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WORKING PAPER

HIGH-LEVEL MEETING ON THE FEASIBILITY OF A LONG-TERM ASPIRATIONAL GOAL FOR INTERNATIONAL AVIATION CO_2 EMISSIONS REDUCTIONS (HLM-LTAG)

Montréal, 19 to 22 July 2022

Agenda Item 1: CO_2 emissions reduction scenarios and options for a long-term global aspirational goal for international aviation

VIEWS ON EXPLORING THE FEASIBILITY OF A LONG-TERM GLOBAL ASPIRATIONAL GOAL FOR INTERNATIONAL AVIATION

(Presented by Egypt, Kuwait, Oman, Qatar, Saudi Arabia, Sudan, UAE, and supported by the Arab Civil Aviation Organization (ACAO))

SUMMARY

This working paper highlights the views of its Member States on exploring the feasibility of a long-term global aspirational goal for international aviation, including the most important principles that shall be considered in setting such a goal, and it focuses on the most important potential means of facilitating its implementation.

The main key discussions are presented in paragraph 2 and the actions outlined in paragraph 3 for this meeting considerations.

1. INTRODUCTION

1.1 The 40th session of ICAO Assembly "Requests the Council to continue to explore the feasibility of a long-term global aspirational goal for international aviation, through conducting detailed studies assessing the attainability and impacts of any goals proposed, including the impact on growth as well as costs in all countries, especially developing countries, for the progress of the work to be presented to the 41st Session of the ICAO Assembly. Assessment of long-term goals should include information from Member States on their experiences working towards the medium term goal;" (A40-18, paragraph 9).

1.2 In response to the Assembly request, the ICAO Council tasked the Committee on Aviation Environmental Protection (CAEP) to provide the required technical support, in the exploration of the feasibility of a long-term global aspirational goal for international civil aviation CO_2 emissions

reductions (LTAG) including options and roadmaps for their realization, for Council consideration in accordance with A40-18, in particular paragraph 9.

1.3 The CAEP Long-Term Aspirational Goal Task Group (LTAG-TG) has been established to undertake: a) data gathering from internal and external sources in a transparent and inclusive manner; b) development of in-sector emissions reduction scenarios from technology, operations, and fuels based on the data gathering; and c) an impact analysis of the scenarios, including possible options and an implementation roadmap for a LTAG. The findings would be submitted to the ICAO Council, which in turn would submit its recommendation to the 2022 Assembly.

1.4 The presenters of this working paper wish to thank the LTAG-TG for the important work undertaken in the last two years. The comprehensive and intensive report is remarkable and it is an important milestone. In addition, the report is available and published officially on the ICAO public website.

1.5 The global aviation industry was significantly impacted by the effects of COVID-19 pandemic and has worsened the operations of the aviation sector resulting in airports closure, flights suspension due to various boarder closures and restrictions. These have resulted in increased debt profile of airline, airports and untold negative impact on the industry. This underscores the importance of repositioning the industry for speedy recovery from the impact of the pandemic. ICAO SARPs amendment should support the growth.

2. KEY DISCUSSIONS

2.1 Aviation Fuels: Lower Carbon Aviation Fuel (LCAF), Sustainable Aviation Fuel (SAF), and other promising fuels

2.1.1 *LCAF*

2.1.1.1 Technologies supporting LCAF production are well identified such as low carbon intensity electricity, carbon capture and sequestration (CCS), renewable and low carbon intensity hydrogen. Many of them are already fully available, in addition to best-in-class practices in cutting venting, flaring, and managing fugitive, particularly for methane (well known as being more than 25 times as potent as carbon dioxide at trapping heat in the atmosphere), which can also be immediately implemented.

2.1.1.2 On this basis, we are extremely confident that LCAF will become commercially available with a sharp production increase well before 2030. This will not only support a short term path to reducing aviation fuel GHG emissions, but it will also precede the marketing of increasing volumes of SAF which need to be blended with conventional Jet-Fuel. LCAF/SAF blending appears to be the most efficient way to get a significant carbon intensity reduction, needed during the stepwise deployment of SAF production industry.

2.1.2 *SAF*

2.1.2.1 Sustainable aviation fuel is an important element to reach any agreed long-term aspirational goal, however, there are many challenges that limit the production/ scale up, and States are still in the exploratory phase to study the feasibility of SAF production with its increased cost.

2.1.2.2 ACT- SAF is an important initiative that should be expanded to cover other aviation fuels. It needs to assure enabling all Member States by providing the needed capacity building, financial support, and technology transfer.

2.1.2.3 Some technologies considered as the most impacting on GHG reduction, i.e. atmospheric CO_2 based fuels or the use of cryogenic hydrogen, still need major developments, validation on their technical relevance and economically positive deployment.

2.2 Long-Term Aspirational Goal

2.2.1 The Long-Term Aspirational Goal (LTAG) report is a remarkable achievement; it has explored the feasibility of a global long-term aspirational goal that might address the international aviation emissions. However, it is very important to note that the (ICAO) is striving to reach an agreement among its member states on an LTAG. In doing so, it is imperative to take into account the following principles:

a) The principle of common but differentiated responsibilities and respective capabilities, the special circumstances and respective capabilities, and the principle of non-discrimination and equal and fair opportunities.

b) Kyoto Protocol, of the UNFCCC, calls for developed countries (Annex I Parties) to pursue limitation or reduction of greenhouse gases from "aviation bunker fuels" (international aviation) working through ICAO (Article 2.2).

c) The level of ambition of any goal shall be associated with an equivalent level of means of implementation to the developing nations provided by developed nations and ICAO, including but not limited to:

1) robust capacity building programmes;

2) technical assistance and cooperation programmes;

3) relevant transfer of technology with robust monitoring process; and

4) funding.

2.2.2 *Technical feasibility of such a goal*

2.2.2.1 The CAEP LTAG-TG report presents three aspirational scenarios low (IS1), mid (IS2) and high (IS3) generated for considering the LTAG. The three scenarios IS1, IS2, and IS3 generate Carbon Emissions savings of 39%, 68% and 87% respectively. None of the three scenarios created to assess the LTAG reach zero CO_2 emissions through the use of in-sector measures (i.e., technology, operations, and fuels). The costs and investments associated with the scenarios are largely driven by fuels (e.g. SAF) and will also require significant investments from governments and industry. The investments required from states would be 15 to 180 billion USD for low and 75 to 870 billion USD for mid and high aspirational goals. The incremental fuel related costs for Airlines (minimum selling price of fuels minus conventional jet fuel price) will be 1100 billion USD for low, 2700 billion USD for Mid and 4000 billion USD for high aspirational goals.

2.2.2.2 The CAEP report did not conduct any quantitative or qualitative assessment on the impact of an LTAG on the developing States. The regional analysis was very limited due to information availability.

2.2.2.3 The scope of the LTAG-TG report was limited to the in-sector measures only.

2.2.3 *Aspirational level of a goal*

2.2.3.1 It is important that an LTAG shall be feasible, practical, pragmatic, and realistic. Taking into consideration that the aviation sector in developing States will take longer to reach any agreed LTAG.

3. ACTION BY THE HLM-LTAG

3.1 The HLM-LTAG is invited to:

a) note the content of this paper;

b) consider a detailed review on the economic impact of any agreed LTAG, including but not limited to the required investment and associated cost with different LTAG scenarios;

c) agree to the principles that shall be considered upon setting any LTAG for the international aviation as described in 2.2.1 above;

d) agree to limit the LTAG discussion and potential decision to the in-sector measures; and

e) acknowledge the region endeavour to the production and use of novel fuels including LCAF, SAF, and promising fuels as an efficient measure to reduce emissions from international aviation.

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