DIRECTORS GENERAL OF CIVIL AVIATION-MIDDLE EAST REGION

Sixth Meeting (DGCA-MID/6)
(Abu Dhabi, UAE, 1-3 November 2022)

Agenda Item 7: Environmental Protection

ACI's APPROACH TO AIRPORTS DECARBONIZATION

(Presented by Airports Council International (ACI))

SUMMARY

This paper presents ACI's approach to airports decarbonization and provides an update on ACI's contributions to the reduction in carbon dioxide emissions at airports, mainly by urging global airport members to make commitments to the Long-Term Carbon Goal and providing carbon management tools to its members: Airport Carbon Accreditation and Airport Carbon and Emissions Reporting Tool (ACERT).

Action by the meeting is at paragraph 3.1.

REFERENCES

ACI World Long Term Carbon Goal Study Report 2021

1.   **INTRODUCTION**

1.1   In light of the most recent United Nations Intergovernmental Panel on Climate Change (IPCC) Special Report[i] on Global Warming of 1.5°C and with the imminent entry into force of the Paris Agreement[ii], the aviation industry should step up its efforts in the combat against climate change.

1.2   In response, ACI member airports at a global level committed to reach Net Zero Carbon emissions by 2050 and urged governments to provide the necessary support in this endeavour. It was the first net zero commitment made in June 2021 at the global level in the aviation sector which was based on a comprehensive long-term goal feasibility assessment.

1.3   The goal is limited to carbon emissions for which the airport operator is directly or indirectly responsible, referred to as scope 1 and scope 2 emissions, but airports are also committed to facilitating the decarbonization of aviation emissions. ACI fully supports an ambitious ICAO LTAG (Long Term Aspirational Goal) such as net zero Carbon emission by 2050 to be agreed at the 41st Assembly.

2.   DISCUSSION

Airports Committed to Net Zero but Government Actions Needed

2.1   The ACI Asia-Pacific Regional Assembly on 18th May 2022 unanimously passed a resolution calling Asia-Pacific and Middle East airports to voluntarily commit to achieving net zero carbon emissions and develop action plans to meet this commitment, and embed low carbon, resource efficient technologies into new and existing operations and infrastructure; and urging governments' support to decarbonize the electricity grid and facilitate renewable energy transition at airports.

2.2   The greatest source of carbon emissions of airport operators is the energy used to power terminals and equipment. Therefore, the decarbonization of the electricity grid, which the airports have a limited ability to change, will be an essential component of the likelihood of them reaching Net Zero carbon emissions by 2050. Renewables are also needed for the development of Sustainable Aviation Fuel (SAF), green hydrogen and green electrification of aircraft and ground support equipment and vehicles.

2.3   Indeed, renewable energy is a strategic issue for States and the global economy. The grid decarbonization will happen unevenly across the globe and green energy will remain a scarce resource for many. Therefore, States should cooperate and consider the development of policies and mechanisms which could accelerate renewables deployment globally, such as power purchase agreements, and book and claim systems which could be used among stakeholders from different States.

2.4   Three ICAO Middle East Member States have already made commitments to achieving net zero or carbon neutrality goal at various years, within these states, one airport member of ACI has officially pledged to achieve net zero carbon emission by 2050. Support is needed from governments to many others to develop their own roadmaps and for them to implement their decarbonization strategies and action plans.

2.5   Effective action to achieve sustainable development goals will depend on the ability of airports to integrate sustainability as the core of their corporate strategies. The multi-sector collaboration will play a critical role in ensuring a resilient aviation ecosystem that is capable of achieving global sustainability goals. There is an ever-increasing pressure on airports and other aviation stakeholders to deliver sustainability so as to attract and grant finance. Sharing climate related risks is becoming a condition for investment. This requires a combination of efforts which align mitigation and adaptation initiatives to ensure a sustainable and resilient aviation ecosystem.

2.6   To meet future air passenger demand in Middle East, investments in new greenfield airports, as well as significant investments to expand and maintain existing airport infrastructure, will be required. Between 2021 and 2040, projections indicate approximately USD 151 Billion in airport total capital investments will be needed to address the long-term trend in passenger demand. Of this amount, 36 per cent of the CAPEX needs are for new greenfield airport construction, representing USD 54 billion between 2021 and 2040. The imperious need to address the capital expenditure need and decarbonization challenges should be recognized to ensure the economically and environmentally sustainable development of airports.

Airports Share Best Practices in Carbon Management

2.7   To facilitate best practices sharing in airports carbon management, the complimentary Green Airports Recognition 2022 - Carbon Management publication is available for download at ACI Asia-Pacific website, this publication showcased many innovative best practices in equipment and infrastructure energy management, onsite generation or purchase agreements of renewable energy, strategic roadmap for net zero carbon, nature-based carbon sequestration, collaborative approach towards decarbonization and addressing waste to reduce carbon emissions.

2.8   ACI Asia-Pacific reported in detail the history, purposes, methodology and benefits of *Airport Carbon Accreditation* and Airport Carbon and Emissions Reporting Tool (ACERT) in Information paper DGCA-MID/3-IP/3 held in Doha in 2015. The Conference was invited to note the importance of Airport Carbon Accreditation and ACERT as tools to assist airports in managing and reducing carbon emissions. Below are some updates for this Conference:

Airport Carbon Accreditation Programme Enhanced

2.9   *Airport Carbon Accreditation* was the first ever carbon mapping and carbon management standard specifically designed for the airport industry. Independent third-party verification by an approved verifier is an essential component of the programme. Airports can participate at one of the four progressively stringent levels of accreditation: 1. Mapping; 2. Reduction; 3. Optimisation; and 4. Transformation. In addition, airports at Level 3 and 4 can choose to offset their residual emissions, thereby achieving Level 3+ (Neutrality) and Level 4+ (Transition) respectively.

2.10   The number of the participants in *Airport Carbon Accreditation* programme has been consistently increasing despite the pandemic on account of the programme's ability to help airports to reduce carbon footprints and gain public recognition. To date, 411 airports worldwide including 64 in Asia-Pacific and the Middle East have been accredited. These 64 airports, listed in the appendix, handle 41.2% of the air passenger traffic in Asia-Pacific and the Middle East. From May 2019 to May 2021, airports participating in the programme worldwide achieved a reduction of 347,718 tonnes of CO_2 compared to the previous year on the basis of a 3-year-rolling average. Of these reductions, 73,523 tonnes were contributed by Asia-Pacific and the Middle East Airports. Because of its proven capability as a tool to reduce the carbon footprints of aerodrome operators, *Airport Carbon Accreditation* has been referenced in the States Action Plan to Reduce Carbon Emissions in Aviation by a number of Member States in Asia-Pacific and the Middle East, e.g., Australia, Bahrain, India and Indonesia

2.11   In the last few years, the programme has seen numerous improvements such as providing updated guidance documents on CO_2 offsetting for airports and case studies on carbon reduction, to improve transparency; the *Airport Carbon Accreditation* application manual and a short guide to *Airport Carbon Accreditation* were made public and available for download through the *Airport Carbon Accreditation* website. In November 2020, two new accreditation levels – Level 4 (Transformation) and Level 4+ (Transition) – were launched, bringing the programme in line with the latest scientific and policy developments, airports are required to align their carbon management ambition with the global climate goals and transform their operations with absolute emissions reductions in mind, while also strengthening their stakeholder engagement.

2.12   To enhance the collective spirit of the programme, a mentorship initiative was launched in early 2021, whereby airports volunteer to utilise their know-how and experience in carbon management to aid their peers, helping to remove entry-level barriers through knowledge and best practice sharing with new entrant airports lacking necessary resources to enter the programme or to progress through higher levels.

Airport Carbon and Emissions Reporting Tool – Updates

2.13   The Airport Carbon and Emissions Reporting Tool (ACERT) is a self-contained Excel spreadsheet that helps an airport operator to calculate its own greenhouse gas (GHG) emissions. It is available at no charge to airports and can be used by non-experts by inputting easily available operational data. ACERT is currently available in version 6 from the ACI website at https://store.aci.aero/form/acert/.

2.14   While *Airport Carbon Accreditation* does not specifically require a carbon calculation model, it accepts the current version of ACERT (v6) as a tool for reporting carbon emissions. Since November 2018, it has had 1,062 unique downloads. Currently, there are 84 airports using ACERT as carbon footprint calculation tool to fulfil *Airport Carbon Accreditation* requirement.

3.   ACTION BY THE MEETING

3.1   Given the synergy and effectiveness of ACERT and *Airport Carbon Accreditation* programme in empowering airports to reduce their carbon emissions in alignment with global climate goals, the Conference is invited to:

a) Consider encouraging their aerodrome operators to use ACI's ACERT and participate in ACI's *Airport Carbon Accreditation*;

b) Encourage States/Administrations to consider including *Airport Carbon Accreditation* within their State Action Plans; and

c) Urge States/Administrations to support airport operators in implementing de-carbonization strategies such as by decarbonizing electricity grids and facilitating renewable energy transition at airports.

APPENDIX

Level of Accreditation	Country / Territory	Airports
LEVEL 1 MAPPING	Australia	Broome International Airport
	Australia	Longreach Airport,
	China	Zhengzhou Xinzheng International Airport,
	Fiji	Tahiti-Faa'a International Airport
	New Zealand	Hamilton Airport
	Oman	**Duqm Airport**
	Oman	**Muscat International Airport**
	Saudi Arabia	**King Khalid International Airport**
	Thailand	Phuket International Airport
LEVEL 2 REDUCTION	Australia	Gold Coast Airport
	Australia	Hobart International Airport
	Australia	Melbourne Airport
	Australia	Mount Isa Airport
	Australia	Perth Airport
	Australia	Townsville Airport
	Cambodia	Phnom Penh International Airport
	Cambodia	Siem Reap International Airport
	Cambodia	Sihanoukville International Airport
	India	Biju Patnaik International Airport
	India	Lal Bahadur Shastri International Airport
	India	Netaji Subhash Chandra Bose International Airport
	India	Trivandrum International Airport
	Macau SAR	Macau International Airport
	New Caledonia	Aéroport International de Noumea-La Tontouta
	New Zealand	Hawke's Bay Airport
	New Zealand	New Plymouth Airpor
	New Zealand	Palmerston North Airport

Level of Accreditation	Country / Territory	Airports
LEVEL 3 OPTIMISATION	Australia	Adelaide Airport
	Australia	Brisbane International Airport
	Australia	Parafield Airport,
	Australia	Sydney Airport
	Bahrain	**Bahrain International Airport**
	China	Chengdu Shuangliu International Airport
	China	Guangzhou Baiyun International Airport
	China	Shenzhen Bao'an International Airport
	Chinese Taipei	Kaohsiung International Airport
	Chinese Taipei	Taoyuan International Airport
	Fiji	Nadi International Airport
	Hong Kong SAR	Hong Kong International Airport
	Japan	Narita International Airport
	Malaysia	Kuala Lumpur International Airport
	Oman	**Salalah Airport**
	Qatar	**Hamad International Airport**
	Republic of Korea	Incheon Airport
	Singapore	Singapore Changi Airport
	Thailand	Chiang Mai International Airport
	Thailand	Don Mueang International Airport
	Thailand	Hat Yai International Airport
	Thailand	Mae Fah Luang Chiang Rai International Airport
	Thailand	Suvarnabhumi Airport
	United Arab Emirates	**Abu Dhabi International Airport**
	United Arab Emirates	**Dubai International Airport**
	United Arab Emirates	**Dubai World Central**
LEVEL 3+ NEUTRALITY	Australia	Sunshine Coast Airport
	India	Chhatrapati Shivaji International Airport
	India	Kempegowda International Airport
	India	Rajiv Gandhi International Airport
	United Arab Emirates	**Sharjah Airport**
LEVEL 4 TRANSFORMATION	Japan	Kansai International Airport
	Japan	Kobe Airport
	Japan	Osaka International Airport
	New Zealand	Christchurch Airport
LEVEL 4+ TRANSITION	India	Indira Gandhi International Airport
	Jordan	**Queen Alia International Airport**

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[i] The Special Report on Global Warming released by the United Nations Intergovernmental Panel on Climate Change (IPCC) on 8 October 2018 indicated that limiting global temperature rise of this century below 1.5 degrees Celsius is indispensable to limit the most catastrophic and irreversible consequences of global warming. This will require urgent and drastic action through unprecedented and deep emissions reductions in all sectors to ensure global emissions decline by -45% by 2030 and reach net zero by 2050.

[ii] In December 2015, at the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP-21) in Paris, more than 190 member states had committed and signed the Paris Agreement, which aimed to keep global temperature rise of this century below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.