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WORKING PAPER

ASSEMBLY — 41ST SESSION

TECHNICAL COMMISSION

Agenda Item 30: Aviation Safety and Air Navigation Policy
30.1 Global Aviation Safety Plan (GASP), and implementation of regional and national aviation safety plans

NECESSITY TO UPDATE GLOBAL AVIATION SAFETY PLAN (GASP) TO ACHIEVE A COLLECTIVE LONG-TERM GLOBAL ASPIRATIONAL GOAL FOR INTERNATIONAL AVIATION (LTAG)

(Presented by Japan)

EXECUTIVE SUMMARY

To achieve a collective long-term global aspirational goal for international aviation (LTAG), ICAO and its Member States are encouraged to work together with industry to strive to achieve the maximum possible level of progress on the implementation of aviation in-sector CO2 emission reduction measures (e.g. new technologies, operations and fuels). In particular, in order to realize the social implementation of new technologies at an early stage, it is necessary to promote public-private partnership for research, development and certification in the Member States, and to promote the introduction of aircraft equipped with new technologies into the market for manufacturers and operators. In addition, in order to facilitate the import and export of these aircraft, it is necessary to harmonize the certification rules of each Member State. Therefore, in order to collaborate and realize the social implementation of new technologies quickly and safely, it is expected that the Global Aviation Safety Plan (GASP) will be revised to clarify the roles of ICAO, Member States and industry.

Action: The Assembly is invited to:

a) note the efforts of public-private partnerships such as the formulation of safety Standards and international voluntary consensus standards and support for certification activities in Japan for the early realization of social implementation of new technologies that contribute to the decarbonization of aircraft;
b) agree that it is necessary to promote public-private partnership for research, development and certification in the Member States, and to promote the introduction of aircraft equipped with new technologies into the market for manufacturers and operators as well as to harmonize the certification rules of each Member State to facilitate the import and export of these aircraft, in order to realize the social implementation of new technologies at an early stage; and
c) agree that the Global Aviation Safety Plan (GASP) will be updated by the next Assembly to clarify the roles of ICAO, Member States and industry, in order to collaborate and realize the social implementation of new technologies quickly and safely.

Strategic Objectives:	This working paper relates to the Safety and Environmental Protection Strategic Objectives.
Financial implications:	Not significant. Technical work to revise GASP.
References:	Doc 10140, *Assembly Resolutions in Force (as of October 2019)* Doc 10004, *Global Aviation Safety Plan (GASP)* ICAO Report on the feasibility of a Long-term Aspirational Goal (LTAG) for International Civil Aviation CO2 Emissions Reductions[1]

[1] LTAG Report (icao.int)

1. INTRODUCTION

1.1 While the Glasgow Climate Pact, which was adopted by the Conference of the Parties to the UNFCCC in November 2021, resolves to pursue efforts to limit the temperature increase to 1.5 ℃ above pre-industrial levels, ICAO and its Member States are expected to provide continuous leadership to international civil aviation in limiting or reducing its emissions that impact to global climate change.

1.2 Section 9 of Resolution A40-18, *Consolidated statement of continuing ICAO policies and practices related to environmental protection — Climate change* requires the Council to explore the feasibility of a long-term global aspirational goals for international aviation for CO2 emissions reductions. The technical feasibility based on in-sector measures CO2 reduction scenarios was assessed and the ICAO report on the feasibility of LTAG was recently published.

1.3 The High-level Meeting on LTAG (HLM-LTAG) held from 19 to 22 July 2022, concluded to recommend to the Council that the ICAO and its Member States are encouraged to work together to strive to achieve a collective LTAG, in support of the Paris Agreement's temperature goal.

2. DISCUSSION

2.1 In order to achieve a collective long-term global aspirational goal for international aviation (LTAG), ICAO and its Member States are encouraged to work together with industry to strive to achieve the maximum possible level of progress on the implementation of aviation in-sector CO2 emission reduction measures (e.g. new technologies, operations and fuels).

2.2 In particular, regarding new technologies, the above-mentioned ICAO LTAG report also mentions electric aircraft, aircraft using hydrogen fuel, and weight reduction and efficiency improvement of airframes using carbon composite materials as major CO2 emission reduction technologies. In the same report, the CO2 emissions reductions effect of the new technology in 2050 is estimated to be about 20 per cent in the scenario of maximizing CO2 emissions reduction, and thus the new technology is an important factor to realize CO2 emissions of international aviation to net zero, together with operations and fuel.

2.3 For innovative technologies such as electric aircraft and hydrogen-powered aircraft, in order to ensure safety level in their certification and flexibly respond to the innovation, Safety standards need to be performance-based (safety objectives) rather than traditional prescriptive standards. On the other hand, performance-based standards increase the degree of freedom in design, but do not indicate specific requirements for designing, so guidance is required to indicate risks to be dealt with and means of compliance to be used. Such guidance is generally provided by the voluntary consensus standard, which is developed on a consensus basis, by international standard-making bodies consisting of experts from manufacturers and aviation authorities, however, at present, voluntary consensus standards for new technologies such as electric and hydrogen aircraft are under development.

2.4 For this reason, in 2020, Japan has established the Green Innovation Fund totalling 2 trillion yen in 10 years to support the research and development of new technologies in various areas, and also established a public-private council consisting of industry, government and academia in June 2022 for the early commercialization of new technologies for aircraft. The public and private sectors will work together to promote the formulation of safety standards and international voluntary consensus standards, and support for certification activities.

2.5 Currently, ICAO has formulated and constantly updated the Global Aviation Safety Plan (GASP) regarding safety, mitigating and preventing accidents/incidents with high risk of accidents (runway accidental entry, controlled flight into terrain (CFIT), etc.), improving the safety audit capability of each Member State and the exchange of safety information, and set safety roadmap.

2.6 In order to realize the social implementation of new technologies at an early stage, it is necessary to promote public-private partnership for research, development and certification in the Member States, and to promote the introduction of aircraft equipped with new technologies into the market for manufacturers and operators as well as to harmonize the certification rules of each Member State to facilitate the import and export of these aircraft.

2.7 ICAO's other global plan, the Global Air Navigation Plan (GANP), measures that contribute to CO2 emissions reductions have already been identified and compiled and are under consideration for their implementation. In order to realize the LTAG of international aviation, it is necessary for each contracting party and industry to work together to promote it, and Japan believes that even in GASP, which aims to improve safety, the roles of each contracting party and industry in the early realization of social implementation of new technologies be clarified.

3. CONCLUSION

3.1 To achieve a collective LTAG, ICAO and its Member States are encouraged to work together with industry to strive to achieve the maximum possible level of progress on the implementation of aviation in-sector CO2 emission reduction measures (e.g. new technologies, operations and fuels).

3.2 In particular, in order to realize the social implementation of new technologies at an early stage, it is necessary to promote public-private partnership for research, development and certification in the Member States, and to promote the introduction of aircraft equipped with new technologies into the market for manufacturers and operators as well as to harmonize the certification rules of each Member State to facilitate the import and export of these aircraft.

3.3 Japan believes that even in GASP, which aims to improve safety, the roles of each contracting party and industry in the early realization of social implementation of new technologies be clarified.

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