



WORKING PAPER

ASSEMBLY — 41ST SESSION

EXECUTIVE COMMITTEE

Agenda Item 17: Environmental Protection – International Aviation and Climate Change

INITIATIVES TO DECARBONISE AIRPORTS

(Presented by Japan)

EXECUTIVE SUMMARY

As for aviation decarbonisation, while the ICAO Assembly has been discussing it in the area of aircraft operations, each State is still working on its own initiatives in the area of airports. It is important to promote energy conservation and renewable energy initiatives to decarbonize the airport sector, and Japan has created an environment to promote airport decarbonisation initiatives by setting a target and timeline for this, and by amending the relevant laws. At the ICAO Assembly, States should share their airport sector decarbonisation initiatives so that they can serve as a reference for other States to implement their initiatives.

Action: The Assembly is invited to share decarbonisation initiatives in the airport sector from each State and use them as a reference for other States to work on.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objective – <i>Environmental Protection</i> .
<i>Financial implications:</i>	The activities referred to in this working paper will be undertaken subject to available resources.
<i>References:</i>	

1. INTRODUCTION

1.1 Among initiatives to decarbonize aviation, the International Civil Aviation Organization (ICAO) has set a short- to medium-term goal of improving fuel efficiency by an average of 2% per year and limiting the increase in CO₂ emissions from 2020 onward in the aircraft operation sector in 2010, and in 2016, ICAO has set the Carbon Offsetting and Reduction Scheme in International Aviation (CORSA) to 2035.

1.2 On the other hand, in the airport sector, we recognize that each State is taking its own initiatives based on the Paris Agreement for the reduction of greenhouse gas emissions after 2020, which was adopted at the Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC). We believe that States can also efficiently advance their airport decarbonisation initiatives by sharing information on airport sector decarbonisation initiatives at the ICAO Assembly.

2. ITEMS FOR DISCUSSION

2.1 Initiatives to decarbonize the airport sector

2.1.1 The following specific initiatives could be taken to decarbonize the airport sector:

- a) to reduce CO₂ emissions from airport facilities, LED lighting and lamps, high-efficiency air conditioning, and energy-saving measures at the time of reconstruction will be implemented. In doing so, we will consider not only increasing the efficiency of individual facilities and equipment, but also efficient CO₂ emissions reduction methods through visualization systems, BEMS, and other means;
- b) to reduce CO₂ emissions from airport vehicles, we will promote the introduction of electric vehicles (EVs) and fuel cell vehicles (FCVs), and the development of recharging and hydrogen stations at the time of vehicle renewal taking into account the development status of vehicle technologies. In addition, until conventional vehicles are converted to EVs and FCVs, CO₂ emissions reduction through the use of biofuels will also be considered;
- c) in order to reduce CO₂ emissions from aircraft on the ground, we will aim to introduce ground power units (GPUs), and consider reducing the use of auxiliary power units (APUs) by expanding the use of GPUs. Furthermore, we will study the development of high-speed exit taxiways and intersection departure taxiways;
- d) as for the introduction of renewable energy at airports, we will promote the introduction of photovoltaic (PV) power systems to rooftops of airport buildings, parking lots, flatlands and places around airports, and will proceed with consideration of expanding the installation to building walls and restricted areas based on technological development. In addition to promoting the decarbonisation of airports, we will examine ways to make the airport a renewable energy hub, by linking the airport with the surrounding community through the supply of renewable electricity, strengthening the resilience of the airport and the community, and utilizing PV power systems for carbon credit composition; and

- e) moreover, measures for CO₂ sinks by afforestation and blue carbon, utilization of hydrogen, emissions reduction for airport access, and airport-wide energy management, while taking into account each airport's situation and regional characteristics, will also contribute to airport decarbonisation.

2.2 Japan's airport sector decarbonisation goals and initiatives to achieve them

2.2.1 Japan has declared the achievement of 2050 carbon neutrality in 2020 as a goal for decarbonisation, and has set a new greenhouse gas reduction goal of 46% for FY2030, and will continue to challenge for a higher goal of 50%.

2.2.2 In the aviation sector, specific measures are required to be steadily implemented to achieve this goal, and in the airport sector, energy-saving and energy-recycling airports are being studied as part of initiatives to reduce CO₂ emissions.

2.2.3 In the airport sector, the *Guidelines for the Realization of Environmentally Friendly Airports (Eco-Airport Guidelines (First Edition))* was formulated in 2003 to promote voluntary efforts for overall environmental measures, including low-carbon airports.

2.2.4 On the other hand, with the recent increase in aviation demand, CO₂ emissions at airports are on the rise, and further efforts are needed to address this issue. Therefore, in order to study measures to reduce CO₂ emissions from airport facilities and airport vehicles, as well as measures to introduce renewable energy based on the characteristics of each airport, the "Study Group on CO₂ Reduction in the Airport Sector" was established in 2021 to discuss the initiatives described in 2.1.

2.2.5 In February 2022, the airport decarbonisation goals and the work schedule were established, aiming to achieve 46% or more reduction (compared to fiscal year (FY) 2013) at each domestic airport by FY 2030, and to reach the height of carbon neutrality at all domestic airports by maximizing the potential for introducing renewable energy.

2.2.6 In order to effectively and efficiently promote the above initiatives, it is necessary to cooperate with airport stakeholders (airport administrators, airport building operators, airlines, and other operators in the airport) and other parties with expertise in decarbonisation. It is also desirable for each airport to create a plan with medium- to long-term goals and initiatives targeting 2030 and 2050. From this perspective, the government established the *Guidelines (First Edition)* in March 2022 to serve as a reference for the preparation of such plans.

2.2.7 In June 2022, the Civil Aeronautics Act, the Airport Act, and other related laws were amended to establish a basic policy for decarbonisation of the aviation sector by the Minister of Land, Infrastructure, Transport and Tourism. We have established a system that the Minister of Land, Infrastructure, Transport and Tourism certifies airport decarbonisation promotion plans (hereinafter referred to as "Promotion Plans") formulated by airport administrators, and have set special measures based on the Minister's certification. Special measures include provisions for long-term lease of administrative assets to entities implementing airport decarbonisation promotion projects as described in the approved Promotion Plans.

2.2.8 In light of the amendments of the Acts, we plan to revise the *Guidelines (First Edition)*, promote the formulation of Promotion Plans by each airport administrator, and formulate a manual that summarizes items to be considered when introducing and installing renewable energy and energy-saving equipment.

3. **CONCLUSION**

3.1 It is important for each State to take its own initiatives when promoting airport decarbonisation. In doing so, it is believed that States can efficiently decarbonize airports by sharing the knowledge gained through their initiatives. Therefore, in the future, the ICAO Assembly should share information on airport decarbonisation initiatives in each State, serving as a reference for other States to promote airport decarbonisation initiatives.

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