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EXECUTIVE COMMITTEE

Agenda Item 16: Environmental Protection – International Aviation and Climate Change

MUSCAT INTERNATIONAL AIRPORT'S ROLE IN ADVANCING ENVIRONMENTAL SUSTAINABILITY IN AVIATION

(Presented by Oman)

EXECUTIVE SUMMARY

Airports are evolving beyond their role as transportation hubs to become key players in the global fight against climate change. By adopting cleaner energy sources, optimizing aircraft and ground vehicle operations, and enhancing the energy efficiency of terminal buildings, they are actively reducing CO₂ emissions. These initiatives are paving the way for a more sustainable future—benefiting travellers, airport staff, and surrounding communities alike. Through innovative solutions and international cooperation, airports are proving that a greener, more sustainable aviation industry is within reach.

<i>Strategic Goals:</i>	This working paper relates to the Strategic Goal – <i>Aviation is Environmentally Sustainable</i> .
<i>Financial implications:</i>	
<i>References:</i>	

1. INTRODUCTION

1.1 As global air travel continues to grow, airports face increasing responsibility to minimize their environmental footprint. While much of the focus on aviation emissions centres on aircraft, airport operations themselves contribute significantly to carbon dioxide (CO₂) emissions through energy use, ground vehicle operations, and infrastructure related activities. Recognizing this impact, airports worldwide are taking proactive steps to reduce their carbon footprint and support broader climate action goals. Modern airports are becoming sustainability leaders by adopting renewable energy, improving energy efficiency, electrifying ground support operations, and implementing innovative waste and water management practices. They are also engaging with airlines, government bodies, and local communities to drive collaborative climate action. Through these efforts, airports aim not only to comply with international climate commitments but also to create healthier environments for passengers, staff, and neighbouring communities.

1.2 Muscat International Airport demonstrates how airports are implementing key environmental initiatives to reduce CO₂ emissions, playing a crucial role in shaping a more sustainable future for the aviation industry.

1.3 The airport has adopted a robust environmental sustainability program to reduce its environmental impact, promote the efficient use of resources, and align operations with global sustainability standards.

2. OIL RECYCLING

2.1 Used oil from maintenance, cooking oil and operations is collected and sent for recycling rather than being discarded. This prevents environmental contamination and enables the recovery and reuse of oil products, supporting the circular economy.

3. GENERAL WASTE RECYCLING

3.1 The airport has implemented a comprehensive waste segregation and recycling system. Recyclable materials such as paper, plastics, metals, and glass are sorted and sent to certified recycling facilities, reducing the volume of waste sent to landfills and conserving natural resources.

4. HAZARDOUS MATERIALS CONTROL AND RECYCLING

4.1 Strict protocols are in place for the handling, storage, and disposal of hazardous materials (e.g., chemicals, batteries, and electronic waste). These materials are tracked and processed through licensed recyclers to prevent pollution and ensure compliance with environmental regulations.

5. ENERGY CONSERVATION THROUGH AIRPORT ENERGY PLAN

5.1 An integrated energy plan guides the airport's efforts to reduce energy consumption. This includes upgrading lighting systems to led, using energy-efficient HVAC systems, conducting regular energy audits, and promoting best practices among airport tenants and staff.

6. NOISE MANAGEMENT

6.1 Noise pollution is addressed through a combination of operational procedures and infrastructure planning. Noise abatement procedures, including specific flight paths and restrictions during sensitive hours, help reduce the impact of aircraft noise on surrounding communities.

7. USE OF TREATED WATER FOR IRRIGATION

7.1 To conserve freshwater resources, the airport utilizes treated wastewater for landscape irrigation. This not only reduces dependency on potable water but also supports sustainable greenery maintenance across airport premises.

8. REDUCTION OF SINGLE-USE PLASTIC BOTTLES

8.1 Efforts are underway to reduce the consumption of single-use plastic water bottles in office areas. This includes installing water dispensers and encouraging staff to use refillable bottles, contributing to the airport's plastic reduction goals.

9. ELECTRIC BUGGIES FOR STAFF TRANSPORT

9.1 Electric buggies have replaced traditional shuttle buses for transporting staff within airport premises. This shift significantly cuts down on fossil fuel use and greenhouse gas emissions, supporting cleaner internal mobility.

10. TRANSITION TO ELECTRIC VEHICLES (EVS)

10.1 The airport is planning a phased transition to a fully electric vehicle fleet. This long-term strategy includes infrastructure development for EVcharging and the gradual replacement of internal combustion vehicles with electric alternatives.

11. ELECTRIFICATION OF AIRPORT EQUIPMENT

11.1 Currently, 30% of airport ground support equipment is powered by electricity. This reduces direct emissions, improves air quality on the tarmac, and demonstrates a commitment to cleaner ground operations.

12. SOLAR ENERGY PROJECT

12.1 A solar energy project is underway to harness renewable energy from the sun. Solar panels will be installed on rooftops and other available spaces, contributing to the airport's energy needs while reducing its carbon footprint.

13. PLANTATION AND GREENING INITIATIVES

13.1 The airport has increased vegetation coverage by planting more trees and shrubs around its grounds. This not only improves aesthetics and provides shade but also contributes to carbon sequestration, enhances biodiversity, and helps mitigate the urban heat island effect.

14. CONCLUSION

14.1 The airport's environmental sustainability program reflects a proactive and holistic approach to environmental stewardship. By integrating waste management, energy conservation, water reuse, clean transportation, and biodiversity into its operations, the airport sets a strong example for sustainable aviation infrastructure. Ongoing efforts and future plans indicate a clear commitment to continuous improvement and alignment with the national zero neutrality program 2050.