ACI'S APPROCH TO AIRPORTS DECARBONIZATION

Sixth Meeting of the Aerodromes Operations and Planning Sub-Group (AOP/SG/6)

Video Teleconference, 27 to 30 June 2022

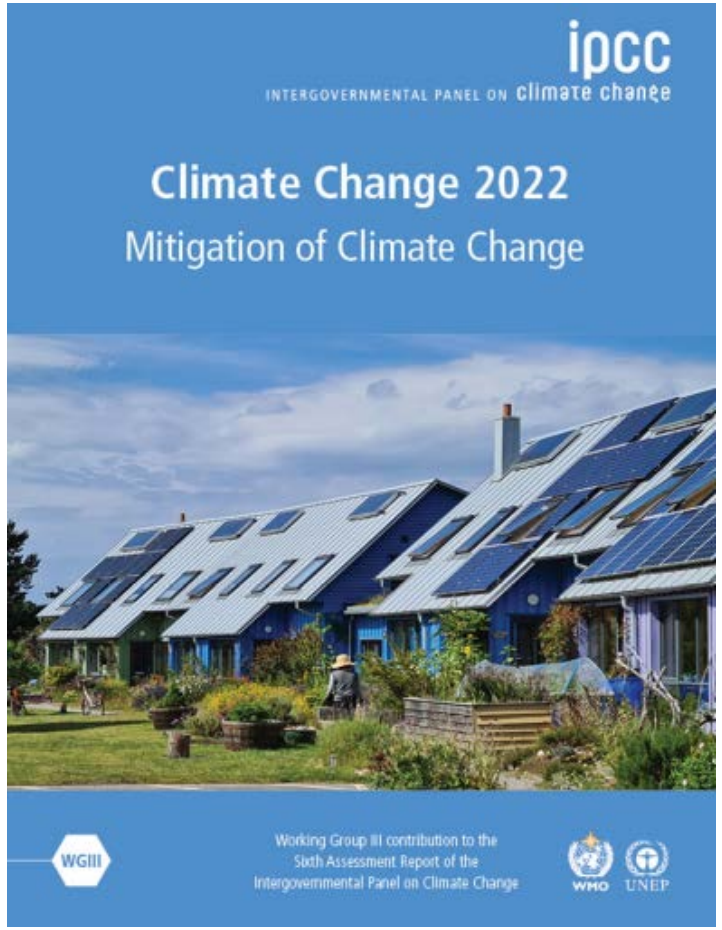
Ken LAU (Mr)
Senior Manager – Environment and Airport Information Technology
ACI Asia-Pacific (Airports Council International)

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."

COMMITMENT TO FLY NET ZERO 2050

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

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

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

UNFCCC

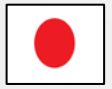
Achieved


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	Alice Springs Airport
Australia	Darwin International Airport
Australia	Sydney Airport ✈
Australia	Tennant Creek Airport
India	Indira Gandhi International Airport
India	Kempegowda International Airport
New Zealand	Auckland Airport ✈
New Zealand	Christchurch International Airport

in/before **2050**

Australia	Adelaide Airport
Australia	Brisbane Airport
Australia	Melbourne Airport
Cambodia	Phnom Penh International Airport
Cambodia	Siem Reap International Airport
Cambodia	Sihanouk International Airport
Fiji	Nadi International Airport
Hong Kong, China	Hong Kong International Airport
Japan	Chubu Centrair International Airport ✈
Japan	Kansai International Airport ✈
Japan	Kobe Airport ✈
Japan	Narita International Airport
Japan	Osaka International Airport ✈
Jordan	Queen Alia International Airport
New Zealand	Palmerston North Airport (2035)

23 Pledges

under ACI APAC membership

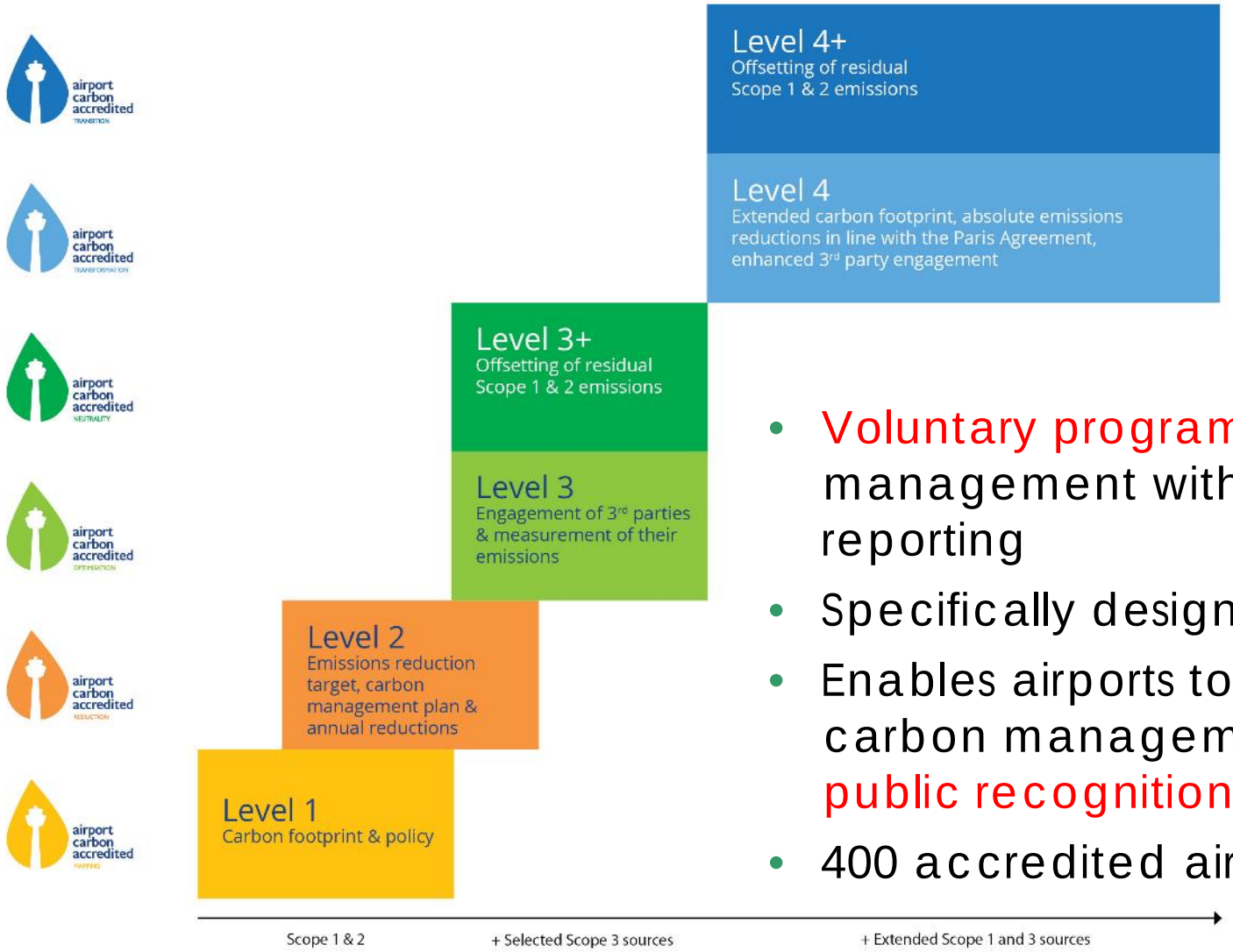
ACI ASIA-PACIFIC RESOLUTION AT ASSEMBLY MAY 2022

Resolve

- 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**

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

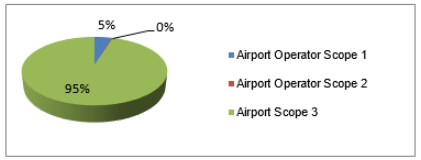
ACERT Version 6.0

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

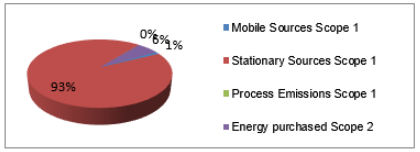
Identifier	ACI
Airport	Sample Regional Airport
Airport Operator	Airport Operator Ltd
Country	Iceland
ACI Region	Europe
Report Date	31.12.2017
ACA-Level	ACA Level 3+

Operational Data		2017
Passenger Movements		2'150'000
Aircraft Movements		26'000
Cargo (t)		45'000
Traffic Units (or WLU)		2'600'000
Airport Operator Staff (FTE)		150
Approximate total vehicle traffic	km/a	36'481'120

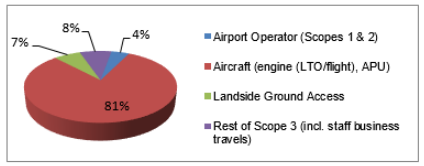
Greenhouse Gas Emissions		2017
Scope Break Down:		
Airport Operator Scope 1	(t CO2e)	5'469.7
Airport Operator Scope 2	(t CO2e)	335.5
Airport Scope 3	(t CO2e)	113'587.6
Total Gross Emissions	(t CO2e)	119'392.8
Offsets	(t CO2)	160.0
Total Net Emissions	(t CO2e)	119'232.8



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



Source Group Break Down:		
Airport Operator (Scopes 1 & 2)	(t CO2e)	5'805.2
Aircraft (engine (LTO/flight), APU)	(t CO2e)	103'274.9
Landside Ground Access	(t CO2e)	8'564.8
Rest of Scope 3 (incl. staff business travels)	(t CO2e)	10'316.6



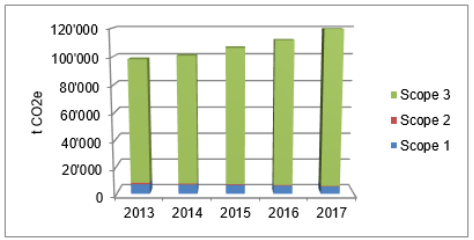
Airport Carbon Net-Zero or Neutrality Path		
Total required offsets (Scopes 1&2, Bus. Travel)	(t CO2e)	5'805.2
Airport Operator Carbon Offsets	(t CO2e)	160.0
Net-Zero (no offsets) or Neutrality achieved	%	2.8%

Key Performance Indicators		2017	
Airport Operator Carbon Intensity	(t CO2e/FTE)	38.7	(Scopes 1 and 2)
Airport Carbon Intensity (Scopes 1+2)	(kg CO2e/pax)	2.70	(Scopes 1 and 2)
Airport Carbon Intensity (Scopes 1+2)	(kg CO2e/TU)	2.23	(Scopes 1 and 2)
Airport Carbon Intensity (Scopes 1-3)	(kg CO2e/TU)	45.92	(Scopes 1, 2, 3)
Air Traffic Carbon Intensity	(kg CO2e/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 CO2e/TU)	42.47	(All airport emissions without LTO and all ground access, per TU)

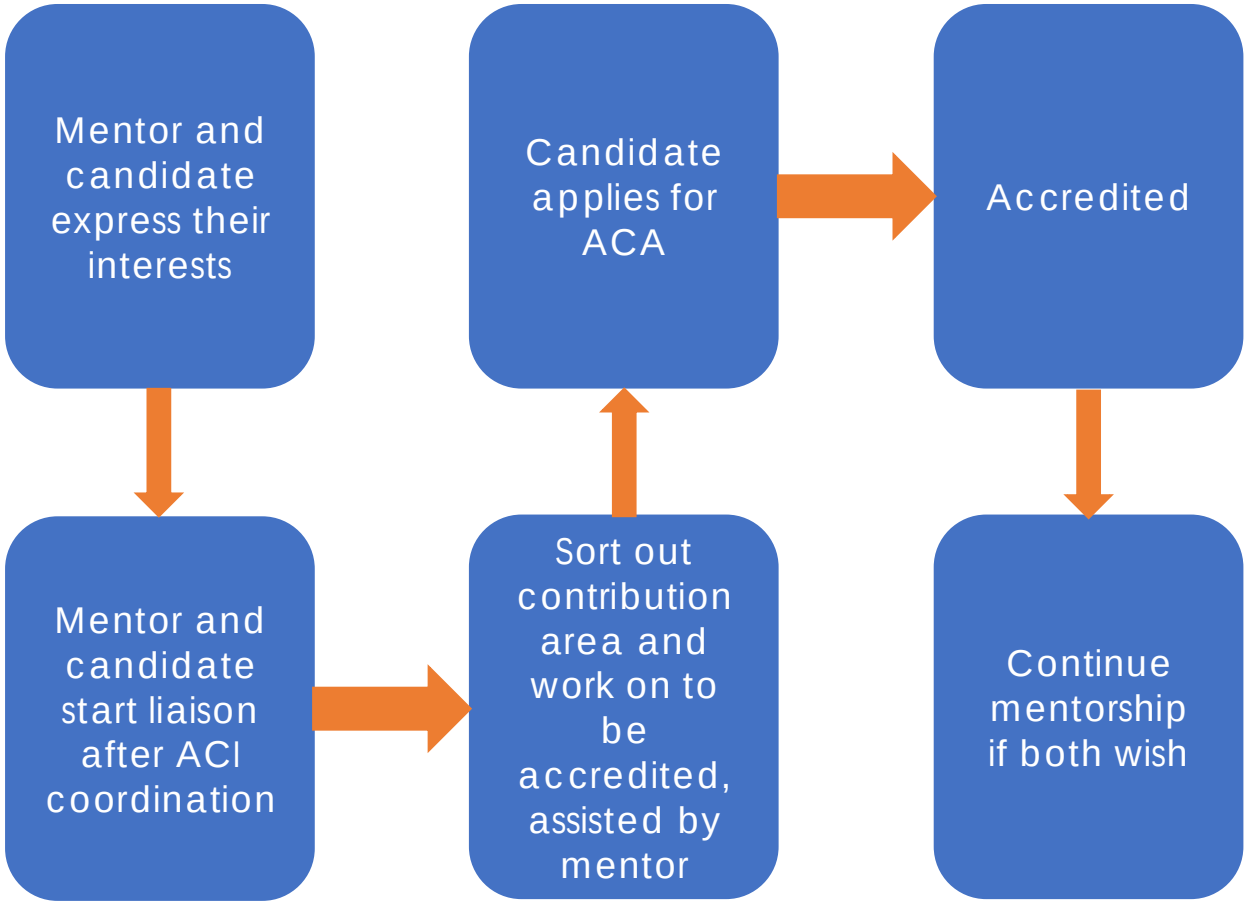
Electricity Reporting		2017
Airport Operator Electricity Use (incl renewables)	MWh	1'850
Airport Tenant Electricity Use (incl renewables)	MWh	2'750
Total Airport Electricity Consumption	MWh	4'600
Electricity Self-Production	%	40.2%
Total Airport Renewable Electricity	%	4.7%

Historic Data

t CO_{2e}	2013	2014	2015	2016
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



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

THE MEETING IS INVITED TO:

- Recognize the efforts and contributions of airports in Asia-Pacific in combating climate change; and
- Note the benefits of ACI Asia-Pacific Green Airports Recognition; and
- Encourage their aerodrome operators to adopt ACERT and voluntarily participate in Airport Carbon Accreditation.

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