

# Airports Responding to Climate Change



airport  
carbon  
accreditation

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# Introduction

Aviation and the global connectivity it enables is the life-blood of our modern-day world. The benefits and opportunities to societies, individuals and economies flowing from air connectivity have driven the industry's rise to one of the preferred modes of transport across all world regions.

At the same time, concern around the sector's impact on the climate has come to the fore of public debate in the recent years, making a case for deeper emission cuts and faster business transformation.

Airports, the visible face of aviation on the ground, are no strangers to effective CO<sub>2</sub> management. For over a decade they have been working collectively to address their emissions under the auspices of *Airport Carbon Accreditation*, yielding tangible carbon savings each year.

Building on this sterling track record and recognising the need for continuous improvement, the *Airport Carbon Accreditation* programme is now extending its framework to empower airports to raise the ambition of their CO<sub>2</sub> reduction targets and align them with global climate goals.

Discover the *Airport Carbon Accreditation* recipe for effective airport climate action on the following pages.

# 1. Why does airport climate action matter?

While responsible for the lesser share of emissions attributed to the aviation sector, airports can, and often do, act as catalysts for the management of emissions which are not within their direct control.

At the higher levels of accreditation, airports need to submit evidence of broad stakeholder engagement with climate mitigation efforts. These stakeholders include ground handlers, airlines, air traffic control, retail companies, food and beverage concessions and other business partners active within the premises of the airport and beyond.

With initiatives such as Airport Collaborative Decision Making (A-CDM), support for continuous descent operations and time-based separation, airports help to lower airline-associated carbon emissions. Furthermore, airports

are important partners for airlines and fuel suppliers in the deployment of Sustainable Aviation Fuels and are expected to play an essential part in providing the necessary infrastructure for aircraft powered by alternative energy sources (e.g. electric propulsion and hydrogen power) in the future.

Through the provision of better intermodal access offered to passengers – such as charging stations for private electric vehicles, electric or hybrid taxis, reliable and affordable railway connections – the emissions from transport to/from the airport can also be lowered.

As such, airports are ideally placed to become the nucleus of climate action for the air transport sector. Often the first step to start this process is getting on board with *Airport Carbon Accreditation*.



**Solar power plant at La Réunion  
Roland Garros Airport.** © Hervé Douris

## 2. What is *Airport Carbon Accreditation?*



A row of electric baggage handling tractors being charged at Singapore Changi Airport

*Airport Carbon Accreditation* is the only institutionally-endorsed, global carbon management certification programme for airports. It independently assesses and recognises the efforts of airports to manage and reduce their carbon emissions through 6 levels of certification: **'Mapping'**, **'Reduction'**, **'Optimisation'**, **'Neutrality'**, **'Transformation'** and **'Transition'**.

Through its 6 levels of certification, *Airport Carbon Accreditation* acknowledges that airports are at different stages in their journey towards comprehensive carbon management. It is a programme for airports of all sizes, extending even beyond hubs and regional airports with scheduled passenger traffic, to include general aviation and freight-focused airports.

*Airport Carbon Accreditation* is also the only global, airport-specific carbon standard which relies on internationally recognised methodologies. It provides airports with

a common framework for active carbon management with measurable goalposts. The programme is site-specific allowing flexibility to take account of national or local legal requirements, whilst ensuring that the methodology used is always robust.

*Airport Carbon Accreditation* strives to enable the airport industry to effectively reduce its carbon footprint, to benefit from increased efficiency through lowered energy consumption, shared expertise and knowledge exchange, as well as better communication of the results. The considerable number of airports certified at each level of the programme signifies clearly that regardless of size or geography, these airports are leading the way, actively lowering aviation's carbon footprint on the ground.

**Discover the latest participation figures and the yearly CO<sub>2</sub> reduction results on [www.airportco2.org](http://www.airportco2.org).**



## Going Global

**June 2009**  
First launched  
by ACI EUROPE

**November 2011**  
Extended to ACI  
Asia-Pacific

**June 2013**  
Extended to ACI  
Africa

**September 2014**  
Extended to ACI  
North America

**November 2014**  
Extended to ACI  
Latin America and  
the Caribbean

# 3. How is Airport Carbon Accreditation governed?

## How is Airport Carbon Accreditation governed?



### ACI

ACI EUROPE has the overall responsibility for *Airport Carbon Accreditation*, and manages it in close cooperation with the other ACI regions and support by ACI World.



### ADMINISTRATOR

The independent programme Administrator guides airports through the application process (i.e., help desk service), reviews and approves accreditations and oversees the appointment and training of verifiers. The environmental consultancy WSP serves as the programme's Administrator.



### TASK FORCE

A technical Task Force meets twice a year to review technical issues, make recommendations and overall ensure that the programme is aligned with international standards and developments, as well as the evolving airport needs. The Task Force is comprised of airport environmental representatives from selected accredited airports, ACI regional representatives and the Administrator.

### ADVISORY BOARD

An independent Advisory Board determines policy direction, oversees the programme's development and encourages external recognition. The Advisory Board is comprised of institutional representatives from the fields of aviation and the environment including:

- Eurocontrol
- European Commission, Directorate General Climate Action
- European Commission, Directorate General Mobility and Transport
- Federal Aviation Administration of the United States
- European Civil Aviation Conference
- International Civil Aviation Organisation (Focal Point)
- Manchester Metropolitan University
- United Nations Framework Convention on Climate Change
- Aviation Environment Federation (Director in his personal capacity)



Manchester Metropolitan University





## 4. Why apply?

The airport is a uniquely complex space, typically welcoming millions of passengers, thousands of vehicles and hosting hundreds of companies. *Airport Carbon Accreditation* has been developed specifically for airports seeking to address their carbon emissions and become more efficient. Accredited airports across the world have developed a wide range of activities to reduce carbon emissions linked to airport operations. These emissions mainly stem from energy use in airport buildings and infrastructure, airside vehicles, aircraft ground movements and energy consumption and refrigerants.

By becoming *Airport Carbon Accredited*, an airport benefits in many ways including:

- Achievement of real, verified emissions reductions
- Data collection and verification, which ensures that a clear understanding of emissions at the airport is developed, enabling the airport to identify priority areas for emissions reduction
- Enhanced dialogue between different airport departments on issues relating to CO<sub>2</sub> emissions
- Substantiated endorsement in the public domain of the airport's achievements
- Improved emissions performance and operational/cost efficiencies not only for the airport itself, but also for third parties responsible for emissions sources at the airport
- Increased shareholder value, brand reputation and stakeholder support
- Alignment with the global climate goals



**London Heathrow Airport is pioneering peatland restoration in the UK.**

# 5. Six levels of accreditation



**Level 2**  
Managing and reducing footprint



**Level 3**  
Engaging others and measuring their emissions



**Level 4**  
Extending carbon footprint, absolute emissions reductions in line with the Paris Agreement, enhancing 3<sup>rd</sup> party engagement



**Level 1**  
Carbon footprint



**Level 3+**  
Offsetting residual scope 1 and 2 emissions



**Level 4+**  
Offsetting residual scope 1 and 2 emissions

## Level 1: Mapping



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MAPPING

### What is it?

Becoming *Airport Carbon Accredited* at the Mapping level requires carbon footprint measurement.

### How to achieve it:

To achieve this level of accreditation, an airport has to:

- Determine its 'organisational boundary' and the emissions sources within that boundary which are Scope 1 and Scope 2 sources, as defined by the Greenhouse Gas Protocol
- Provide written evidence of policy commitment to emissions reduction by the top management at the airport
- Collect data and calculate the annual carbon emissions for the previous year
- Compile a carbon footprint report

## Level 2: Reduction



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carbon  
accredited**  
REDUCTION

### What is it?

Becoming *Airport Carbon Accredited* at the Reduction level requires the definition of a carbon management plan and progress towards a reduced carbon footprint.

### How to achieve it:

To achieve this level of accreditation, an airport has to:

- Fulfill all the requirements of Mapping
- Provide evidence of effective carbon management procedures including target setting, and
- Demonstrate a reduction in Scope 1 and 2 CO<sub>2</sub> emissions against a 3 year rolling average



**Solar power installation set for auto-consumption at María Montez International Airport, operated by AERODOM/ VINCI Airports.**

### Level 3: Optimisation



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accredited**  
OPTIMISATION

#### What is it?

Becoming *Airport Carbon Accredited* at the Optimisation level requires third-party engagement in carbon footprint reduction. Third parties include airlines and various service providers, for example, independent ground handlers, catering companies, air traffic control and others working on the airport site. This level also includes engagement on surface access modes (such as road and rail), with authorities and with users.

#### How to achieve it:

To achieve this level of accreditation, an airport has to:

- Fulfill all the requirements of Mapping and Reduction
- Widen the scope of its carbon footprint to include a range of Scope 3 emissions
- Present evidence of engagement with third-party operators to reduce the above emissions

### Level 4: Transformation



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carbon  
accredited**  
TRANSFORMATION

#### What is it?

The achievement of level 4 represents a step change in the carbon management of an airport, as the airport will have to define a long-term carbon management strategy oriented towards absolute emissions reductions.

#### How to achieve it:

To achieve this level of accreditation, an airport has to:

- Compile an extended carbon footprint (for Scope 1 and 3)
- Formulate a long-term, absolute emissions reduction target, aligned with the 1.5°C pathway or the 2°C pathway outlined by the Intergovernmental Panel on Climate Change (IPCC)
- Define the steps to achieve this target and the interim milestones to measure its progress
- Demonstrate evidence of actively driving third parties towards delivering emissions reductions

## Level 3+: Neutrality and Level 4+: Transition



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NEUTRALITY



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carbon  
accredited**  
TRANSITION

### What is it?

Becoming *Airport Carbon Accredited* at the Neutrality or Transition levels requires that the airport company compensates for the remaining carbon emissions under its control that cannot be further reduced, by offsetting.

### How to achieve level 3+ 'Neutrality':

To achieve this level of accreditation, an airport has to:

- Fulfill all requirements of Mapping, Reduction and Optimisation, and
- Offset its residual carbon emissions over which the airport has control, using internationally recognised offsets.
- Compile a carbon footprint report

### How to achieve level 4+ 'Transition':

- Fulfill all requirements of Transformation, and
- Offset the residual carbon emissions over which the airport has control, using internationally recognised offsets.

### More information

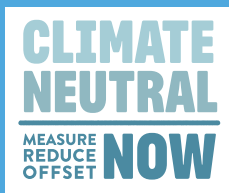
Airports, along with many other industries, look to carbon offsetting as the interim stage of the process of decarbonisation. Carbon offsetting is providing funds to other projects that reduce carbon dioxide so as to compensate for the emissions that one is not able to eliminate at present. The *Airport Carbon Accreditation* Offsetting Manual outlines requirements and recommendations ensuring that airports opting to compensate for their emissions do so responsibly, in the most informed way.



**San Francisco International Airport deploys its first all-electric zero-emission bus fleet.**

## 6. Official endorsements and Advisory Board

From the very beginning, the programme has enjoyed the patronage of the European Civil Aviation Conference (ECAC) and the European Organisation for the Safety of Air Navigation (EUROCONTROL). At the COP21 climate change negotiations in Paris (December 2015), the United Nations Framework Convention on Climate Change (UNFCCC) and ACI also signed a partnership to further promote climate action by airports through *Airport Carbon Accreditation*. ACI is supporting the UNFCCC Climate Neutral Now campaign.



### Independent Expert Advisory Board:

The administration of *Airport Carbon Accreditation* is overseen by an independent Advisory Board, with participation from institutions that have endorsed the programme, as well as representatives from other relevant organisations which have expressed support or an interest in the programme. The members of the Advisory Board play an active role in monitoring the progress of *Airport Carbon Accreditation*.

The Advisory Board is comprised of many distinguished, independent experts from the fields of aviation and environment, including:

- **Mr Eamonn Brennan**, Director General, EUROCONTROL
- **Mr Damien Meadows**, Advisor on European and International Carbon Markets, DG Climate Action, European Commission
- **Mr Filip Cornelis**, Director Aviation, DG MOVE Directorate E, European Commission
- **Mr Niclas Svenningsen**, Manager, Global Climate Action, United Nations Framework Convention on Climate Change (UNFCCC)
- Focal Point: **Ms Jane Hupe**, Deputy Director, Environment, International Civil Aviation Organization (ICAO)
- **Mr Christopher Paling**, Senior Lecturer, Centre for Aviation, Transport and Environment, Manchester Metropolitan University (MMU)
- **Mr Tim Johnson**, Director, Aviation Environment Federation, UK (in his personal capacity)
- **Mr Patrick Gandil**, Direction Générale de l'Aviation Civile (DGAC), Focal Point for Environment, European Civil Aviation Conference (ECAC)
- US FAA Technical Liaison: **Dr Thomas Cuddy**, Environmental Specialist, Federal Aviation Administration of the United States (FAA)



**Sir Seewosagur Ramgoolam International Airport in Mauritius is actively reducing its emissions at level 2 of the programme.**

## 7. Institutional support for *Airport Carbon Accreditation*

“*Airport Carbon Accreditation* is a proven, successful process for airports to assess their performance, identify efficiencies and improvements, and pursue a full range of economic, environmental, social, and operational sustainability. The growing community of accredited airports worldwide proves that the aviation industry is environmentally conscious and in terms of carbon management, is an example to follow for other industries.”

**Dr Thomas Cuddy**

Environmental Specialist, US FAA  
(Federal Aviation Administration of the United States)

“The recovery of European aviation goes hand in hand with ambitious measures to address the sector’s environmental footprint. The bold vision and determination shown by the airport industry through their *Airport Carbon Accreditation* programme is a standard striving for tangible solutions whose further take-up by airports around Europe I can only encourage. This collective, industry-led voluntary effort is making a measurable difference, delivering effective carbon savings each year. It also serves as a powerful catalyst to bring forward the efforts of the wider aviation sector. More than ten years into the programme, accredited airports are ensuring their businesses can emerge from the crisis actively accelerating the transition to cleaner, safer and more sustainable air transport.”

**Adina-Ioana Vălean,**

EU Commissioner for Transport

“To achieve the deep transformation needed for sustainable development and stabilization of global temperature, we must require commitments and participation from all sectors and levels of society. Airports have been severely hit by the Covid-19 crisis and yet, they are continuing their efforts to map and reduce their CO<sub>2</sub> emissions year by year, as well as to engage their business partners in this endeavour. The programme went even further this year by introducing two new more ambitious levels, aligned with global climate goals. This is encouraging. I commend airports for this leadership; a signal that can set an example for others to follow with ambitious climate action.”

**Patricia Espinosa,**

Executive Secretary, UNFCCC  
(United Nations Framework  
Convention on Climate Change)



“ I welcome the initiative by ACI Europe, and taken up by its regional partners, for airports to be proactively addressing and reducing their carbon emissions. It is an outstanding bottom-up action from within a sector that is only becoming more visible in terms of its impacts on climate change, and airports are acting to contribute to reduce the aviation’s total climate impacts. By airports working their way up through multiple levels of certification, *Airport Carbon Accreditation* brings together their individual efforts and leads to significant actual emissions reduction collectively. With airports playing host to so many other companies, the last years have shown that the programme has a leadership effect, as airlines, air traffic controllers, retailers, passengers and surface transport also get involved to lower their CO<sub>2</sub> emissions on the airport site. I congratulate ACI on the momentum they have achieved with this – a credible industry-led climate change initiative that began here in Europe has expanded to bring broad action from airports around the globe.”

**Mauro Petriccione**  
Director-General, DG CLIMA  
European Commission

“ *Airport Carbon Accreditation* is a highly significant initiative by airports for meaningful and measurable action in addressing their greenhouse gas emissions. I commend ACI for its success with the programme, in line with ICAO’s global strategy for dealing with climate change.”

**Dr Fang Liu**  
Secretary General, ICAO  
(International Civil Aviation  
Organization)



**Schiphol and its partners started an aircraft sustainable taxiing trial.**

## 8. How to become *Airport Carbon Accredited*

Any airport wishing to apply to the programme should have a continued dialogue with the *Airport Carbon Accreditation* Administrator, WSP, to ensure that information is prepared correctly and in line with the minimum *Airport Carbon Accreditation* requirements.

- Access up-to-date technical manuals and guidance on [www.airportcarbonaccreditation.org](http://www.airportcarbonaccreditation.org)
- Decide on level of certification based on carbon management activity at airport
- Collate data and prepare documentary evidence to support application
- Identify an independent third party verifier to verify data and supporting documentary evidence
- Contact *Airport Carbon Accreditation* Administrator at [aca@wsp.com](mailto:aca@wsp.com) to make your formal application

*Airport Carbon Accreditation* has an online tool specifically designed to make the application more cost effective, less time consuming for airports, and allows for online registration and application to the programme. The tool is readily accessible at: [www.aca-application.org](http://www.aca-application.org).



**100% electric, 0% emissions vehicle fleet at Adelaide Airport.**

# 9. Independent verification - key principles



As part of the *Airport Carbon Accreditation* application process, each airport's carbon footprint must be independently verified before its full review by the programme Administrator.

## **Who can verify?**

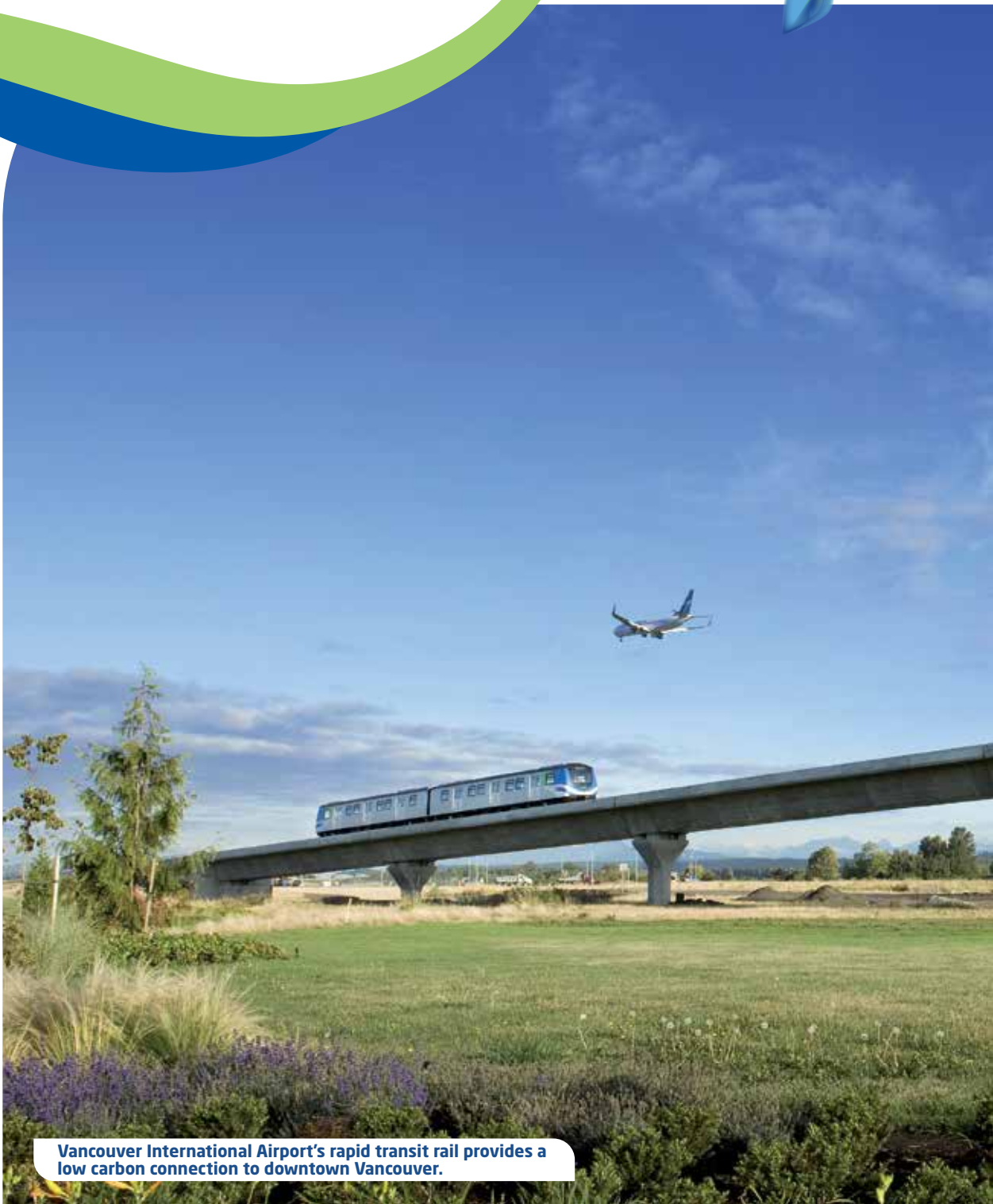
Any potential verifier has to comply with specific requirements set by the programme Administrator, follow a dedicated training and pass the associated online written examination. For Level 4 and 4+ verifications, specific requirements apply.

Eligible verifiers are typically individual environmental specialists with an appropriate track record of verification, or individuals employed by:

- Nationally accredited certification bodies
- An environmental consultancy or accountancy firm offering validation and verification services as part of their business portfolio
- Organisations that already report on an airport's behalf (financial reporting / ISO / EMAS certification)

The up-to-date list of approved verifiers is available on [www.airportcarbonaccreditation.org](http://www.airportcarbonaccreditation.org).

# 10. Recognition



**Vancouver International Airport's rapid transit rail provides a low carbon connection to downtown Vancouver.**

In 2013, the programme was **ranked in the top three in “A World You Like”** – a competition in which businesses, NGOs and local authorities were recognised for their efforts to build a low carbon economy. This initiative, launched by European Commission’s Directorate-General for Climate Action, placed *Airport Carbon Accreditation* at the very top of innovative carbon management projects in the Transport & Tourism category.

In May 2014, the airport industry’s efforts to address its carbon emissions **received the Highly Commended prize** at the annual global International Transport Forum (ITF) Awards issued by the Organisation for Economic Cooperation and Development (OECD).

Only a year later, in June 2015, the animation “Life is about Movement”, created to highlight the essence of the programme, was **awarded the Gold Totem prize** in the “Businesses & Eco-Performances” category at the 4th Deauville Green Awards 2015.

In 2016 and 2019, *Airport Carbon Accreditation* was **featured in the first two editions of the European Aviation Environmental Report**, published by the European Commission, as one of the innovative initiatives of the airport industry to tackle environmental challenges. *Airport Carbon Accreditation* has also been **featured in ITF Transport Outlook 2017**, an authoritative publication by the International Transport Forum of the Organisation for Economic Cooperation and Development (OCDE).

*Airport Carbon Accreditation* was **included as the only case study from the transport sector** in the 2018 edition of the United Nations Framework Convention on Climate Change (UNFCCC) **Global Climate Action Yearbook**.

In 2019 the **ICAO Environmental Report “Destination Green: The Next Chapter”** dedicated a chapter to *Airport Carbon Accreditation* as an enabler of airport carbon management.



# 11. Who's behind it?



## **About ACI EUROPE** *(Launched Airport Carbon Accreditation in 2009)*

ACI EUROPE is the European region of Airports Council International (ACI), the only worldwide professional association of airport operators. Based in Brussels, Belgium, ACI EUROPE represents over 500 airports in 46 European countries. Their members facilitate over 90% of commercial air traffic in Europe: 2.5 billion passengers, 20.7 million tonnes of freight and 25.7 million aircraft movements in 2019. In response to the Climate Emergency, in June 2019 ACI EUROPE's members committed to achieve Net Zero carbon emissions for operations under their control by 2050, without offsetting.

[www.aci-europe.org](http://www.aci-europe.org)



## **About ACI Asia-Pacific** *(Joined the Accreditation programme in November 2011)*

ACI Asia-Pacific, one of the five regions of the Airports Council International (ACI), is based in Hong Kong and represents 114 members operating 603 airports in 49 countries/ territories in Asia-Pacific and the Middle-East. In 2019, ACI Asia-Pacific airports handled 3.8 billion passengers and 55.8 million tonnes of cargo. [www.aci-asiapac.aero](http://www.aci-asiapac.aero)



## **About ACI Africa** *(Joined the Accreditation programme in June 2013)*

ACI Africa is the international association of African airports and was established as a region of ACI in 1991 in conformity with ACI World Statutes. ACI Africa is self-governing under its own Statutes and internal procedures. ACI Africa, the Voice of African Airports, has as its prime objective the advancement of African airports' interests and the promotion of professional excellence in airport management and operations on the African continent with the support of ACI World.

As of end March 2020, ACI Africa is composed of 67 members from 53 countries managing more than 260 airports and of 44 business partners. In 2019, ACI Africa member airports handled 228 million passengers and 2.52 million metric tons of cargo. [www.aci-africa.aero](http://www.aci-africa.aero)



### **About ACI-NA** *(Joined the Accreditation programme in September 2014)*

Airports Council International-North America (ACI-NA) represents local, regional, and state governing bodies that own and operate commercial airports in the United States and Canada. ACI-NA member airports enplane more than 95 percent of the domestic and virtually all the international airline passenger and cargo traffic in North America. Approximately 380 aviation-related businesses are also members of ACI-NA, providing goods and services to airports. Collectively, U.S. airports support more than 11.5 million jobs and account for \$1.4 trillion in economic activity – or more than seven percent of the total U.S. GDP. Canadian airports support 405,000 jobs and contribute C\$35 billion to Canada's GDP. [www.airportscouncil.org](http://www.airportscouncil.org)



### **About ACI-LAC** *(Joined the Accreditation programme in November 2014)*

ACI Latin America-Caribbean (ACI-LAC) represents the interests of airport operators in Latin American and the Caribbean. Founded in 1991, its primary objective is to promote cooperation among airport members and other air transport and civil aviation industry stakeholders. Through this cooperation, ACI-LAC provides support for a secure, stable, efficient and environmentally sustainable airport system. Currently, ACI-LAC has over 70 members operating more than 250 airports in 37 countries and territories from the Latin American and Caribbean region. [www.aci-lac.aero](http://www.aci-lac.aero)

With the support  
of ACI World:



### **About WSP**

WSP is the sole accreditation body of *Airport Carbon Accreditation* and also acts as the programme's independent Administrator. As such, it accredits the airports under the programme, approves and trains the third party verifiers, provides administrative and secretariat services and advises applicant airports through the accreditation process.

WSP is one of the world's leading professional services firms. It provides technical and engineering expertise and strategic advice, as well as services to transform the built environment, and restore the natural one, in areas such as environmental and climate remediation, urban and transport planning, sustainable transport networks and strategies, airport sustainability, carbon management and energy planning and management. [www.wsp.com](http://www.wsp.com)

To find out more about  
*Airport Carbon Accreditation*,  
including an up-to-the-minute list of participating airports,  
please visit our website at:

**[www.airportcarbonaccreditation.org](http://www.airportcarbonaccreditation.org)**  
**[www.airportco2.org](http://www.airportco2.org)**

For application and technical queries,  
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or Email: **[aca@wsp.com](mailto:aca@wsp.com)**

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