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Aviation and Climate Change

In Search of a Global Market Based
Measure



Springer

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Preface

The Stern Review of October 2006 titled *The Economics of Climate Change* stated that if no action is taken to reduce emissions, the concentration of greenhouse gases in the atmosphere could reach double its preindustrial level as early as 2035, virtually committing us to a global average temperature rise of over 2 degrees centigrade. The David Suzuki Foundation, in its official website says that “for a relatively small industry, aviation has a disproportionately large impact on the climate system. It presently accounts for 4–9 % of the total climate change impact of human activity.” A Report published by the Federation of American Scientists for the Congressional Research Service in 2010, has stated that aircraft are a significant source of greenhouse gases—compounds that trap the sun’s heat, with effects on the Earth’s climate. In the United States, aircraft of all kinds are estimated to emit between 2.6 % and 3.4 % of the nation’s total greenhouse gas (GHG) emissions, “depending on whether one counts international air travel.” A Report titled “Predict and Decide,” published in 2006 by the Environmental Change Institute, University of Oxford said: “There is increasing recognition that aviation is a cause for concern in terms of its impact on climate. Yet, due to political difficulties in agreeing responsibilities, the emissions from international aviation (together with international shipping) were excluded from the Kyoto Protocol, and all related assessments. There is also a lack of clarity about how ‘bad’ aviation is.”

As the specialized agency of the United Nations addressing issues of international civil aviation, the International Civil Aviation Organization (ICAO) was very active in the year 2013. With all its achievements of events planned and convened, meetings held, and assistance rendered to States, ICAO’s greatest challenge was to prepare for the 38th Session of the Assembly of its 191 membership a credible and plausible framework for market based measures (MBMs) that could be applicable to aircraft engine emissions. Whether or not ICAO acquitted itself in this regard with credit at the Assembly session held from 24 September to 4 October 2013, only time and history will tell.

At the end of the Assembly session, ICAO issued a statement saying: “ICAO’s States agreed to report back in 2016 with a proposal for a global MBM scheme

capable of being implemented by 2020. Major efforts will need to be undertaken in order to address the challenges and accommodate specific concerns of developing States going forward.”

There is no doubt that ICAO’s role is daunting, as acknowledged by ICAO. It has to balance several interests, both of developed States and developing States in shaping the proposal. The Assembly resolved that the proposal should be developed within the parameters of work carried out by States and relevant Organizations through ICAO to achieve a global annual average fuel efficiency improvement efficiency of 2 % until 2020 and an aspirational global fuel efficiency improvement rate of 2 % per annum from 2021 to 2050, calculated on the basis of volume of fuel used per revenue ton kilometer performed.

If, as the Resolution requires, States and international organizations have to work through ICAO on this task, it is clear that what is required of ICAO over the triennium 2014–2016 is leadership and governance. The technical requirements aside, which the key players would be amply capable of handling, ICAO would have to move with a strong sense of purpose, direction, and conviction.

As an initial measure, ICAO will have to dispel current accusations from several sources regarding its own ineptitude in handling the subject. One commentator was loathe to comment at the end of the Assembly session that ICAO has been talking about dealing with carbon pollution from airplanes for 16 years, but doing nothing. He went on to say that ICAO should not be allowed to just keep playing its old game of promising climate action—next time—and then failing to deliver, voicing his concern that climate change was costing the aviation industry billions of dollars in canceled flights from extreme weather, and hurting the whole planet.

Some others have commented that ICAO’s record in dealing with this subject reeks of the Organization’s own feckless insouciance and lack of awareness of the magnitude of the problem. ICAO’s vulnerability to attack is borne out by the fact that history is against the Organization. At its 21st Assembly (Montreal, 21st September–15 October 1974) ICAO was both ambivalent on and resistant to fuel efficiency standards for new aircraft and in 2004, rejected a global emissions trading system. If a global MBM would have been made applicable in 2012, aviation’s contribution to global warming could have been reduced by 31 %. Instead, pushing it all back to 2020 is just plain lethargy and incompetence. Popular comment on the 38th Session of the Assembly was that: no concrete action was taken at the Montreal Assembly. Delegates merely authorized ICAO to develop a global MBM mechanism over the next 3 years. (According to an ICAO spokesperson, the details “will be determined over the course of the coming triennium, based on discussions amongst our member states,”); even if the next ICAO assembly adopts the plan in 2016, it won’t take effect until 2020; and, until then, the sector’s emissions will continue to rise, as increases in passenger volume offset incremental improvements in fuel efficiency.

As a first measure, the leadership of ICAO should restore the relevancy and credibility of the Organization by establishing time lines and a work program for the next 3 years that would ensure ICAO’s delivery to the 39th session of the

Assembly an MBM scheme that is workable and applicable in 2020. An Agenda for work was presented to the Council in early 2014, after the 38th Session of the Assembly closed. It was too little, too late. To an extent, this was the current approach adopted by the ICAO Council (which has been a practice for many decades) of establishing and adopting a work program for each session of the Council and muddling through its overall responsibility in this instance simply will not work, as was proven in the last triennium. The 3-year work program should not be couched in ambivalent terms and ambiguous text which does not give either the Council or the Secretariat purpose and direction. Secondly, ICAO should approach its work in a structured manner by gaining insight and comprehension of what is really required to appease both the developed and developing States.

There are several considerations in the development of an international agreement relating to an MBM scheme. One is to cap emissions at existing rates with a freeze and impose a percentage reduction. Developed States would be at an advantage in this situation. However, if reductions are based on per capita basis States such as China and India would be at an advantage with their large populations because of their low emissions rate per person. This formula could only change if there are dramatic increases in emissions rates in China and India which will be the case in 10–20 years to come. From an equitable perspective, the per capita principle is intuitive and scores high, on the basis that, as against allocations based on a national status quo, a person living in China should not be given emission rights which are just a small fraction of the rights given to a person living in the United States.

A suggested approach towards regulating greenhouse gas emissions is a tax based on units consumed. For instance, if an entity consumes each unit which produces a social cost of \$X, the tax per unit would be \$X, which would ensure that the unit of energy is used provided the private benefit exceeds the unit cost. Therefore a government permit, issued to consume a unit would carry a price tag of \$X, allowing the entity to trade the unit at \$X as well. The advantage in this private permit approach would be twofold. On the one hand it would generate revenue and, on the other, it would deter arbitrary and wayward emissions. However, if such a method is applied to aircraft emissions, the revenue earned would have to be considered a charge and not a tax in accordance with existing ICAO policies and pumped back into the development of air transport, for instance for research and development on the manufacture of more efficient and less gas-emitting aircraft engines. Against this wide ranging backdrop of distributive justice, international paretianism would have special significance in a treaty or agreement on an MBM scheme in that such a scheme must ensure that it is designed to ensure that all States could consider themselves better off than they were before.

Any MBM scheme that ICAO comes up with will have to promote compliance through clear measures. Above all, the proposed scheme would have to introduce a process of legalization which incorporates its principles into the legal system of a participating State. The rules would have to be precise and offer a fair deal to every State concerned. The Parties themselves would have to agree on authentic

interpretations of the provisions of the scheme. This has been done before. Since 1979, the Convention on Long-range Trans-boundary Air pollution (LRTAP) which has addressed some of the major environmental problems of the United Nations Environmental Programme region through scientific collaboration and policy negotiation, and which has been extended by eight Protocols that identify specific measures to be taken by Parties to cut their emissions of air pollutants, has adopted “common understandings” to define specific terminology of the Sulphur Protocol of 1985. In the 1983 International Undertaking on Plant Genetic Resources, The Food and Agriculture Organization—a specialized agency of the United Nations the same as ICAO, has done the same thing to clarify and establish universally acceptable interpretations.

Any instrument involving a global market based measure under the aegis of ICAO would inevitably and essentially be one that would be developed under international law and within the United Nations system, whether by treaty, resolution, declaration, or Standard. Therefore, this book will contain an introductory chapter on the development of international law, treaty structure, and the United Nations System.

The lawmaking process of the scheme and its negotiation must involve the effective participation of key States. Through effective participation, States will ensure compliance and implementation and commitment to the goals of the scheme. It goes without saying that such a scheme should contain clear and stringent provisions for violations. Polarization, as was seen in the significant opposition to the European Emissions Trading Scheme by emerging economies and economic giants such as the United States and China would only continue to stultify the process. The end result of such a scenario would be individual legislation—a decided failure of ICAO.

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