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ASIA AND PACIFIC REGION**

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**AGENDA ITEM 7: AVIATION AND ENVIRONMENT**

**JAPAN'S EXPERIENCE TO ESTABLISH THE ROADMAPS  
FOR PROMOTING DECARBONISATION OF AVIATION**

Presented by Japan

**INFORMATION PAPER**

**SUMMARY**

Decarbonisation of aviation is urgent issue and Japan strongly promotes relevant actions. In order to accelrate these actions, Japan has established roadmaps for promoting decarbonisation of aviation.

This paper introduces Japan's work to establish roadmaps regarding decarbonisation of aviation and future action for implementation.

## **JAPAN'S EXPERIENCE TO ESTABLISH THE ROADMAPS FOR PROMOTING DECARBONISATION OF AVIATION**

### **1. INTRODUCTION**

1.1 At the 37th Session of the ICAO Assembly in 2010, the global aspirational goal in international aviation of 2% annual fuel efficiency improvement through 2050 and carbon neutral growth from 2020 onwards was adopted. Based on this goals, Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) was adopted at 39th Session of the ICAO assembly in 2016, and ICAO Annex 16, Volume IV, which stipulates SARPs to implement CORSIA was adopted in 2018. In addition, based on the discussion at LTAG-TG in accordance with Assembly resolution A40-18, long term CO<sub>2</sub> emission goals in international aviation will be discussed at 41th session of the ICAO assembly which will be held in this September/October.

1.2 Japan fully supports ICAO's environmental effort, and from the point of view that decarbonisation in international aviation is urgent issue, Japan strongly promotes actions regarding decarbonisation of civil aviation. In Japan, CORSIA Monitoring, Reporting and Verification (MRV) system was introduced to aeroplane operators in accordance with relevant SARPs in 2018 and also carbon offsetting requirement was introduced in 2020 by amending domestic regulations as a voluntary participating state. Aside from this, targets for decarbonisation of domestic aviation has been established in Japanese domestic comprehensive plan (for all sector) against global climate change.

1.3 This IP introduces Japan's experience regarding the efforts for establishment of roadmaps for promoting decarbonisation of aviation.

### **2. DISCUSSION**

#### **2.1 Establishment of roadmap for promoting decarbonisation of aviation**

2.1.1 In order to reflect ICAO's actions for decarbonisation of international aviation and enhance international competitiveness by upgrading of environmental technology and maintain international aviation network, it is necessary to accelerate relevant actions for CO<sub>2</sub> emissions reduction. To discuss solutions, Japan established three committees for i) introduction of new technologies into aircraft and equipment, ii) improvement of flight operation by renovating air navigation service and iii) promotion of the introduction of SAF in March 2021.

2.1.2 After intense discussion at the committees, three roadmaps including future work plan and schedule were agreed and published in December 2021.

2.1.2.1 The roadmap for introduction of new technologies related to aircraft and equipment is shown in Fig.1. In this roadmap, development of safety standards including international standardization are proceeded in order to promote early introduction of new technologies related to electrification, hydrogen-powered aircraft and weight reduction/optimization.

2.1.2.2 Fig.2 shows the roadmap for improvement of flight operation by renovating air navigation service. Japan will take measures which improve efficiency in each operational phase and totally optimize the flow of air traffic for reducing CO<sub>2</sub> emissions and responding to the increase of air traffic in future as well.

Fig.1 Roadmap for introduction of new technologies into aircraft and equipment

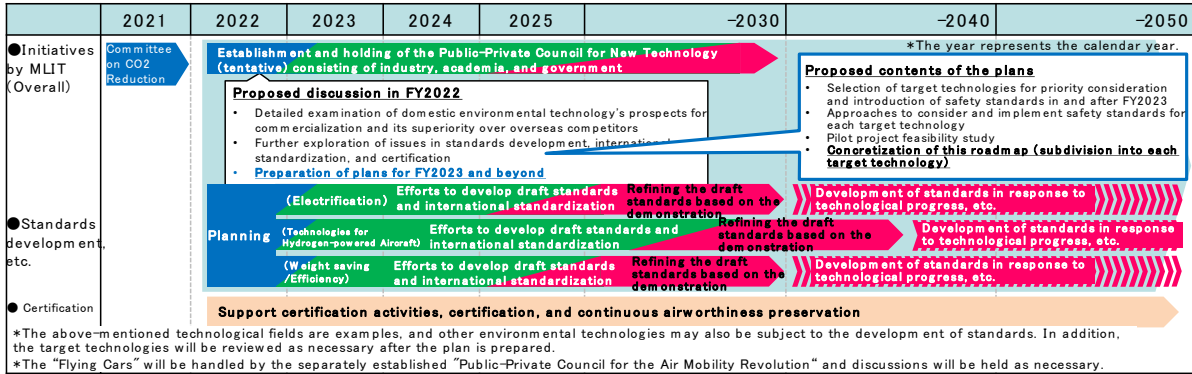
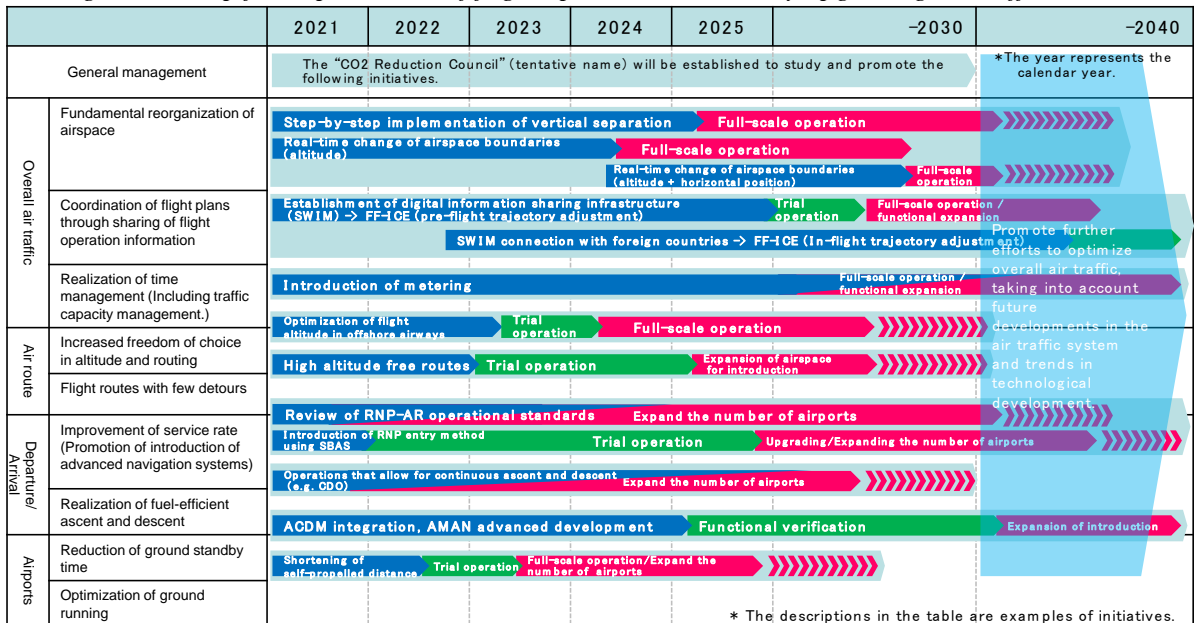


Fig.2 Roadmap for improvement of flight operation methods by upgrading air traffic control



2.1.2.3 The roadmap for promotion of the introduction of sustainable aviation fuels (SAF) is shown in Fig.3. It is essential to develop, manufacture and deploy produced SAF, so that Japan moves relevant actions and building supply chain including imported SAF forward to utilizing SAF in domestic/international aviation. In addition, the committee set a concrete target volume of SAF in order to steadily promote those efforts, which is "replacing 10% of the fuel consumption by the Japanese airlines with SAF by 2030".

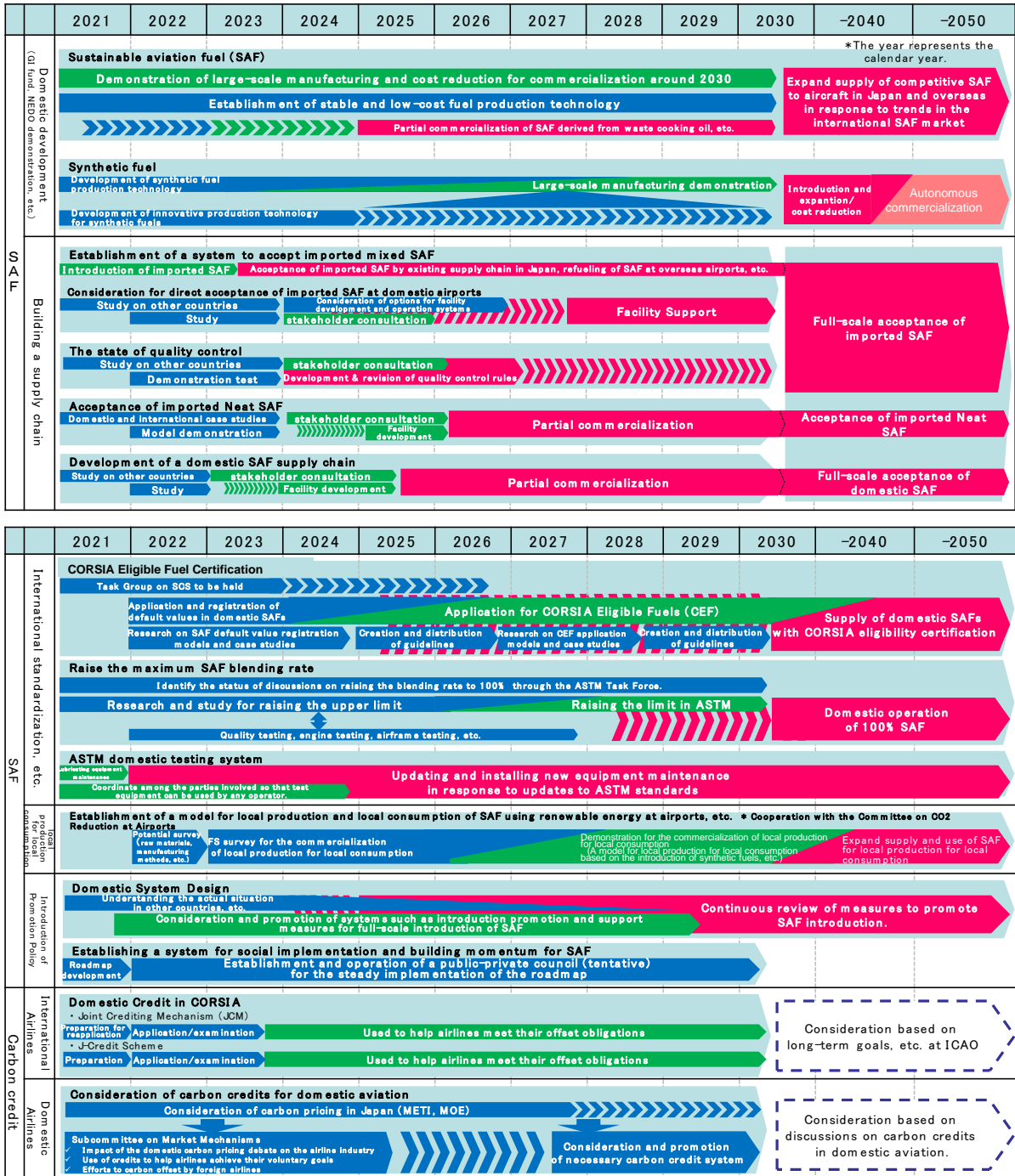
2.2 Promotion of actions in accordance with roadmaps

In order to promote actions towards decarbonisation of aviation in these three fields, in accordance with these roadmaps, it is required that not only aviation sector but various stakeholders from public and private sector make efforts collaboratively. To enhance the relationship between stakeholders, the Private-Public Councils was established in each field during 2022 to promote necessary actions.

2.3 Other effort: amendment of the Civil Aeronautics Act etc.

In addition to above mentioned action, the Japanese Civil Aeronautics Act and other legislation were amended in June, 2022. It is stipulated that the Minister establishes the basic policy for decarbonisation of aviation based on this amendment. In the basic policy, target for decarbonisation in aviation and action to be taken by stakeholder etc. are included. The Japanese aeroplane operators and airport administrators may establish their own decarbonisation plan in accordance with the basic policy and acquire ministerial approval that cause to receive institutional incentives. Japan promotes further decarbonisation in aviation by utilizing this framework as well.

Fig.3 Roadmap for promotion of the introduction of sustainable aviation fuel (SAF)



3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to note the information contained in this Paper.