAAC). The discussion focused on the proposals on the table of negotiation at ICAO level, the result of the EAG/11 and the time-schedule for the adoption of the GMBM. It was confirmed that the approach at ICAO level is still a comprehensive one and the main focus remains on the technical issues.

5. Description of the work carried out for the drafting of the report

The team members prepared the reports based on analysis of the information obtained via the method described in the previous sections, and formulate their findings in them. Correspondence and frequent meetings between the team members allowed a constructive discussion and an appropriate distribution of the work to formulate the report.

An inception and intermediate report were presented to the Commission in and comments were taken into account for the preparation of the final report.

Attachment:

1 PRINCIPAL INSTRUMENTS USED FOR OUR RESEARCH

▪ Legal instruments

- Air Transport Agreement between the European Community and its Member States, on the one hand, and the United States of America, on the other hand, OJ L134, 25/05/2007, at 4-41.
- Air Services Agreement between Australia and Argentina (1992), to be found at <http://www.austlii.edu.au/au/other/dfat/treaties/notinforce/1992/1.html>.
- Charter of the United Nations, 24 October 1945, 1 UNTS 16.
- Consolidated version of the Treaty on the Functioning of the European Union, OJEU, C 326/47.
- Convention on International Civil Aviation, 7 Dec. 1944, 15 U.N.T.S. 295, including the Annexes to the Convention.
- Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations, Resolution A/RES/25/2625 of the General Assembly of the United Nations, 24 October 1970.
- EU Directive 2003/87 of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.
- EU Directive 2008/101 of the European Parliament and of the Council of 19 November 2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community.
- EU Regulation 421/2014 of the European Parliament and of the Council of 16 April 2014 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in view of the implementation by 2020 of an international agreement applying a single global market-based measure to international aviation emissions.
- ICAO Resolution A32-8, *Consolidated statement of continuing ICAO policies and practices related to environmental protection.*
- ICAO Resolution A33-7, *Consolidated statement of continuing ICAO policies and practices related to environmental protection.*
- ICAO Resolution A35-5, *Consolidated statement of continuing ICAO policies and practices related to environmental protection.*
- ICAO Resolution A36-22, *Consolidated statement of continuing ICAO policies and practices related to environmental protection.*
- ICAO, General Assembly Resolution A37-19, *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change.*
- ICAO, General Assembly Resolution A38-18, *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change.*
- Kyoto Protocol to the United Framework Convention on Climate Change, 1997, Kyoto, EMuT, 992 : 35/A.
- Memorandum of Cooperation between the European Union and the International Civil Aviation Organization providing a framework for enhanced cooperation, entered into force in 29 March 2012, OJ L 232, 09/09/2011, at 2.
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- Vienna Convention of the Law of Treaties (VCLT), 23 May 1969, 1115 UNTS 1155.

▪ ICAO and other Documents

- ICAO, *Report of the Assessment of Market-based Measures*, ICAO Doc 10018 (2013).
- ICAO, *Safety Oversight Manual*, Part A (2006).
- ICAO Council Working Paper C-WP/12979.
- ICAO Doc 9738-C/1127 C-Min. 156/1-16, Council – 156th Session, Summary Minutes with Subject Index (1999), C-Min 156/16.
- ICAO, *Rules for the Settlement of Differences*, ICAO Doc. 7782/2 (2d ed. 1975).
- Aviation Global Deal Group, *A Sectoral Approach to Addressing International Aviation Emissions*, Discussion Note 2.0.09 June 2009.

▪ Court Cases

- ICJ, *Border and Transborder Armed Actions* (Nicaragua v. Honduras), Jurisdiction and Admissibility, Judgment, ICJ Reports 1988, at. 69.
- ICJ, *Certain expenses of the United Nations* (Article 17, paragraph 2 of the Charter), Advisory Opinion of 20 July 1962, ICJ Report 1962, at 170-171.
- ICJ, *South West Africa cases* (Ethiopia v. South Africa; Liberia v. South Africa) Second Phase, Judgment of 18 July 1966, ICJ Reports, Advisory Opinions and Orders, 1966, at 6.
- ICJ, *Military and Paramilitary Activities in und against Nicaragua* (Nicaragua v. United States of America), Merits, Judgment, ICJ Reports 1986, at 14.
- ICJ, *Fisheries case* (United Kingdom v. Norway), Judgment of December 18th, 1951: ICJ Reports 1951, at 116
- ICJ, *Colombian-Peruvian asylum case* (Colombia/ Peru), Judgment of November 20th 1950: ICJ Reports 1950, at 266.
- ICJ, *North Sea Continental Shelf* (Federal Republic of Germany/Denmark; Federal Republic of Germany/Netherlands), Judgment, ICJ Reports 1969, at 3.
- ICJ, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Reports 1996, at 226.
- CJUE, Grand Chamber, 21 December 2011, *Air Transport Association of America and Others v Secretary of State for Energy and Climate Change*, C-366/10.
- *British Caledonian v. Langhorne Bond*, Administrator, Federal Aviation Administration, Respondent, *Balair AG, Lufthansa German Airlines, Swissair, Petitioners, and v. Langhorne Bond*, Administrator, Federal Aviation Administration, Respondent, and *Alitalia-Linee Aeree Italiane-S.P.A.*, Intervenor, Case No. 665 F.2d 1153; 214 U.S.App.D.C. 335, Nos. 79-1662, 79-1737; United States Court of Appeals, District of Columbia Circuit, Decided Sept. 2, 1981.
- Conseil d'État, *Syndicat national des officiers mécaniciens de l'aviation civile*, 1 / 4 SSR, du 20 novembre 1981, n° 09839, publié au recueil Lebon : « *Considérant, en premier lieu, qu'il ressort clairement de la convention de Chicago en date du 7 décembre 1944 relative à l'aviation civile internationale, et notamment de ses articles 37 et 38 relatifs aux "normes et pratiques recommandées internationales", que les normes adoptées par l'organisation de l'aviation civile internationale, compte tenu de leur nature et notamment des possibilités de dérogations qu'elles comportent, constituent des recommandations s'adressant aux États et ne peuvent être invoquées utilement à l'appui d'un recours pour excès de pouvoir ; que, dès lors, le moyen tiré par le syndicat requérant de la violation de certaines normes adoptées par le Conseil de l'organisation de l'aviation civile internationale et désignées, selon les termes mêmes de l'article 54 de la convention de Chicago, "pour des raisons de commodité", comme "annexes" à la Convention, ne peut être accueilli* ».
- Conseil d'État, *Association pour la défense de la profession de pilote de ligne*, 6 / 2 SSR, du 6 mai 1996, n° 133623, inédit au recueil Lebon : « *Il ressort clairement de la convention de Chicago en date du 7 décembre 1944 relative à l'aviation civile internationale, et notamment de ses articles 37 et 38*

relatifs aux "normes et pratiques recommandées internationales", que les normes adoptées par l'organisation de l'aviation civile internationale, compte tenu de leur nature et notamment des possibilités de dérogations qu'elles comportent, constituent des recommandations s'adressant aux États et ne peuvent être invoquées utilement à l'appui d'un recours pour excès de pouvoir » ;

- Conseil d'État, Compagnie Nationale Air France, Sect., du 23 novembre 2001, n° 195550, Publié au recueil Lebon : « *Considérant qu'il ressort des stipulations de la convention de Chicago du 7 décembre 1944 relative à l'aviation civile internationale, en particulier de ses articles 37 et 38 concernant les "normes et pratiques recommandées internationales", que, compte tenu de leur nature et notamment des possibilités de dérogations qu'elles comportent, les normes adoptées par l'organisation de l'aviation civile internationale constituent seulement des recommandations s'adressant aux États ; qu'ainsi la COMPAGNIE NATIONALE AIR FRANCE ne saurait utilement soutenir ni que les dispositions de l'article 20 bis de l'ordonnance du 2 novembre 1945 seraient incompatibles avec certaines des normes adoptées par le conseil de l'organisation et désignées "pour des raisons de commodité", selon les termes mêmes de l'article 54 de la convention, comme "annexes" à celle-ci, ni que les dispositions du décret du 8 février 1993, prises pour l'application de l'article 20 bis de ladite ordonnance, seraient contraires à ces normes » ;*
- Conseil d'État, M. Claude X., 7 /10 SSR, du 7 octobre 1998, n° 185657, Mentionné dans les tables du recueil Lebon.

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2. RECORDS OF MEETINGS WITH THE EU COMMISSION

1. KICK-OFF MEETING (December 16, 2014 – 2:00 PM)

1.1. Attendees

European Commission: Eve Tamme (Second National Expert/ Policy Officer - International Carbon Market, Aviation and Maritime)/ Damien Meadows (Advisor – European and International Carbon Markets)/ Timothy Fenoulhet (Policy Officer – Aviation Safety and Environment)/ Ismael Aznar Cano (Second National Expert/ Legal Officer - International Carbon Market, Aviation and Maritime)/ Rasa Sceponaviciute (Policy Officer- International Carbon Market, Aviation and Maritime).

Consultants: Pablo Mendes de Leon (Project Manager)/ Vincent Correia (Team Member/ Prof. of public Law at the University of Poitiers, France)/ Thomas Leclerc (Team Member/ PhD researcher).

Absent with previous notification: Uwe Erling (Team Member/ LL.M., Associated Partner, Law Firm Noerr LLP, Munich Germany)

1.2. Content of the study/ Technical specifications

It was first recalled that the study may not only focus on international aviation, as ICAO regulations may also concern domestic aviation. The Commission stressed also the importance of a *practical* approach, of the political feasibility of each option, depending on ICAO Member States' positions, and of the UNFCCC process.

▪ The envisaged instruments

With respect to the envisaged instruments, one of the first options to be envisaged could be an ICAO Standard as part of the 'SARPs' mandate of ICAO. In that respect, the effective application of the CBDR principle, and the notification of differences mechanism under Article 38 of the Chicago Convention, must be analysed. Taking into account the objective of maintaining a *level playing field*, the drawing up of an *international convention* comes to mind. However, the political feasibility of such an option is a point of attention. A third and main option for the legal form concerns the adoption of an *ICAO resolution*. In this context, the voting behaviour of ICAO Member States should be analysed.

As for the ASAs as a legal vehicle for the introduction of a GMBM, the only viable option regarding a GMBM, using the vehicle of ASAs, should be the adoption of a "model clause" by an ICAO resolution, to be implemented in bilateral or plurilateral agreements. The discussion focused also on the "mixed approach" option, as Timothy Fenoulhet concluded that the approach "one size fits all" cannot be envisaged as the only viable option.

- Main principles of implementation

A focus on two specific principles of implementation was made: the guarantee of equal treatment and confidence that there would be a *de facto* and *de jure* level playing field, in relation to the CBDR. It was also agreed that a distinction should be made between the “operator-based approach” and the “route-based approach”. In this regard, Damien Meadows stated his preference for the “route-based approach” as a means to assure an equal treatment of airlines flying on the same routes.

The instruments should be built on the confidence that there would be a level playing field for airlines to develop their activities, and the fairness perception of the GMBM by the industry. Damien Meadows explained that one should not underestimate the role of the industry for the success of a GMBM. CBDR forms an important principle as reaffirmed during the last COP held in Lima. The study must analyse its relation with the non-discrimination and equal treatment principles. The consultant should also identify the positions of different developing countries in the ICAO and UNFCCC process, which may render the outcome of the GMBM much more difficult to achieve.

- Discussion regarding the possible level of implementation of the GMBM

Reference was made to the international level under ICAO auspices, the national level, and finally the industry level. Timothy Fenoulhet suggested a research about the elements of the MBM design that will benefit from a more centralised approach. Finally, the option of *self-assessment* was discussed.

- Discussion regarding enforcement and risk assessment

It was acknowledged that ICAO does not have strong enforcement powers. Thus, ICAO Member States should be envisaged as one of the main realistic options for enforcement purposes. And a distinction can be made between enforcement by States upon operators, which is the ICAO tradition, and enforcement on a route basis. ICAO oversight programs, as already implemented by ICAO in other fields of aviation, in particular safety and security, should be analysed as a possible and relevant part of the enforcement process. A final option concerns a *self-enforcement* or a *self-policing* by the industry in which context IATA’s actions in the field of safety should be discussed. The objective of the industry to maintain a level playing field should be envisaged as a means to assure this self-enforcement.

- Discussion regarding disagreement and dispute settlement

As agreed by the participants, the legal form of the instrument will determine the vehicle for resolving disagreements between States, including the dispute settlement option. The study shall envisage a broad approach towards the resolution of disagreements, that is, including consultation, negotiation and other diplomatic tools, before embarking on the emergence of the existence of a dispute in a legal sense.

2. MEETING FOLLOWING THE INCEPTION REPORT (March 16, 2015 – 2:00 PM)

2.1. Attendees

European Commission: Eve Tamme (Second National Expert/ Policy Officer - International Carbon Market, Aviation and Maritime)/ Damien Meadows (Advisor – European and International Carbon Markets)/ Rasa Sceponaviciute (Policy Officer- International Carbon Market, Aviation and Maritime).

Consultants: Pablo Mendes de Leon (Project Manager)/ Uwe Erling (Team Member/ LL.M., Associated Partner, Law Firm Noerr LLP, Munich Germany)/ Thomas Leclerc (Team Member/ PhD researcher).

Absent with previous notification: Vincent Correia (Team Member/ Prof. of public Law at the University of Poitiers, France).

2.2. Overview of the work done by Prof. Pablo Mendes de Leon

Firstly, as recalled by Pablo Mendes de Leon, regulation and enforcement of the regulations represent two separate challenges, and the report will have to pay specific attention to the “enforcement” elements. Pablo Mendes de Leon also explained that the issue of a precise definition of the CBRD principle and the SCRC was left aside by many authors. Drawing conclusions with respect to this specific issue, taking into account the potential conflict with the principle of non-discrimination, will then require further study by the consultants.

Regarding the issue of a route-based approach, the analysis will reveal the importance of the “mixed approach”, specifically by the combination of an ICAO Standard and an ICAO Resolution. In that regard, further examination an ICAO resolution will be undertaken in order to establish their legal force, or lack thereof. The consultants will also undertake a specific analysis of ICAO Annexes, in order to address the potential “treaty status” of an Annex to the Chicago Convention. In that regard, reference was made to Annex 2, in relation with the article 12 of the Chicago Convention, but no link with environment protection appears under this Annex. A combined analysis of Annex 8, in relation with the article 33 of the Chicago Convention, and Annex 16, dealing specifically with environment protection, seems more promising.

2.3. Comments on the Inception Report by the European Commission

The EU Commission recalled the need for a sound legal analysis focusing on the main legal vehicles, the enforcement and the implementation issues. In that respect, it was agreed to divide the next report in two main chapters. The first one will describe the objectives, the context and the main principles of implementation, while the second one will directly focus on the legal vehicles to implement the GMBM.

With regard to the substance of the Inception work, the importance of the route-based approach was underlined. It was also recalled that the “model clause”, via the amendment of ASAs, may constitute a “dead end” for the harmonized implementation of a GMBM. Regarding the enforcement of the GMBM, the “Marrakech Agreement” model will present political problems, and the “MARPOL” model, despite being a successful example, differs substantially from the ICAO framework. It was nevertheless agreed that further research should be undertaken in that respect, including a study on an eventual ICAO environmental audit as a way to enforce the GMBM.

Damien Meadows finally recalled that the main objective of the study is to maintain a level playing field and to accommodate this objective with the CBDR principle in a global approach. It is a dead end for the general process for a GMBM if each State asks to be treated differently when the main goal of the GMBM is to obtain a harmonized system.

2.4. Questions addressed to the European Commission

It was first agreed to focus the analysis on a sectorial approach for a GMBM, and to exclude the issue of taxes and charges and in particular the issue of “air navigation charges” and “passenger taxes/charges”. As to the state of affairs with respect to the CBDR principle and the SCRC, Damien Meadows advised an interview of Prof. J. Scott and Prof. L. Rajamani, both experts on this specific issue.

Regarding the strawman approach, it was confirmed that 2 versions of the “strawman” already exist, and that ICAO is currently working on a third version. But in order to allow a specific reference to the “strawman” and to prevent double thinking, only the first version should be used by the consultants, as this is the only version which is in the public domain.

Regarding the cooperation between EU Commission and ICAO on MBM, it was confirmed that this cooperation, on the political level, was carried out by DG Move, in close collaboration with DG Climate, using the status of observer of the EU Commission at ICAO Council and EAG meetings. Beyond the political sphere, an active participation is currently being conducted by the EU Commission in different working groups of CAEP under the status of independent expert.

2.5. Update by the European Commission

It was first provided updates with regard to the position of different member States. As to the Volume 3 of Annex 16 to the Chicago Convention, such annex will include the CO₂ standard (technical standard) in order to comply with the objective of establishing a “basket of measures” to reduce aviation emissions. Finally, it was noted that the discussion at ICAO level focuses mostly on technical issues; the legal vehicle issue is not yet on the agenda.

3. MINUTES OF THE MEETING FOLLOWING THE INTERMEDIATE REPORT (July 9, 2015 – 3:30 – 5:00 PM)

3.1. Attendees

European Commission: Eve Tamme (Second National Expert/Policy Officer - International Carbon Market, Aviation and Maritime)/Damien Meadows (Advisor – European and International Carbon Markets)/Ismael Aznar Cano (Policy Officer- International Carbon Market, Aviation and Maritime).

Consultants: Pablo Mendes de Leon (Project Manager)/Vincent Correia (Team Member/Prof. of public Law at the University of Poitiers, France)/Uwe Erling (Team Member/LL.M., Associated Partner, Law Firm Noerr LLP, Munich Germany)

Absent with previous notification: Thomas Leclerc (Team Member/PhD Researcher)

3.2. Discussion of the content

As to the parameters of the study, Pablo Mendes de Leon comments that the term “environmental integrity” is undefined and it seems not to be a legal term. Eve Tamme points out that “environmental integrity” is listed in the reference document of the study as parameter number 1. Damien Meadows advises that the term “environmental integrity” should be interpreted in the context of enforcement as “environmental integrity” seems to be more a political than a legal term.

Discussing the mixed approach Damien Meadows thinks that the mixed approach cannot be construed as the best solution *per se* unless each individual component is shown to work. Pablo Mendes de Leon proposes that the problems of the mixed approach shall be discussed in the concluding remarks of chapter 2.

As to the treaty option Damien Meadows notes that although this option may take time, it very often will be the best option, whereas non-treaty options are less favourable. In addition, Damien Meadows comments that the equal treatment principle can best be addressed by a route based approach.

Discussing resolutions Damien Meadows comments that the national action in practice is important. If one single country does not take implementation measures then there might be a danger that the implementation of a global MBM is jeopardized.

In a further discussion of the route-based approach Vincent Correia outlines that enforcement will primarily depend on States. Ismael Aznar Cano refers during the discussion to an example of a route based approach of an Air France flight from Paris to New York which could be covered by 100 % by a GMBM whereas a flight from Paris to Beijing only to 50 % and a flight from Paris to Mali could be exempted by a GMBM. Vincent Correia

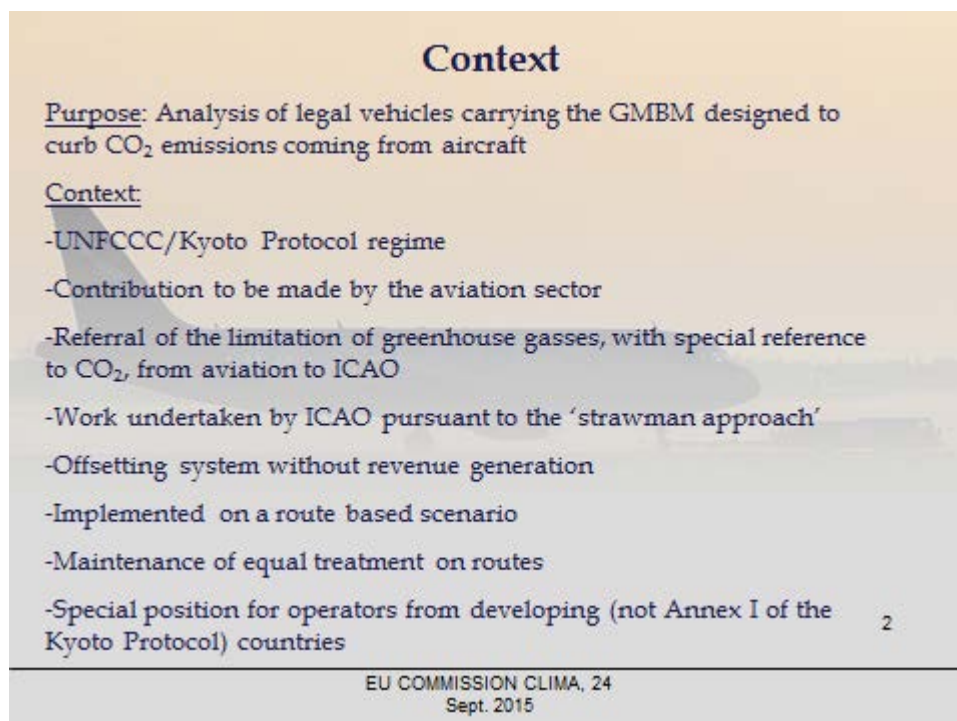
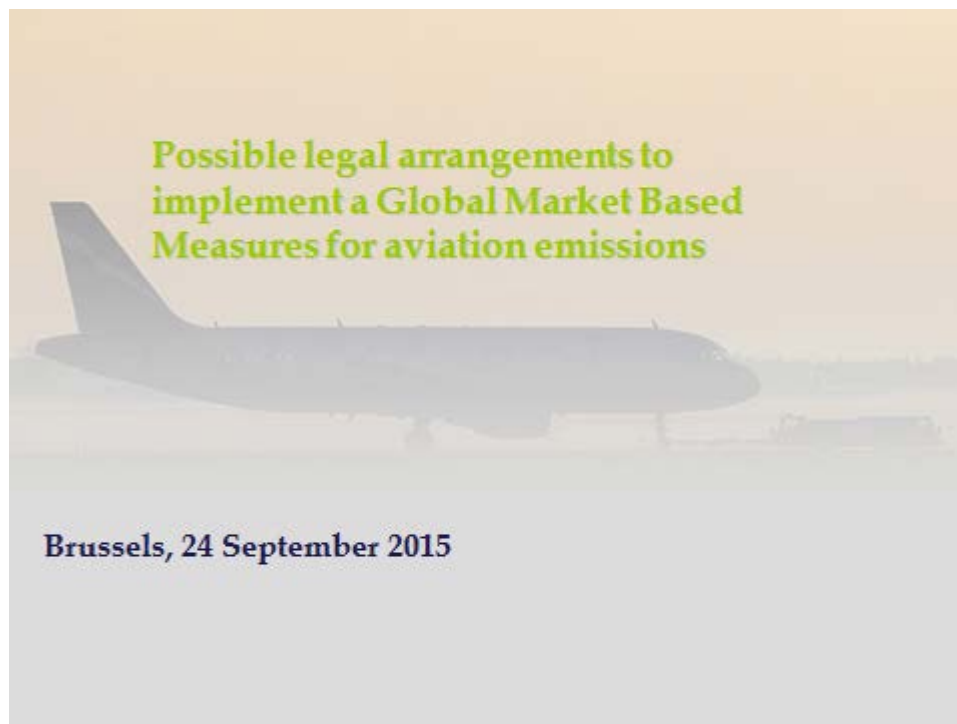
raises the issue of the 5th freedom rights and the example of an Aeroflot flight from Moscow to Frankfurt and Frankfurt to New York. Damien Meadows notes that there are a number of very problematic examples. He refers to an example of Air India operating the route between Milan and Rome. Damien Meadows raises the question how to address the issue if, for example, Aeroflot is not complying under a global MBM or Ryanair is not paying under an IATA administered GMBM. Damien Meadows would find it very valuable if the consultants could address and describe these issues in the study.

Pablo Mendes de Leon and Vincent Correia recalled that bilateral air service agreements (ASAs) provide a strong enforcement tool as they typically require compliance with certain ICAO standards. Non-compliance with such a standard could be a robust and solid legal basis for the revocation of the permit to enter a national airspace (*blacklisting*). Vincent Correia in addition refers to the successful example of safety audits/inspections. Pablo Mendes de Leon notes that environmental audits could be another option.

As to format of the report it is agreed that the report does not need to have tables. Eve Tamme states that an executive summary (two to three pages) will be sufficient provided it is very concise. According to the representatives of the European Commission the publication of the report has not been decided yet, but still remains possible.

As to the conflict between the CBDR principle and the principle of non-discrimination, Damien Meadows notes a route based approach allows differentiation. Vincent Correia recalls that some take the view that CBDR is not a legal principle. Damien Meadows expresses the view that the Paris climate summit will likely not solve the CBDR issue, rather every State may define its own responsibility.

3. POWER POINT PRESENTATION



Proposed legal vehicles

Four principal global legal vehicles designed to carry the GMBM, to wit:

- An amendment of the Chicago Convention of 1944 forming the constitution of international civil aviation, and establishing ICAO;
- A new treaty;
- An ICAO Resolution;
- Standards adopted by ICAO for inclusion in a technical Annex to the Chicago Convention.

These legal vehicles can supplement each other, or used in combination, as to which see the 'mixed approach'

Parameters for eligibility of the legal vehicle (1)

The eligibility of the above legal vehicles has been tested against the following parameters:

- *Environmental integrity*, determining the capability of the vehicle to robustly contribute to the achievement of the environmental measures;
- *Governance*, discussing the strength, and weaknesses, of the institution(s) as which are responsible for the preparation, the rule making process, its administration through, among others, the Monitoring and Verification Process (MRV), remedies, sanctions and dispute settlement;
- *Transparency*, referring to, among others, the clarity, registration and accessibility of the measures, reckoning with questions pertaining to confidentiality;

Parameters for eligibility of the legal vehicle (2)

- *Equal treatment* of airlines on routes, taking into account the concepts of *Common But Differentiated Responsibilities* coming from the UNFCCC/Kyoto Protocol regime and the *Special Circumstances and Respective Responsibilities* (SCRC) introduced by ICAO, on a route based approach;
- *Enforcement*, which is related to governance but focuses on the reliability of the responsible persons to make the measures work in practice, that is, for instance, achieving the environmental goals while maintaining equal treatment;

Parameters for eligibility of the legal vehicle (3)

- *Remedies and dispute settlement*, pursuant to which States, competent regional organisations, the operators and other affected persons dispose of legal means (remedies) to seek compliance with the promulgated rules before competent administrative and judicial institutions such as courts and arbitration tribunals, which are empowered to enforce their decisions with sanctions;
- *Time for operationalisation* of the measures, meaning the period between the preparation and adoption of the measure and its implementation, which analysis is also related to political, policy and legal considerations.
- NB: no clear separation between the above parameters as some of them – governance, enforcement and transparency – are closely related.

Conclusions (1)

No 'one size fits all' – or: 'one vehicle fits all parameters, as each vehicle has its stronger and weaker points.

Moreover: vehicles can, and should be applied in combination

From a legal perspective the most perfect solutions are:

1. A new treaty
2. An amendment of the Chicago Convention
3. Supplemented by technical annexes detailing concrete measures

Disadvantages:

- time for operationalisation and implementation may be long as it is a function of the unanimous votes of ICAO States and other stakeholders, for the EU coordinated by the EU Commission
- Related to the political commitments of such States and stakeholders

Conclusions (2)

Other options:

- ICAO Resolution, to be adopted in the General Assembly of ICAO in September/October 2016;
- Standards developed by ICAO, to begin with in Annex 16, already underway, as to which see Volume III.

ICAO Resolution:

Strong points:

- Establishment of environmental integrity principles flexibly;
- Time for operationalisation

Weak points:

- Relatively weak legal status, and coming with that:
- Enforceability, also in legal proceedings