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AGENDA ITEM 7: AVIATION AND ENVIRONMENT

ALIGNING AIR TRANSPORT WITH THE PARIS AGREEMENT: STRATEGIES FOR A SUSTAINABLE, RESILIENT, AND INCLUSIVE FUTURE

Presented by Philippines

INFORMATION PAPER

This Paper discusses the Paris Agreement and its implications for the aviation industry, emphasizing the need for substantial emission reductions to meet global climate goals. It highlights the aviation sector's contribution to greenhouse gas emissions and the industry's efforts to adopt cleaner technologies and sustainable aviation fuels (SAF).

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1. INTRODUCTION

1.1 The Paris Agreement, a legally binding international treaty on climate change that was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France on 12 December 2015. It was entered into force on 04 November 2016.

1.2 This landmark international treaty aimed at addressing climate change and its negative impacts. It seeks to limit global warming to below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 degrees Celsius. The agreement also emphasizes the need to enhance adaptive capacities, strengthen resilience, and reduce vulnerabilities to climate change.

1.3 Various studies show that the aviation industry accounts for about 2% of global carbon dioxide (CO_2) emission in the late 2010s. As aviation grows to meet the increasing demand and as other sectors of the economy reduce emissions, the industry's share of overall emissions is likely to increase. In its 2019 *Environmental Report,* the International Civil Aviation Organization (ICAO) discussed the aspirational goals for reducing the climate impact of the international aviation sector by improving fuel efficiency by 2% annually by 2050[1].

2. DISCUSSION

2.1 The air transport industry is a significant contributor to global greenhouse gas emissions. The Paris Agreement calls for ambitious efforts to reduce emissions, which directly impacts the aviation sector. Airlines and aviation organizations are working to develop and implement cleaner technologies, improve fuel efficiency, and transition to sustainable aviation fuel (SAF). SAF is liquid fuel currently used in commercial aviation which reduces CO_2 emissions by up to 80%, according to the International Air Transportation Association (IATA)[2]. This can be produced from waste oil and fats, green and municipal waste and non-food crops. SAF plays a pivotal role in offering a cleaner energy source for powering the global fleet of aircraft, thereby helping the billions of air travelers reduce the environmental impact of their journey. The widespread adoption of SAF is essential for achieving a more sustainable aviation industry, fostering environmental stewardship, and supporting the industry's long-term viability.

2.2 Investment in research and development for new technologies such as electric and hydrogen-powered aircraft is crucial. These innovations align with the Paris Agreement's goal of reducing carbon footprints and promoting sustainability. Hydrogen, which can be produced from low-carbon power sources and yields zero emissions, offers significant potential to reduce the environmental impact of aviation. However, realizing the full potential of hydrogen-powered commercial aircraft requires overcoming several technological challenges. Additionally, the transition to hydrogen-powered aircraft necessitates substantial modifications to airport infrastructure and operations. Establishing a reliable hydrogen supply chain for these aircrafts will significantly impact airport spatial planning and operational workflows. Airports will need to redesign fuel storage facilities, refueling stations, and supply logistics to

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[1]Flemming, G., & De Lépinay, I. (n.d.). Environmental Trends in in Aviation to 2050. *ICAO Environmental Report 2019*. https://www.icao.int/environmental-protection/Documents/EnvironmentalReports/2019/ENVReport2019_pg17-23.pdf

[2] *Developing Sustainable Aviation Fuel (SAF)*. (n.d.). https://www.iata.org/en/programs/environment/sustainable-aviation-fuels/.

accommodate hydrogen. This transformation will require careful integration into existing systems to ensure safety, efficiency, and minimal disruption to current operations. Addressing these challenges will be crucial for the successful integration of hydrogen technology in the aviation sector.

2.3 Achieving the goals of the Paris Agreement necessitates a concerted global effort, particularly within the aviation industry. This requires the industry to work in close collaboration with various stakeholders, including governments, international organizations, and other key players. Collaborative efforts are crucial for fostering innovation in sustainable aviation technologies. Industry stakeholders can pool resources for research and development, share technological advancements, and accelerate the deployment of new solutions such as SAF, electric and hydrogen-powered aircraft, and advanced air traffic management systems.

2.4 Ensuring that sustainability initiatives are inclusive is vital for their success and equity. Collaborative efforts should focus on addressing the needs of all regions and communities, including those with limited resources or infrastructure. This involves developing strategies that support the adoption of sustainable practices in developing countries, enhancing access to green technologies, and ensuring that the benefits of these initiatives are equally distributed.

3. ACTION BY THE CONFERENCE

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

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