



ACI'S APPROACH TO AIRPORTS DECARBONIZATION

**57th CONFERENCE OF DIRECTORS GENERAL OF
CIVIL AVIATION ASIA AND PACIFIC REGIONS**

Incheon, Republic of Korea

4 – 8 July 2022

Agenda Item 7

57/DP/7/8

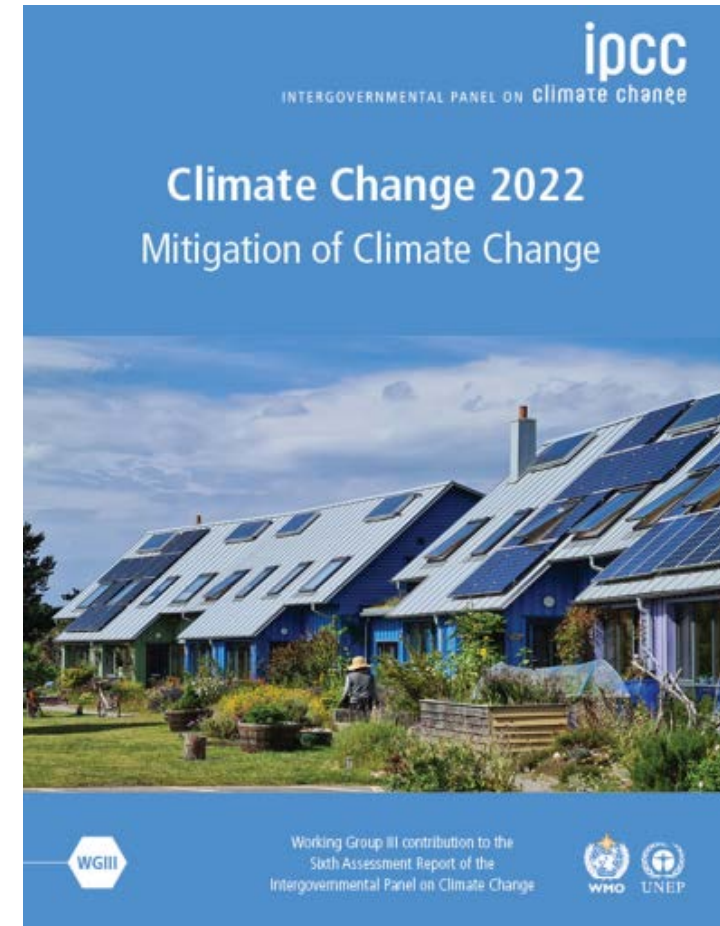
ACI Asia-Pacific (Airports Council International)

UNFCCC IPCC Report

IPCC 6th Assessment Report on Mitigation of Climate Change, 4 Apr 2022

“NOW or NEVER!”

- Currently **planned new fossil fuel infrastructure** would cause the world to **exceed 1.5°C**
- Investment in the **shift to a low-carbon world is about six times lower than it needs to be**
- All sectors of the global economy, from energy and **transport** to buildings and food, **must change dramatically and rapidly**, and **new technologies** including **hydrogen fuel and carbon capture and storage** will be needed



ACI World Long Term Carbon Goal

8th June 2021

Goal



“ACI member airports at a global level commit to reach Net Zero Carbon emissions by 2050 and urge governments to provide the necessary support in this endeavour.”

Pathway



The pathway to reach Net Zero Carbon emissions by 2050 is to align with the IPCC’s goal of limiting global warming to 1.5°C.

ATAG NET ZERO 2050

5th Oct 2021: "Global civil aviation operations will achieve net zero carbon emissions by 2050, supported by accelerated efficiency measures, energy transition and innovation across the aviation sector and in partnership with Governments around the world."



ICAO Long Term Aspiration Goal 2022
(41 Session of ICAO Assembly)



Luis Felipe de Oliveira
Director General



Simon Hocquard
Director General



Willie Walsh
Director General



Kurt Edwards
Director General



Jan Pie
Chair



Pete Bunce
President and CEO

Supported by innovation and action throughout the supply chain:



Guillaume Faury
Chief Executive Officer



Stan Deal
President and CEO



Stefano Bortoli
Chief Executive Officer



Gaël Méheust
President and CEO



John S. Slattery
President and CEO



Christopher Calio
President



Warren East CBE
Chief Executive



Olivier Andriès
Chief Executive Officer



Francisco Gomes Neto
President and CEO



Stephen Timm
President

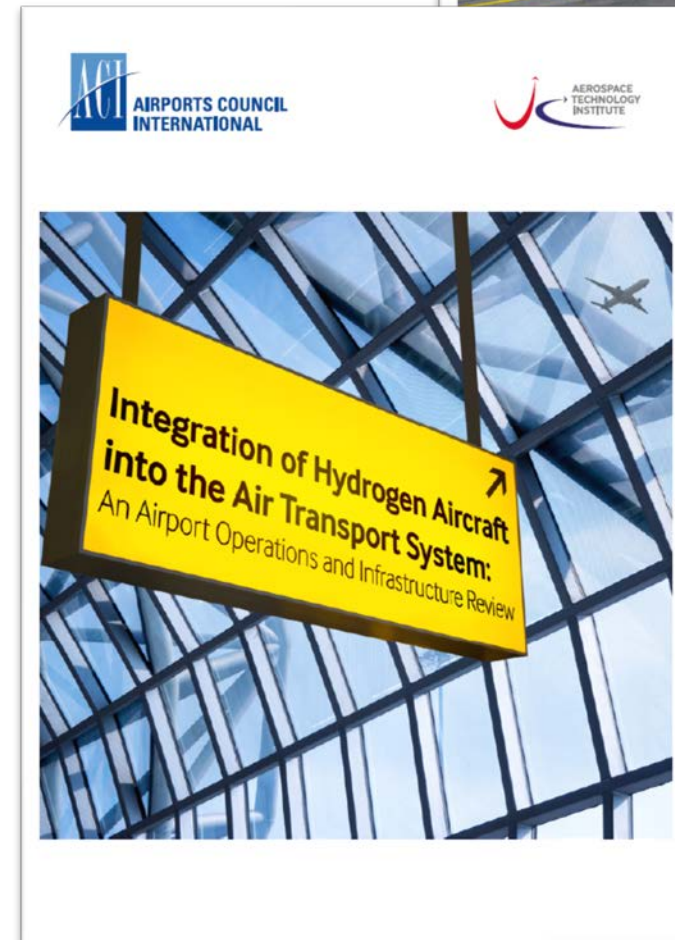


The Voice of
Asia-Pacific
Airports

MULTI-SECTOR COLLABORATION

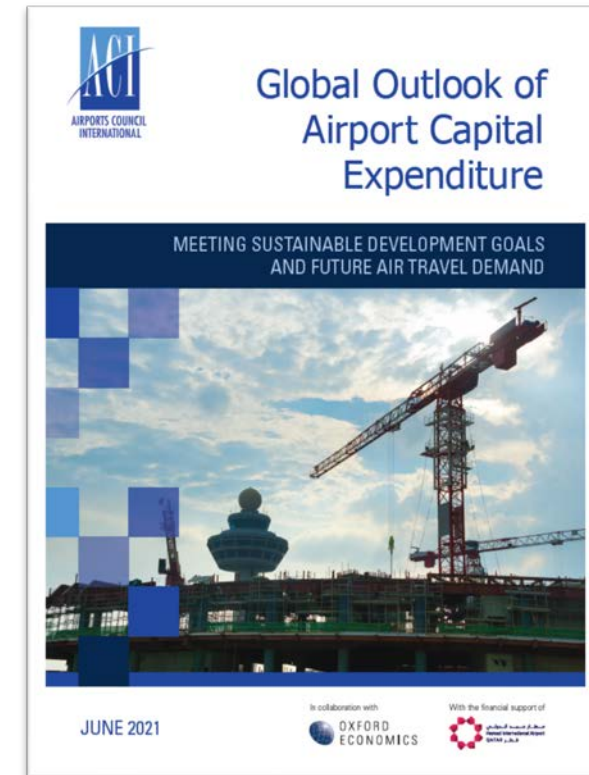
The multi-sector collaboration will play a critical role in ensuring a resilient aviation ecosystem that is capable of achieving global sustainability goals.

There is an ever-increasing pressure on airports and other aviation stakeholders to deliver sustainability so as to attract and grant finance



FINANCING DECARBONIZATION

- Whether dealing with short-, medium-, or long-range aircraft—or with SAF, electric, hydrogen (H2), or liquid hydrogen (LH2) propulsion—**airports will need to further invest in refuelling and recharging infrastructure and supply chains**
- **Financing decarbonization**, from an airport perspective, may **require institutional, private equity, and/or public investment** to support increased airport development needs
- Between **2021 and 2040**, projections indicate approximately **USD 1.3 trillion** in airport total capital investments will be needed
- The imperious need to address the **CAPEX need** and **decarbonization challenges** should be recognized to ensure the economically and environmentally sustainable development of aviation



Long Term Carbon Goal Commitment Status

Remark:

- cover only the region in which ACI APAC serves its airports
- include Net Zero and Carbon Neutrality targets only
- as of Q1, 2022



Achieved



Bhutan

In Law



Fiji
2050



Honolulu
2045



Japan
2050



New Zealand
2050



South Korea
2050

In Policy Document



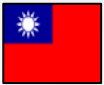
Australia
2050



Cambodia
2050



China
2060



Chinese Taipei
2050



Kazakhstan
2060



Maldives
2030



Marshall Islands
2050



Papua New Guinea
2050



Singapore
2050



Sri Lanka
2050

Declaration



Bahrain
2060



Brunei Darussalam
2050



Hong Kong
2050



India
2070



Indonesia
2060



Malaysia
2050



Nepal
2045



Saudi Arabia
2060



Thailand
2065



UAE
2050



Vietnam
2050



27 Pledges

countries/ cities/ territories with airports under ACI APAC membership



Net Zero / Carbon Neutrality

Long Term Carbon Goal

Net Zero Pledges - Airports

Remark:

- airports with a roadmap are marked with an aeroplane symbol ✈
- as of Q1, 2022

in/before
2030

Australia
Australia
Australia
Australia
India
India
New Zealand
New Zealand


Alice Springs Airport
Darwin International Airport
Sydney Airport ✈
Tennant Creek Airport
Indira Gandhi International Airport
Kempegowda International Airport
Auckland Airport ✈
Christchurch International Airport

in/before
2050

Australia
Australia
Australia
Cambodia
Cambodia
Cambodia
Fiji
Hong Kong, China
Japan
Japan
Japan
Japan
Japan
Jordan
New Zealand

Adelaide Airport
Brisbane Airport
Melbourne Airport
Phnom Penh International Airport
Siem Reap International Airport
Sihanouk International Airport
Nadi International Airport
Hong Kong International Airport
Chubu Centrair International Airport ✈
Kansai International Airport ✈
Kobe Airport ✈
Narita International Airport
Osaka International Airport ✈
Queen Alia International Airport
Palmerston North Airport (2035)



 **23 Pledges**
under ACI APAC membership

ACI ASIA-PACIFIC RESOLUTION AT ASSEMBLY MAY 2022

Resolved

- Urge airports to voluntarily commit to net zero Carbon emissions, develop actions plans to meet this commitment, and embed low carbon technologies and resource efficiency into new and existing operations and infrastructure
 - Urge governments support to decarbonize electricity grid and facilitate renewable energy at airports

GREEN AIRPORTS RECOGNITION 2022



Theme of the Year: **"Carbon Management"**

We are proud to recognize twelve airports in Asia-Pacific and the Middle East for their outstanding achievements in carbon management.

Over 50 million passengers per annum:

- Platinum – Hong Kong International Airport
- Gold – Kuala Lumpur International Airport
- Silver – Beijing Capital International Airport

Between 5-15 million passengers per annum:

- Platinum – Christchurch International Airport
- Gold – Queen Alia International Airport
- Silver – Bahrain International Airport

Between 15-50 million passengers per annum:

- Platinum – Kempegowda International Airport
- Gold – Taoyuan International Airport
- Silver – Rajiv Gandhi International Airport

Less than 5 million passengers per annum:

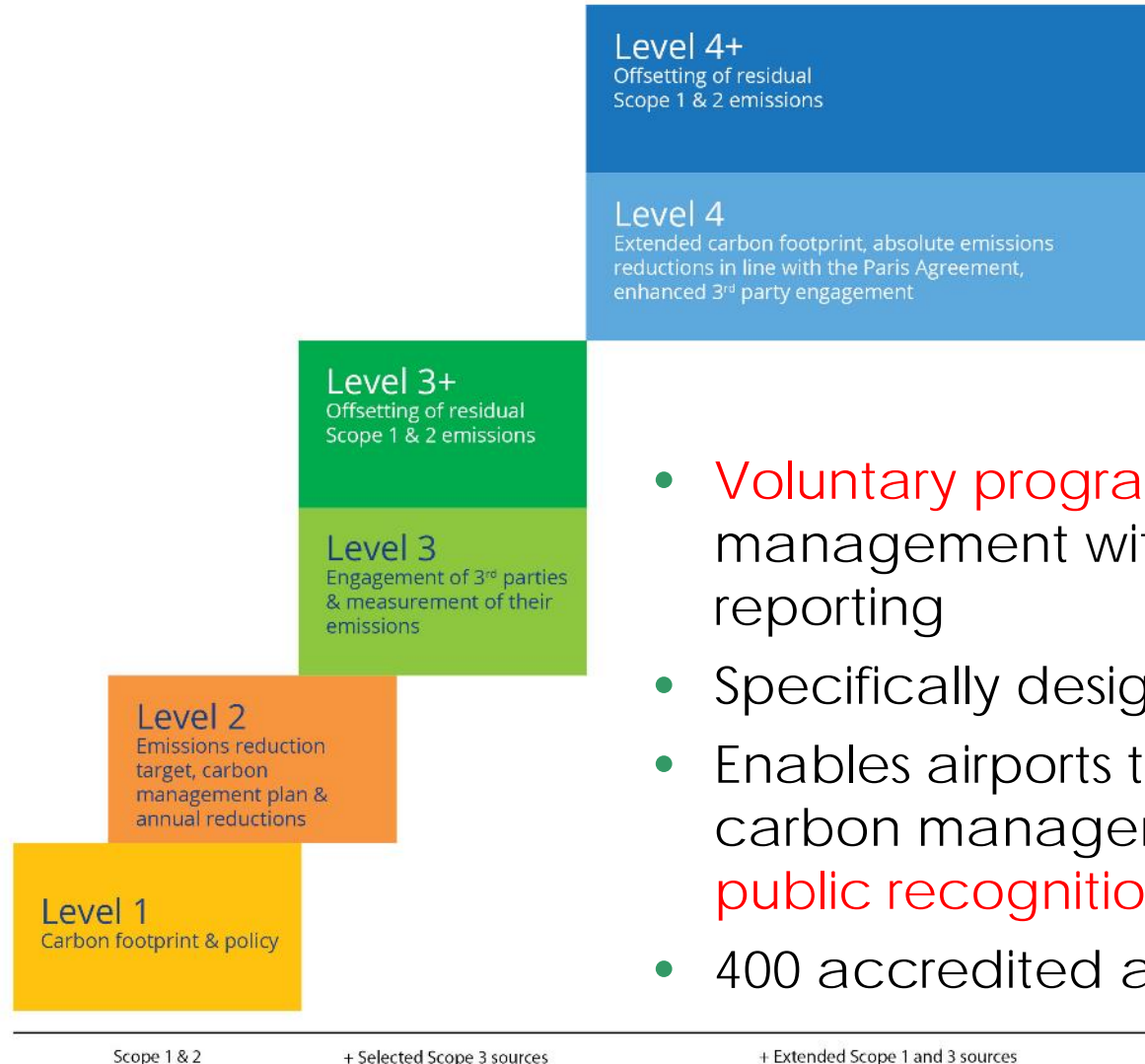
- Platinum – Hawke's Bay Airport
- Gold – Nadi International Airport
- Silver – Darwin International Airport



Best Practices from 23 airports publication available on our website

AIRPORT CARBON ACCREDITATION

6 ascending levels




The New Level 4/4+ in 2020

Absolute long-term emissions
reduction targets, aligned with
Paris Agreement

- **Voluntary programme** for active carbon management with measurable goals and reporting
- Specifically designed for the **airport business**
- Enables airports to implement best practice carbon management processes and **gain public recognition** of their achievements
- 400 accredited airports globally

AIRPORT CARBON AND EMISSIONS REPORTING TOOL (ACERT)

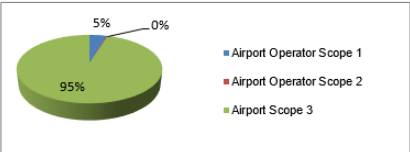
- ACERT is a complementary **tool** to calculate Carbon and Greenhouse Gas for airports (84 airports uses this tool for *Airport Carbon Accreditation*)

Sample Regional Airport Greenhouse Gas Emissions Inventory 2017 

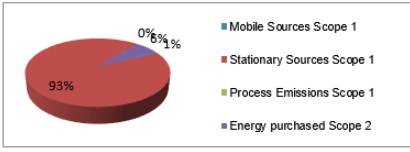
by: Richard Sample, Test Manager (Mail: my_email@mail.com)

Identifier	ACI	Operational Data	2017
Airport	Sample Regional Airport	Passenger Movements	2'150'000
Airport Operator	Airport Operator Ltd	Aircraft Movements	26'000
Country	Iceland	Cargo (t)	45'000
ACI Region	Europe	Traffic Units (or WLU)	2'600'000
Report Date	31.12.2017	Airport Operator Staff (FTE)	150
ACA-Level	ACA Level 3+	Approximate total vehicle traffic	km/a 36'481'120

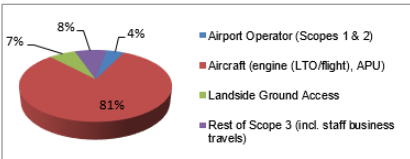
Greenhouse Gas Emissions	2017
Scope Break Down:	
Airport Operator Scope 1 (t CO ₂ e)	5'469.7
Airport Operator Scope 2 (t CO ₂ e)	335.5
Airport Scope 3 (t CO ₂ e)	113'587.6
Total Gross Emissions (t CO ₂ e)	119'392.8
Offsets (t CO ₂)	160.0
Total Net Emissions (t CO ₂ e)	119'232.8



Airport Operator Source Break Down:	2017
Mobile Sources Scope 1 (t CO ₂ e)	59.9
Stationary Sources Scope 1 (t CO ₂ e)	5'407.3
Process Emissions Scope 1 (t CO ₂ e)	2.5
Energy purchased Scope 2 (t CO ₂ e)	335.5
Total Scopes 1+2 (t CO₂e)	5'805.2



Source Group Break Down:	2017
Airport Operator (Scopes 1 & 2) (t CO ₂ e)	5'805.2
Aircraft (engine (LTO/flight), APU) (t CO ₂ e)	103'274.9
Landside Ground Access (t CO ₂ e)	8'564.8
Rest of Scope 3 (incl. staff business travels) (t CO ₂ e)	10'316.6

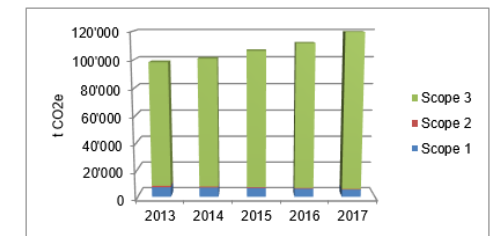


Airport Carbon Net-Zero or Neutrality Path	2017
Total required offsets (Scopes 1&2, Bus. Travel) (t CO ₂ e)	5'805.2
Airport Operator Carbon Offsets (t CO ₂ e)	160.0
Net-Zero (no offsets) or Neutrality achieved (%)	2.8%

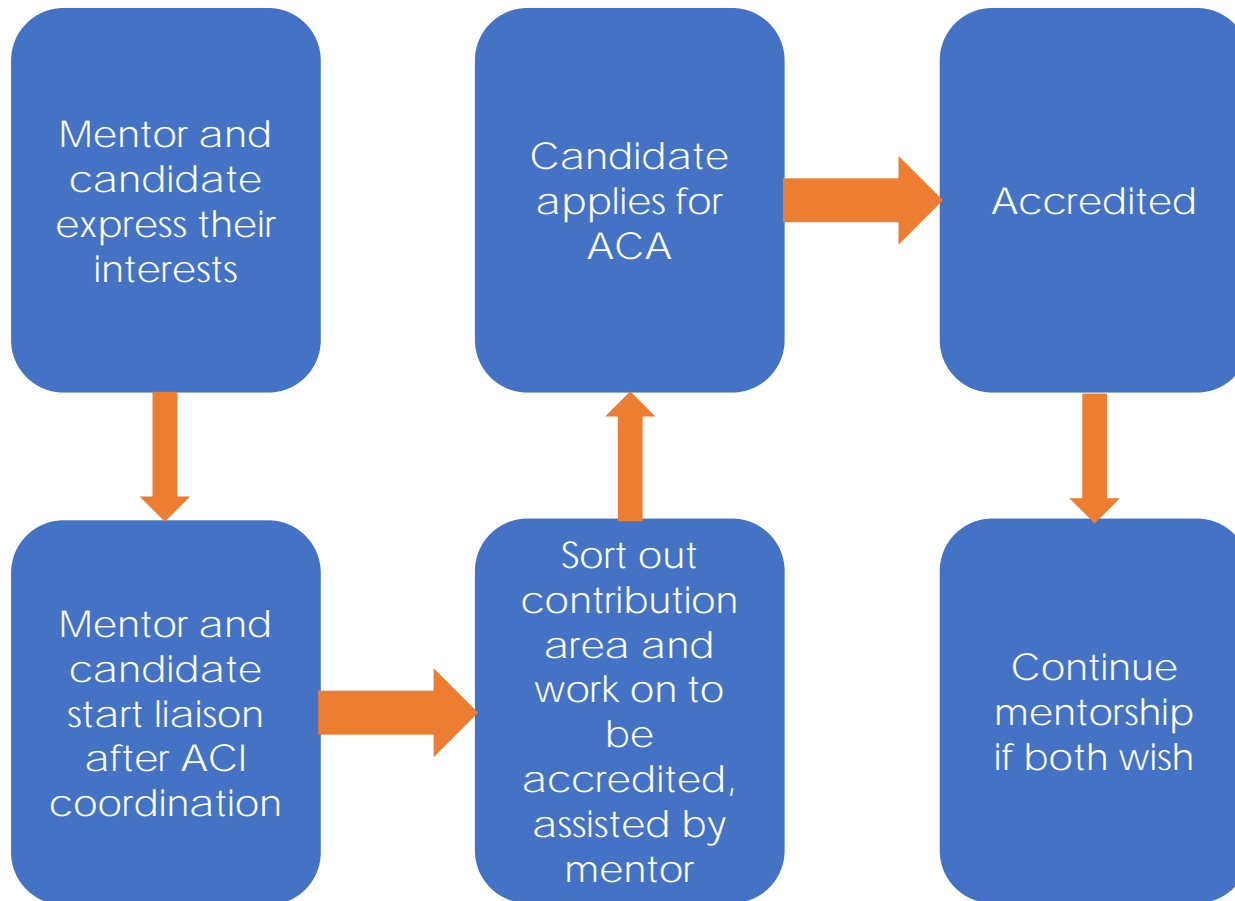
Key Performance Indicators	2017	
Airport Operator Carbon Intensity (t CO ₂ e/FTE)	38.7	(Scopes 1 and 2)
Airport Carbon Intensity (Scopes 1+2) (kg CO ₂ e/pax)	2.70	(Scopes 1 and 2)
Airport Carbon Intensity (Scopes 1+2) (kg CO ₂ e/TU)	2.23	(Scopes 1 and 2)
Airport Carbon Intensity (Scopes 1-3) (kg CO ₂ e/TU)	45.92	(Scopes 1, 2, 3)
Air Traffic Carbon Intensity (kg CO ₂ e/TU)	2.2	(Aircraft engine & APU)
Share of Airport Operator on total Emissions (%)	4.9%	(Scopes 1+2 on Total, before Off-setting)
Airport Intermodality Carbon Intensity (kg CO ₂ e/TU)	42.47	(All airport emissions without LTO and all ground access, per TU)

Electricity Reporting	2017
Airport Operator Electricity Use (incl renewables) MWh	1'850
Airport Tenant Electricity Use (incl renewables) MWh	2'750
Total Airport Electricity Consumption MWh	4'600
Electricity Self-Production (%)	40.2%
Total Airport Renewable Electricity (%)	4.7%

Historic Data	2013	2014	2015	2016
t CO ₂ e				
Scope 1	7'200	6'900	6'600	6'100
Scope 2	1'050	850	700	500
Scope 3	90'000	93'000	99'000	105'000
Total	98'250	100'750	106'300	111'600



AIRPORT CARBON ACCREDITATION MENTORSHIP PROGRAMME



THE MEETING IS INVITED TO:

- Recognize the efforts and contributions of airports in Asia-Pacific in combating climate change; and
- Encourage their aerodrome operators to adopt ACERT and voluntarily participate in *Airport Carbon Accreditation*; and
- Encourage States/Administrations interested in including supplemental benefits within their State Action Plans to consider using the *Airport Carbon Accreditation*; and
- support airport operators to implement their decarbonization strategies.

THE VOICE OF ASIA-PACIFIC AIRPORTS



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