



JORDAN CIVIL AVIATION REGULATORY COMMISSION

**A FAIR GLOBAL EMISSION TRADING SCHEME
UNDER THE ICAO FRAMEWORK**

**A WORKING PAPER FOR THE ARAB AVIATION SUMMIT
HOSTED BY THE QATAR CIVIL AVIATION AUTHORITY
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1. GENERAL

Jordan maintains a strong commitment to the increased global recognition of the effect of carbon dioxide emissions on the earth's atmosphere and an increased effort to address and curtail significant future damage to the earth and its environment. And has strong belief of the scientific views as to how the earth's climate is affected by aviation-related carbon dioxide emissions? When aircraft fly they release many types of emissions, including carbon dioxide (which is released in large quantities and remains in the atmosphere for an extended time, resulting in its well-known and direct contribution to global warming); nitrous oxides (which result in harmful ozone production through sunlight, but which also beneficially reduce methane concentrations, another harmful greenhouse gas); water vapor (which is harmful as a contributor to the formation of condensation trails at high altitudes), sulphate particles (which reflect radiation) and soot particles (which absorb heat).

Indeed, Jordan found that The Kyoto Protocol which came as a result of the intensive efforts of the United Nations Framework Convention on Climate Change ("UNFCCC") is "considered to be the most far-reaching agreement on environment and sustainable development ever adopted." The Protocol, which has been signed and ratified by 176 countries, entered into force in February, 2005. Under the Kyoto Protocol, signatories are divided into two groups with different responsibilities. One group, called Annex I signatories, consists of developed nations that are legally bound to reduce GHGs (not only carbon dioxide but also methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride) between 2008 and 2012 with an overall reduction of five percent of 1990 levels. The other group of signatories, called non-Annex I signatories, consists of developing countries that are responsible for monitoring and reporting their emissions but are not required to legally reduce emissions, Jordan and the rest of the Arab States fall within non-Annex 1 signatories.

Each Annex I signatory is assigned an emissions reduction target via a quota of emissions allowances called Assigned Amount Units ("AAUs"). To reach its emissions reduction target and remain within its AAUs, each Annex I signatory can either reduce domestic emissions (the ultimate goal) or utilize three types of "flexible plans": emissions trading, Joint Implementations (JIs) and Clean Development Mechanisms (CDMs).

Because emissions from international civil aviation and marine transport largely take place outside national territories, reduction obligations for these two transport sectors were not included in the

Kyoto Protocol to the UNFCCC but were left, instead, to the special agencies of the UN responsible for regulating both industries, namely the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO), respectively. Such obligation was addressed in Article (2,2) of Kyoto Protocol that states: The Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization, respectively.

However, the International Civil Aviation Organization (ICAO), as well as various stakeholders, does not consider that the EU has the competence to include aviation within the EU ETS. Article (2, 2) of Kyoto Protocol reviews the legality of the EU's stand-alone approach, focusing on the European and international legal framework and taking into account the express role given to the ICAO by the Kyoto Protocol.

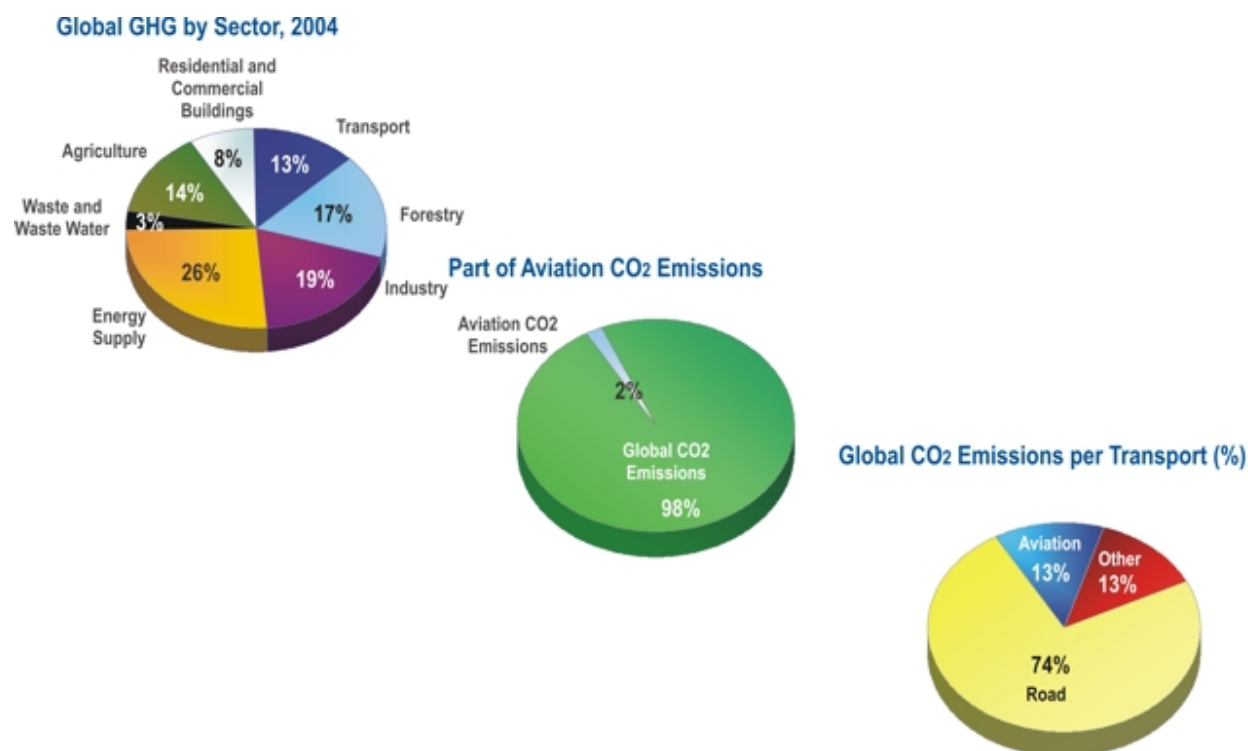
UN Climate Change Conference (COP 15) that will be held in Copenhagen, Denmark, in December this year. COP 15 is expected to adopt a new framework for combating climate change from the year 2012, possibly replacing the 1997 Kyoto Protocol.

The Copenhagen Conference, in its quest to achieve agreement on a post-Kyoto treaty instrument, will also consider how emissions from international civil aviation should be regulated after the first commitment period expires in 2012, based on information submitted by ICAO, but primarily taking into account the views of UNFCCC Parties.

To this end, Jordan is very keen to fulfill its obligation under the Chicago Convention as a contracting state, as well as a signatory state to Kyoto Protocol.

2. ICAO'S WORK ON INTRNATIONAL AVIATION ENVIRONMENT

ICAO is fully engaged to achieve a global solution to address emissions from international civil aviation. Total CO₂ emissions from the aviation sector (domestic and international operations) currently account for 2% of total global emissions (*IPCC 2007*). Approximately 40% of which represents domestic aviation emissions.



Scheduled aviation traffic grew at an average rate of 4% between 2001 and 2008. Global air traffic, expressed in terms of passenger-kilometers performed, is projected for the year 2010 with a positive growth rate of about 3.3% and continued growth of 5.5% in 2011. Scheduled traffic is anticipated to grow at an average rate of 4.6 per cent per year through 2025.

Preliminary results indicate that the demand for air travel is expected to continue to grow through at least 2036 and on a per-flight basis; efficiency is expected to continue to improve throughout that period. The anticipated gain in efficiency from technological and operational measures is not expected to completely offset the predicted growth in demand driven emissions. Although the contribution of aviation emissions to total global CO₂ emissions is relatively small, this growth raises questions on the

future contributions of aviation activity to climate change and on the most effective way of addressing those emissions in a future climate agreement.

Addressing the impacts of international aviation greenhouse gas emissions on the global climate is a one of the objectives of ICAO and improving the environmental performance of aviation is a challenge ICAO takes very seriously. In fulfilling its responsibilities, the Organization developed a range of standards, policies and guidance material for the application of integrated measures to address aircraft noise and engine emissions embracing technological improvements, operating procedures, proper organization of air traffic, appropriate airport and land-use planning, and the use of market-based options.

All of this has contributed to aircraft operations that today can be 70% more efficient than in the 1970s.

In 2004, ICAO adopted three major environmental goals, to:

- limit or reduce the number of people affected by significant aircraft noise;
- limit or reduce the impact of aviation emissions on local air quality; and
- limit or reduce the impact of aviation greenhouse gas emissions on the global climate.

The ICAO Council also adopted six Strategic Objectives, with high priority given to environmental protection, while the new Business Plan asserts the Organization's status as the leading international organization pursuing.

The UNFCCC's Subsidiary Body for Scientific and Technological Advice has sought the assistance of ICAO on methodological issues related to the collection and reporting of greenhouses gas emissions and ICAO provides substantial information during SBSTA 24. Reliable information is vital to the development of mitigation and prevention policies, and ICAO cooperates with various United Nations bodies and research establishments on scientific reports that shed more light on the impact of aviation on the environment.

Aviation was the first sector to request the Intergovernmental Panel on Climate Change (IPCC) to prepare a full assessment of the impact of its activities. A comprehensive assessment of aviation's impact on the atmosphere is contained in the special report on Aviation and the Global Atmosphere,

which was prepared at ICAO's request by the IPCC, in collaboration with the Scientific Assessment Panel to the Montreal Protocol on Substances that Deplete the Ozone Layer and was published in 1999.

The IPCC special report recognized that the effects of some types of aircraft emissions are well understood, it revealed that the effects of others are not, and identified a number of key areas of scientific uncertainty that limit the ability to project aviation impacts on climate and ozone. Since publication of the IPCC special report, further work has been undertaken on some of these key areas of scientific uncertainty, such as the influence on contrails and aerosols on cirrus clouds and the climate impact from oxides of nitrogen and methane. Therefore, ICAO had requested that the IPCC include an update of the main findings of the special report in its Fourth Assessment Report published in 2007.

Most of the activities of the Organization are undertaken by the ICAO Council's Committee on Aviation Environmental Protection - CAEP. The seventh meeting of the CAEP was held in February 2007 and achieved good progress in the noise and emissions areas. Deliverables presented at CAEP/7 included seven new ICAO documents, proposals for amendment or update of ICAO publications, and a series of reports to be made available through the ICAO website.

The main issues considered by in CAEP/7 were related to the studies required in response to the 35th Session of the ICAO Assembly, in particular the evaluation of the evolution of aircraft noise and emissions over the years and future trends; and items related to market-based measures to reduce emissions, such as local air quality charges and aviation emissions trading.

Much effort is being channeled to the modeling activities and in the better understanding of the interdependencies of actions to alleviate noise and emissions. All the good work in CAEP and the information accrued from the scientific advances in the understanding of aviation impacts on the environment will be brought to the attention of the next ICAO Assembly. Sound information is paramount for defining the appropriate policies for the aviation sector in this area.

The 36th Assembly in September 2007 emphasized the importance of ICAO taking a leadership role on all civil aviation matters related to the environment and we have to maintain the initiative in developing policy guidance on these matters, and not leave such initiatives to other organizations.

Although all ICAO member States agree that we need to ensure that environmental considerations are duly taken into account in ICAO's work there are different views on the urgency to address such matters and the extent to which they would be willing to take action. That is more evident in the matters related to market-based measures to reduce emissions.

ICAO held a Colloquium on Aviation Emissions in May 2007 to enhance the level of information available to States in this area and help pave the way for discussions in the 36th Session of the Assembly. ICAO issued its first Environmental Report in September 2007.

It is very important that States be engaged in the dialogue on possible future actions to address noise and emissions from aviation and that they be open to cooperation in these fields. ICAO encourages the dialogue between States and groups of States in these areas and ICAO will be ready to facilitate the wider dialogue to arrive in a consensual path forward to address the impact of aviation on the environment as the only means to achieve sustainable aviation.

ICAO activities on aviation emissions are part of the overall UN initiative of taking action on climate change

The ICAO High-level Meeting on Aviation and Climate Change (7-9 November) Declaration confirmed the desire of governments to deal with aviation and climate change through ICAO and in coordination with the United Nations Framework Convention on Climate Change (UNFCCC). The Declaration also contained the following commitments for:

- States to work together to achieve a global annual average fuel efficiency improvement of 2% to 2020, followed by an aspiration goal of a further average annual 2% improvement from 2021 to 2050
- ICAO and its contracting States to evaluate the possibility of more ambitious goals by the next ICAO Assembly (2010), taking into consideration industry's collective commitments and the special needs of developing nations
- ICAO to establish the process to develop a framework for economic measures
- ICAO and its contracting States to encourage the development and use of sustainable biofuels.

This declaration came as a result of the policy of the organization on the environment is Assembly Resolution A36-22 Consolidated statement of continuing ICAO policies and practices related to environmental protection, adopted at the 36th Session of the ICAO Assembly. This resolution provided

for the development of an aggressive program of Action on International Aviation and Climate Change and common strategy to limit or reduce greenhouse gas emission attributable to International Civil Aviation. This ICAO Program of Action was prepared by the Group on International Aviation and Climate Change (GIACC), GIACC is composed of senior government officials representative of all ICAO regions, with the equitable participation of developing and developed states in 2007.

3- INDUSTRY'S INITIATIVES ON AVIATION EMISSION

The working paper that has been presented to The ICAO High-level Meeting on Aviation and Climate Change (7-9 November) by IATA with Airports Council International, Civil Air Navigation Services Organization and International Coordinating Council of Aerospace Industries Associations, a united industry committed to three sequential targets:

1. Improving fuel efficiency by an average of 1.5% annually to 2020.
2. Stabilizing emissions from 2020 with carbon-neutral growth.
3. A 50% net reduction in carbon emissions by 2050 compared to 2005.

The International Air Transport Association (IATA) reiterated its call for a global sectoral approach led by the International Civil Aviation Organization (ICAO) to handle aviation's emissions in the post-Kyoto period, incorporating the differing situations of airlines from developed and developing nations. The best hope of this is through ICAO which has a proven track record "ICAO developed a global framework to deal with noise. The noisiest aircraft were phased out between 1995 and 2002. The global solution took into account the difficult situation of some developing nations with an extension to 2005,"

The remarks of the industry leader are particularly timely as the global climate change debate is increasingly stalled on the principle of common but differentiated responsibility that underpins the United Nation's Framework Convention on Climate Change in the run-up to climate talks in Copenhagen this December.

The aviation sector believes that, with some political leadership and innovative solutions, the principles of equal treatment between airlines and differentiated responsibilities for states are completely consistent in the context of aviation. ICAO has traditionally recognized and accommodated states with special needs that have difficulty complying with standards and recommended practices, either through technical and financial support or via differentiated timelines for the implementation of

measures. A global sectoral approach is the best way of achieving this, bearing in mind the need to minimize competitive distortion.

One more initiative was came from The Aviation Global Deal Group (AGD) Group that brings together leading international airlines, aviation sector companies and international NGO The Climate Group:

Air France-KLM, British Airways, Cathy Pacific, Finnair, Qatar Airways, Virgin Atlantic, Virgin Blue Airline Group, BAA, Lot Polish Airline and, the Climate Group.

Based on there key principles the Group has developed a proposal which sets out the main design elements of a global sectoral agreement for international aviation and looking forward to Copenhagen, with the following 4 key objectives:

- Agreement that aviation emissions should be addressed at a sectoral rather than national level
- Establishing ambitious emissions reduction targets
- Reconciliation of the UNFCCC CBDR and ICAO non-discrimination principles
- Clear mandate for ICAO to develop the details by November 2010

The Air Transport Association of America (ATA), the industry trade organization for the leading U.S. airlines, commended on 13 October, 2009 the 190 Member States of the International Civil Aviation Organization (ICAO) for confirming a comprehensive Program of Action at last High Level Meeting on Climate Change.

ATA had joined the International Air Transport Association (IATA), Airports Council International, Civil Air Navigation Services Organization and International Coordinating Council of Aerospace Industries Associations in putting forth a proposal for a global sectoral approach to aviation and climate change, including three collective and sequential targets

- Improving fuel (and CO₂) efficiency by an average of 1.5 percent annually to 2020;
- Making the growth of the industry's emissions carbon neutral from 2020; and
- Achieving a goal for a 50 percent net reduction in carbon emissions by 2050, compared to 2005.

The industry proposal also urged adoption of a policy framework necessary for these targets, including having governments move forward with modernization of air traffic control systems – the Next Generation Air Transportation System program in the United States – and investments in research and development and sustainable alternative aviation fuels

4. GLOBAL RESERVATIONS ON EU EMISSION TRADING SCHEME

1. EU's unilateral grab of power over non-EU airlines wherever they are in the world is a clear violation of the Chicago Convention. The EU decision to move forward with this legislation is sure to spawn a legal challenge.
2. The fact that carbon emissions allowances are traded does not automatically bring the E.U. ETS under the auspices of the WTO. Emission credits or allowances and related activities need to be classified as "products" under the GATT or "services" under the GATS to be covered by the WTO regime. Practice has shown that WTO Members take the decision of what constitutes a "product" on a case-by-case basis. "Services" are affirmatively agreed to and scheduled during trade negotiations. While it is likely that either the GATT or the GATS would apply to emissions allowances or services related to emissions trading, they are a novel legal circumstance and present a situation that has not explicitly been faced by the WTO.
3. IATA foresees international legal battles. "What right does Europe have to impose ETS charges on, for example, an Australian carrier flying from Asia to Europe for emissions over the Middle East?" the argue. "Article 1 of the Chicago Convention prohibits this. And it goes against Article 2 of the Kyoto Protocol. Fuelling legal battles and trade wars is no way to help the environment. Already over 130 states have vowed to oppose it." The only successful way forward, he maintained, was a global scheme brokered through the International Civil Aviation Organization (ICAO).
4. The inclusion of non-EU air operators into the EU ETS has been strongly opposed by international airline groups and foreign governments, especially the US government which sees that the EU ETS breaches Article 1,12,15 and 25 of Chicago Convention.
5. International airline groups such as the International Air Carrier Association ("IACA") and the International Civil Aviation Organization ("ICAO") base their objections on the present global energy crisis. It is argued that the Aviation Directive will lead to more airline company bankruptcies and bring the aviation industry into even rougher weather than it already is. Also, the efficiency of the EU ETS is being questioned, since soaring oil prices are already forcing airline operators to adopt fuel efficiency measures.

6. Both the ICAO and the US government claim that the inclusion of non-EU airline operators into the EU ETS is prohibited under international law. It is argued that the inclusion of aviation breaches the Chicago Convention, the main international aviation regulation. This conflict already existed during the 36th Assembly of the ICAO in Montreal on 28 September 2007, where the ambitious EU proposal on cutting greenhouse gas emissions from international aviation was rejected. Although the Kyoto Protocol provides that the responsibility to reduce greenhouse gas emissions from international aviation rests with the ICAO.
7. The Council of Arab Ministers Responsible for the Environment in his meeting No. 42 dated 8/10/2009 at the League of Arab States Headquarter concluded to an explicit decision that states:

“Arab Environment Ministers Executive Council rejects any move toward any unilateral measures to reduce air transport emission /and or emission trading in the air transport sector, to prevent the Arab companies operating in this sector from any economic distortion, in order to prevent the Arab national economies and sustainable development opportunities. As well as, the emphasis on common but differentiated responsibility in case of adapting any international regime regarding air transport emission/ and or emission trading in the air transport sector.

5. CONCLUSION

1. Jordan stands against any unilateral action to reduce aviation emission and aviation emission trading.
2. Although Jordan aviation sector has a negligible contribution in GHGs emission, it maintains strong commitment to the objective developed by the international community for the integrated environmental and economic response to the threat of climate change.
3. ICAO is the globally recognized and accepted forum for dealing with international aviation matters, including environmental related issues. Any solution to aviation emissions that will need to include technology, operational measures and market based measures as well as other out of the box solution such as alternative fuel will be recognized by Jordan as a contracting state, based on the principles of equal treatment and differentiated responsibilities.
4. Jordan supports any constructive initiative from the aviation industry entities regarding the reduction of aviation emission, provided that such initiative will not create any distortion to its operating airlines or affect its financial viability.

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