

# ANNUAL REPORT

2011-2012

June 2012



airport  
carbon  
accreditation

MAPPING | REDUCTION | OPTIMISATION | NEUTRALITY



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## Preface

**We are pleased to release the third edition of the Airport Carbon Accreditation Annual Report, which documents airports' activities to better manage and reduce their CO<sub>2</sub> emissions during the third year of operation of Airport Carbon Accreditation.**

Over the course of 'Year 3', which ended in May 2012, **Airport Carbon Accreditation** has built on the successes of its accredited airports, with a total of 59 European airports now accredited representing 52.8% of European air traffic, or over 780 million passengers.

Also, Year 3 was marked by the accreditation of the first four airports in the Asia-Pacific Region of ACI. Representing over 100 million passengers at these four sites alone, 6% of the Asia-Pacific region's traffic is already passing through **Airport Carbon Accredited** airports.

Altogether, these accreditations represent 17% of worldwide passenger traffic.

This report outlines some of the background to the development of **Airport Carbon Accreditation**, the programme requirements and the benefits of participation. It also presents data on the aggregate emissions of accredited airports, and showcases examples of best practice in the field of carbon management alongside airports' experiences of the accreditation process. The latter sections of the report also summarise some of the key issues that have been addressed during the year to ensure that **Airport Carbon Accreditation** adapts to the needs of airports, whilst at the same time reflects current conventions in greenhouse gas emissions reporting.

Our vision for the future is that as participation in the **Airport Carbon Accreditation** increases over time, this report will become essential reading for all in the airport community concerned to set best practice in the management and reduction of their carbon emissions.

This report was prepared by the **Airport Carbon Accreditation** Administrator (WSP Environment and Energy) and was reviewed and approved by the **Airport Carbon Accreditation** Advisory Board on 11 May 2012.

Olivier Jankovec, Director General, ACI EUROPE: *"Year Three of **Airport Carbon Accreditation** has seen several landmark moments which have really demonstrated the value of the programme. We now have 59 airports in Europe, welcoming nearly 800 million passengers each year. Our expansion to Asia-Pacific is already an ambitious first step, which we hope will ultimately lead to the programme becoming available to airports worldwide at some point. The fact that we have secured ICAO's support is a real vindication of the hard work that has gone into **Airport Carbon Accreditation** and the global reach we are striving for. This past year has seen us achieve a total reduction of 414,128 tonnes of CO<sub>2</sub>. For the year ahead, the pursuit of new efficiencies will continue and various airport groups now have significant strategies to address their CO<sub>2</sub> emissions in increasingly innovative ways. We look forward to sharing the latest developments with you, as they happen."*

# 1 Introduction

## 1.1 Background to the development of Airport Carbon Accreditation

ACI EUROPE and ACI Asia-Pacific are working to assist their member airports to assess and reduce their carbon footprint. **Airport Carbon Accreditation** enables airports to implement carbon management processes and gain public recognition of their achievements through the attainment of accreditation at different levels of participation.

The entry point to the programme recognises that an airport is quantifying and verifying its carbon footprint, and that senior management has made a high level policy commitment to the reduction of carbon emissions. The highest level of participation is designed for airports that have achieved carbon neutrality by reducing emissions as a priority and have offset residual emissions.

**Airport Carbon Accreditation** is an independent programme administered by WSP Environment & Energy, an international consultancy appointed by ACI EUROPE to enforce the accreditation criteria for airports and report on programme developments on an annual basis.

This report provides: a summary of the requirements for, and benefits of, participation in **Airport Carbon Accreditation**; an overview of participation in Year 3 of the programme, including aggregate emissions data and case studies of airports' emissions reduction activities; an overview of upcoming issues during Year 4; and a look towards the future.

## 1.2 Aims of the Airport Carbon Accreditation Programme

**Airport Carbon Accreditation** has been developed to assess and recognise airport efforts to manage and reduce their greenhouse gas emissions. The programme is intended to set an example of corporate leadership and responsible business practice. It is the only airport industry specific, performance-based, voluntary, pan-European and Asia Pacific institutionally endorsed certification programme and accreditation standard. It is hoped that as more airports become **Airport Carbon Accredited**, the programme will increasingly:

- Provide a framework under which airports can reduce their climate change impacts and improve operational performance, not only for emissions sources under their direct control but also through co-operation with other stakeholders in the aviation industry with the aim of achieving further emissions reductions.
- Incentivise the development of management practices that support the principles of carbon neutrality and best practice in carbon management in line with ACI EUROPE and ACI Asia-Pacific policy goals.
- Provide recognition of improved performance in carbon and energy management, and real reductions in emissions through the attainment of accreditation at different levels.
- Enable airports to gain public recognition of their achievements, notably from the regulatory and environmental communities, both on an individual and collective basis.



## 1.3 Airport Carbon Accreditation Participation Requirements

**Airport Carbon Accreditation** acknowledges that airports are at a number of different points on their journey towards comprehensive carbon management and carbon neutrality. The step-by-step process encourages airports to reduce their carbon emissions with the ultimate goal of carbon neutral operations.

The four levels of **mapping, reduction, optimisation** and **neutrality** provide airports with a common framework within which to focus their efforts, depending on the existing experience of carbon inventory preparation and management.

Reporting standards are based on established greenhouse gas accounting methodologies, such as the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) Greenhouse Gas Protocol, as well as airport specific standards such as the International Civil Aviation Organisation's (ICAO) definition of the Landing-Take Off cycle and other airport specific guidance in carbon footprinting and management.

Airports must have carbon footprints independently verified in accordance with ISO14064, for which evidence must be provided to the **Airport Carbon Accreditation** Administrator. All claims regarding carbon management processes must also be independently verified.

## To become Airport Carbon Accredited, an airport must fulfill the following criteria at each level



### 1 MAPPING

Determine its 'operational boundary' and the emissions sources within that boundary which are Scope 1 and Scope 2 sources.

Collect data and calculate the annual carbon emissions for the previous year for those sources.

Compile a carbon footprint report.

Engage an independent third party to verify the report before submission, to ensure that the carbon footprint calculation is in accordance with ISO14064 and accreditation requirements.

Demonstrate evidence of policy commitment to emissions reduction that is signed off at the highest management level at the airport.



### 2 REDUCTION

Fulfil all the requirements of 'Mapping'.

Demonstrate evidence of the implementation of a carbon management plan at the airport that includes the following:

- a senior committee or body has responsibility for climate change/carbon/energy matters;
- communication on emissions performance to relevant stakeholders;
- procedures for preparing and checking an accurate carbon footprint;
- monitoring consumption of fuel and energy;
- development of carbon/energy reduction targets;
- programmes or control mechanisms to ensure operations minimise emissions;
- consideration of the emissions impact of investments;
- awareness training on emissions for staff; and
- a process of self assessment & auditing to monitor progress of improvement delivery.

Demonstrate a reduction in CO<sub>2</sub> against a rolling three year average of scope 1 & 2 emissions.



### 3 OPTIMISATION

Fulfil all the requirements of 'Mapping' and 'Reduction'

Widen the scope of its carbon footprint to include a range of Scope 3 emissions including:

- landing and take-off cycle emissions;
- surface access to the airport for passengers and staff;
- staff business travel emissions; and
- any other Scope 3 emissions which the airport chooses to include.

Demonstrate evidence of stakeholder engagement with third parties in order to reduce emissions from scope 3 sources that the airport can guide and influence. Required evidence of stakeholder engagement includes:

- identification and categorisation of stakeholders the airport can guide and influence;
- allocation of clear roles and responsibilities for engaging with stakeholders and facilitating partnerships;
- details of communications and training provided to stakeholders; and
- a clear implementation plan of the intended approach to engaging with stakeholders including proposed actions and timings.



### 4 NEUTRALITY

Fulfil all the requirements of 'Mapping', 'Reduction' and 'Optimisation'

Offset emissions from those sources over which it has direct control, using internationally recognised offsets.



## 1.4 The benefits of participation

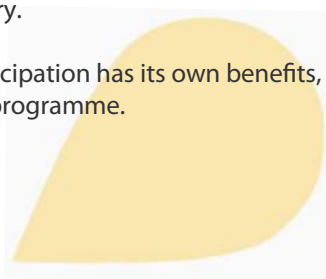
In order to achieve the goals above, there must be a clear business case for airports to participate in the programme. Furthermore, there must be an incentive for airports to progress through the different levels of **Airport Carbon Accreditation** in order to show that carbon management and collaboration with stakeholders on emissions management is being embedded across the industry.

It is difficult to provide generic quantitative information on the benefits of participation, as much of this information is of a commercially sensitive nature to airports. Information specific to individual airports is available in the 'case studies' section of this report. However, there is no comprehensive qualitative overview of the benefits of participation.

In the inaugural **Airport Carbon Accreditation** Annual Report published in June 2010, a list of benefits of participation was provided based on feedback obtained from airports and in consultation with the **Airport Carbon Accreditation** Advisory Board. These benefits included:

- Supporting the sustainability of future growth.
- Helping to deliver significant financial benefits through the implementation of measures to improve energy efficiency.
- Provision of a vehicle for the exchange of information and development of best practice.
- Increasing the airport's public profile and credibility, whilst also contributing positively to the public reputation of the airport industry.

In addition to the above, each level of participation has its own benefits, which have been demonstrated over the three years of the programme.





## Benefits of participation at level 1

Data collation and verification ensures that a clear understanding of emissions sources at the airport is developed, enabling the airport to identify priority areas for emissions reduction.

Carbon data provides detailed information to support the development of the business case for emissions reduction initiatives for sources under the airport's direct control.

Exercise promotes dialogue between airport personnel and departments on issues relating to CO<sub>2</sub> emissions.

Sends an early signal that the airport is addressing the climate change agenda, largely as set by third parties, which is enhanced by the high level policy commitment to emissions reduction.

## Benefits of participation at level 2

Adoption of a systematic approach to carbon management at the airport ensures that information and data flows are managed in an efficient way.

Improved airport performance through operational cost savings from energy efficiency measures, enhanced controls and new plant and equipment.

Achievement of real, verified emissions reductions gives further credibility to claims made by the airport in the public domain.

Supports dialogue with stakeholders on reduction in emissions from sources that an airport can guide and influence.

## Benefits of participation at level 3 / 3+

Collaborative engagement with stakeholders helps an airport and its stakeholders move beyond compliance towards a more strategic and comprehensive approach to carbon management.

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.

Aligns airport with wider requirements for emissions reduction that may exist due to local planning conditions, thus supporting airport growth objectives.

Differentiates the airport as a leader in the field of carbon management, by generating an enhanced public image and improved community relations.

Reduced regulatory and litigation risks and enhanced planning and regulatory approvals.

Increased shareholder value, brand reputation and stakeholder support.

Airport sets its own carbon reduction agenda.

## 1.5 The Airport Carbon Accreditation Administrator

The **Airport Carbon Accreditation** Administrator provides a range of services to assist airports with participation and ensure the smooth running of the **Airport Carbon Accreditation**. Responsibilities include:

- Development and periodic update of documentation and guidance to enable applicants to prepare applications;
- Provision of helpline support to airports to answer technical and general enquiries about the programme.
- Review of new applications, upgrades and renewals.
- Collation of data and preparation of the **Airport Carbon Accreditation** Annual Report;
- Preparation of policy and information papers, participation and other data for review by **Airport Carbon Accreditation** Advisory Board.

## 1.6 The Airport Carbon Accreditation Advisory Board

The administration of **Airport Carbon Accreditation** is overseen by an independent Advisory Board comprised of many distinguished, independent experts from the fields of aviation and the environment.

Participation has come from institutions that have endorsed the programme as well as other relevant organisations that have expressed an interest.

Members play an active role in monitoring the progress of **Airport Carbon Accreditation** based on defined terms of reference.

The Advisory Board membership is comprised of:

- Mr Patrick Gandil, ECAC Focal Point for Environment (European Civil Aviation Conference)
- Mr David McMillan, Director-General, EUROCONTROL
- Mrs Martina Otto, Head of Policy Unit – Energy Branch, UNEP (United Nations Environment Programme)
- Mr Matthew Baldwin, Director of Air Transport (DG MOVE), European Commission
- Mr Damien Meadows, Head of Unit “International Carbon Market, Aviation and Maritime” (DG CLIMA), European Commission
- Professor Callum Thomas, Centre for Air Transport and the Environment at Manchester Metropolitan University

ICAO Focal Point: Ms Jane Hupe, Head of Environment ICAO (as of 30 November 2011)

The Advisory Board met twice during Year 3, in December 2011 and May 2012.

# 2 Participation Highlights

## 2.1 ACI EUROPE

	2010-2011	2011-2012
Number of airports	43	59
Percentage of European air traffic	43%	52.8%

- A further 18 airports joined the programme in Year 3
- 5 airports upgraded from the level achieved in Year 2
- 35 airports remained accredited at the same level
- One airport downgraded a level
- All but two of the airports in the programme last year either renewed or upgraded:

### ACCREDITED EUROPEAN AIRPORTS AS OF 15<sup>TH</sup> MAY 2012

LEVEL 1: MAPPING		
	ORGANISATION	AIRPORT
01.	Aéroports De La Côte d'Azur	Nice
02.	Aena Aeropuertos	Barcelona
03.	Aena Aeropuertos	Lanzarote
04.	ANA	Faro
05.	ANA	Flores
06.	ANA	Horta
07.	ANA	Lisbon
08.	ANA	Oporto
09.	ANA	Ponta Delgada
10.	ANA	Santa Maria
11.	Avinor	Kristiansand
12.	Budapest Airport Zrt.	Budapest
13.	DAA	Shannon
14.	Dubrovnik Airport	Dubrovnik
15.	Dusseldorf Airport	Dusseldorf
16.	Finavia	Helsinki
17.	Liege Airport	Liège
18.	PPL	Warsaw Chopin
19.	TAV	Ankara
20.	TAV	Istanbul Ataturk
21.	TAV	Izmir
22.	Ruzyne-Prague Airport	Prague
23.	Toulouse-Blagnac Airport	Toulouse

## LEVEL 2: REDUCTION

	ORGANISATION	AIRPORT
01.	Aena Aeropuertos	Madrid Barajas
02.	Aéroports de Paris	Charles de Gaulle
03.	Aéroports de Paris	Orly
04.	AIA	Athens
05.	Bologna Guglielmo Marconi Airport	Bologna
06.	Brussels Airport	Brussels
07.	DAA	Cork
08.	DAA	Dublin
09.	Eindhoven Airport	Eindhoven
10.	Finavia	Enontekiö
11.	Finavia	Ivalo
12.	Finavia	Kemi-Tornio
13.	Finavia	Kittilä
14.	Finavia	Kuusamo
15.	Finavia	Rovaniemi
16.	Hamburg Airport GmbH	Hamburg
17.	ICF Airports	Antalya
18.	TAG Farnborough Airport	Farnborough

## LEVEL 3: OPTIMISATION

	ORGANISATION	AIRPORT
01.	Aeroporti di Roma	Rome Leonardo da Vinci-Fiumicino
02.	BAA	London Heathrow
03.	Fraport AG	Frankfurt
04.	Genève Aéroport	Geneva
05.	Manchester Airport Group	Manchester
06.	Munich Airport GmbH	Munich
07.	Schiphol Group	Amsterdam
08.	Zurich Airport AG	Zurich

## LEVEL 3+: NEUTRALITY

	ORGANISATION	AIRPORT
01.	Avinor	Trondheim
02.	Avinor	Oslo
03.	SEA Milan	Milan-Linate
04.	SEA Milan	Milan-Malpensa
05.	Swedavia	Åre Östersund
06.	Swedavia	Göteborg-Landvetter
07.	Swedavia	Malmo
08.	Swedavia	Stockholm-Arlanda
09.	Swedavia	Stockholm-Bromma
10.	Swedavia	Umea

### OTHER AIRPORTS

	AIRPORT	LEVEL	REASON FOR NON-RENEWAL
01.	Gatwick Airport	2	Withdrawn
02.	Chisnau International Airport	1	Withdrawn

## 2.2 ACI ASIA-PACIFIC

	2011-2012
Number of airports	4
Percentage of Asia Pacific air traffic	6%

- **Airport Carbon Accreditation** was extended to the Asia-Pacific region in November 2011 in collaboration with ACI Asia-Pacific.
- 4 airports in the ACI Asia-Pacific region have now been accredited.
- Abu Dhabi was the first airport to be carbon accredited at Level 1 in November 2011 at the programme launch in ACI Asia-Pacific.
- Mumbai and Singapore Changi Airports became accredited at Level 1 and Bangalore became accredited at Level 2. These three airports were presented with their accreditation certificates at the ACI Regional Assembly Conference and Exhibition in May 2012.
- Interest in the programme from other Asia-Pacific airports is increasing and it is anticipated that new accreditations will follow in the coming year.

### ACCREDITED ASIA PACIFIC AIRPORTS AS OF 15<sup>TH</sup> MAY 2012

LEVEL 1: MAPPING		
	ORGANISATION	AIRPORT
01.	ADAC	Abu Dhabi
02.	GVK Airport Developers Pvt. Ltd	Chhatrapati Shivaji International Airport, Mumbai
03.	Changi Airport Group (S) Pte Ltd	Singapore Changi Airport

LEVEL 2: REDUCTION		
	ORGANISATION	AIRPORT
01.	GVK Airport Developers Pvt. Ltd	Bangalore International Airport

# 3 Carbon Performance of Accredited Airports

## 3.1 Aggregate carbon footprint and emissions reduction figures

This section outlines the aggregate carbon (CO<sub>2</sub>) footprint and reduction figures achieved by the airports listed above. These figures derive from individual airports' applications, as verified externally according to **Airport Carbon Accreditation** requirements. European and Asia-Pacific emissions are reported separately.

Every attempt has been made to provide an accurate quantification of the actual emissions reductions achieved, with emissions compared on a like-for-like basis against a three year rolling average of emissions. Whilst this data is presented in aggregate format, it is worth noting that there are a number of reasons why direct comparisons between individual airports, and between reporting years, are not possible. These issues include:

- Newly accredited airports may not have three years of historical data available. The programme therefore recognises that until such data is available, airports can measure reductions against either one or two years of data.
- Operating conditions of each airport differ significantly due to the varying ownership structures and activity scopes. As **Airport Carbon Accreditation** requires participants to report on emissions from sources under the airports direct control, each airport's operational boundary is unique to that airport.
- Reductions must be achieved on a like-for-like basis, meaning that new facilities at airports may not be included in the operational boundary for the purposes of demonstrating a reduction in emissions.
- The use of the three year rolling average means that it is not possible to aggregate the total emissions reductions between years, as this will lead to the double counting of some emissions sources.

Under the terms and conditions of participation in **Airport Carbon Accreditation**, the details of airports' individual carbon footprints are not published here, although an airport may choose to do so itself.

**Airport Carbon Accreditation** requires that airports report on CO<sub>2</sub> emissions only. Under the programme, airports may report voluntarily on other greenhouse gases, and this is considered as best practice.

The reductions achieved by the airports participating in **Airport Carbon Accreditation** are genuine quantified reductions in CO<sub>2</sub> emissions achieved when comparing emissions on a like-for-like basis, despite traffic trends. They show a general downward trend and should be regarded as quantified and qualitative evidence of improved carbon management practices by the airports concerned. The aggregated emissions from all participants together with their supporting data has been examined and approved by the Advisory Board and are presented below.

## 3.2 European performance

### 3.2.1 EMISSIONS REDUCTION HIGHLIGHTS

	2010-2011	2011-2012
Total aggregate Scope 1 & 2 reduction (tCO <sub>2</sub> )	54,565	48,676
Total aggregate Scope 3 reduction (tCO <sub>2</sub> )	675,124	365,528

### 3.2.2 EMISSIONS PERFORMANCE SUMMARY

Variable	2010-2011		2011-2012	
	Emissions	Number of Airports	Emissions	Number of Airports
<b>TOTAL SCOPE 1 AND 2 EMISSIONS</b>				
Aggregate carbon footprint for 'year 0' <sup>1</sup> for emissions under airports' direct control (all airports)	2,275,469 tCO <sub>2</sub>	43	2,514,947 tCO <sub>2</sub>	59
Carbon footprint per passenger	3.73 kgCO <sub>2</sub>		3.22 kgCO <sub>2</sub>	
<b>SCOPE 1 AND 2 EMISSIONS REDUCTION<sup>2</sup></b>				
Aggregate reduction in emissions from sources under airports' direct control (Level 2 and above)	51,819 tCO <sub>2</sub>	23	48,676 tCO <sub>2</sub>	36
Carbon footprint per passenger	0.11 kgCO <sub>2</sub>		0.08 kgCO <sub>2</sub>	
<b>TOTAL SCOPE 3 EMISSIONS<sup>3</sup></b>				
Total carbon footprint for 'year 0' for emissions sources which an airport may guide or influence (level 3 and above)	6,643,266 tCO <sub>2</sub>	13	8,299,743 tCO <sub>2</sub>	18
<b>SCOPE 3 EMISSIONS REDUCTION</b>				
Aggregate reductions from emissions sources which an airport may guide or influence	675,124 tCO <sub>2</sub>	10	365,528 tCO <sub>2</sub>	18
<b>TOTAL EMISSIONS OFFSET</b>				
Total emissions offset (Level 3+)	85,602 tCO <sub>2</sub>	8	79,964 tCO <sub>2</sub>	10

1. 'Year 0' refers to the 12 month period for which an individual airport's carbon footprint refers to, which according to the Airport Carbon Accreditation requirements must have been within 12 months of the application date.

2. This figure includes increases in emissions at airports that have used a relative emissions benchmark in order to demonstrate a reduction.

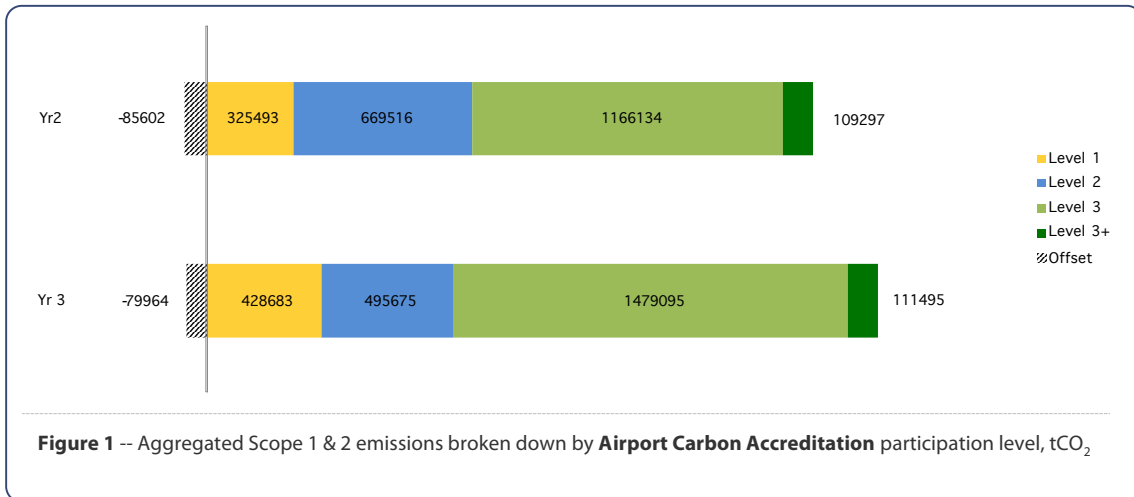
3. These emissions sources are those detailed in the guidance document, plus any other sources that an airport may wish to include.



### 3.2.3 SCOPE 1 AND 2 EMISSIONS

#### All levels

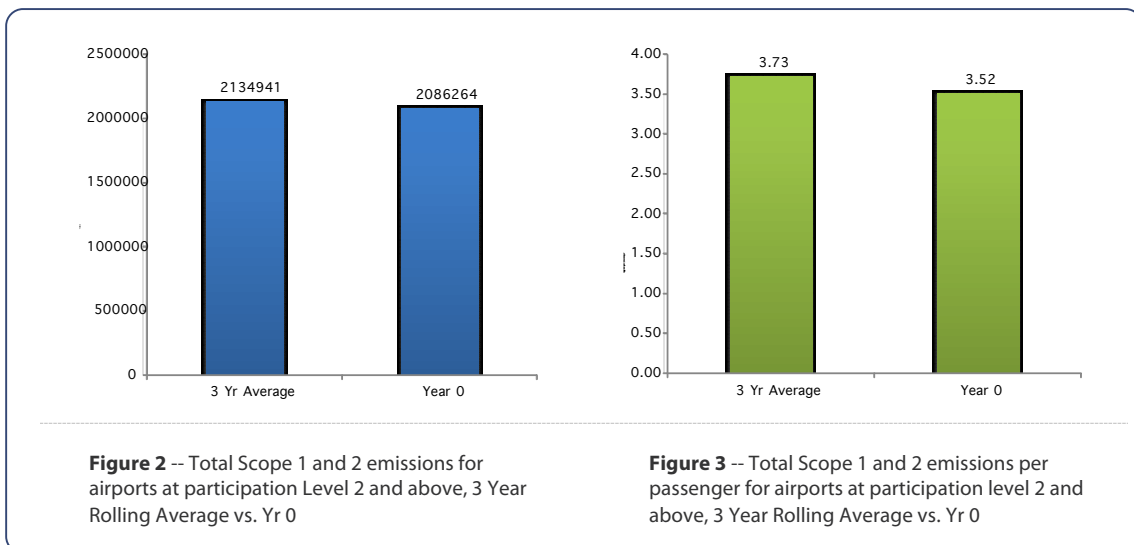
The graph below compares the total Scope 1 and 2 emissions reported through **Airport Carbon Accreditation** in Year 2 and Year 3 of the programme. For the reasons described in Section 3.1 above, and because last years' dataset has been revised in a number of instances, the two years are not directly comparable, but it does give an indication of the growth in emissions reported through the programme.



**Figure 1** -- Aggregated Scope 1 & 2 emissions broken down by **Airport Carbon Accreditation** participation level, tCO<sub>2</sub>

#### Level 2 and above

The graphs below show the performance of those airports at Level 2 and above of the programme, i.e. those which have to demonstrate a reduction to achieve accreditation. As mentioned previously, emissions reductions are required to be demonstrated relative to a three-year rolling average. 'Year 0' refers to the current reporting year, in this case, Year 3 of the **Airport Carbon Accreditation** programme.



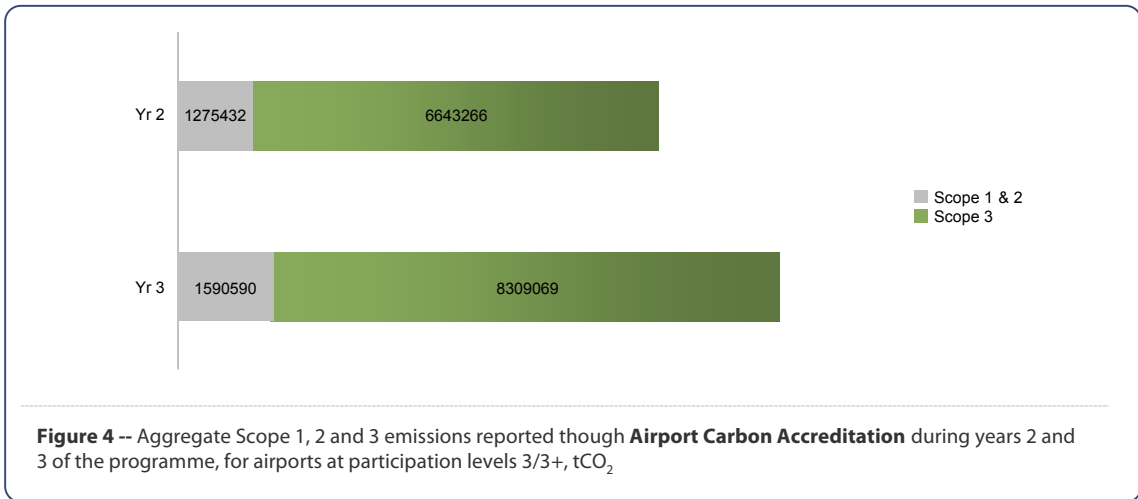
**Figure 2** -- Total Scope 1 and 2 emissions for airports at participation Level 2 and above, 3 Year Rolling Average vs. Yr 0

**Figure 3** -- Total Scope 1 and 2 emissions per passenger for airports at participation level 2 and above, 3 Year Rolling Average vs. Yr 0

Absolute Scope 1 and 2 Emissions Reduction	48,676 tCO <sub>2</sub>
% Reduction in emissions per passenger	5%

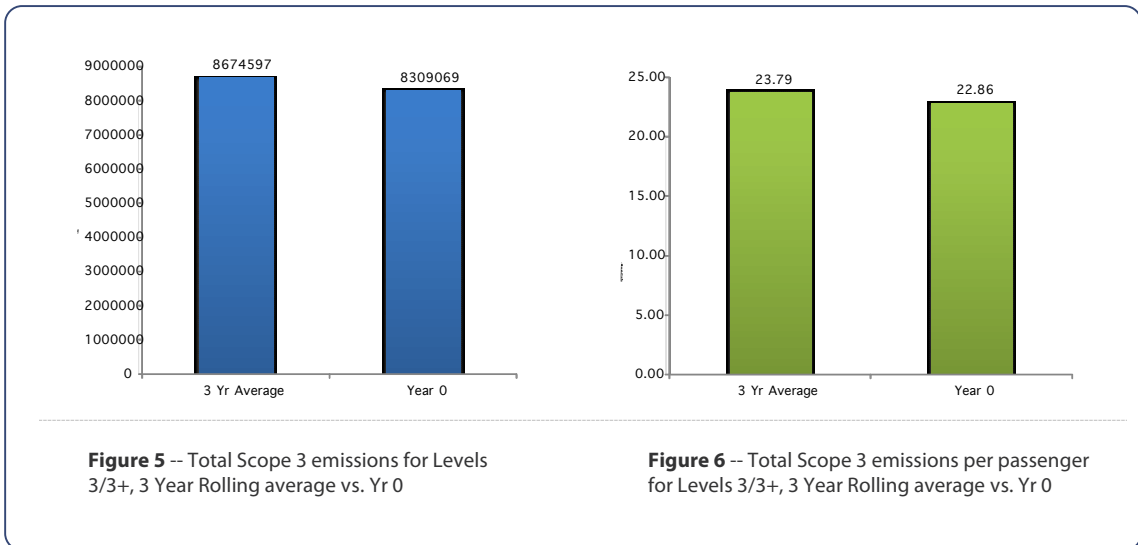
### 3.2.4 SCOPE 3 EMISSIONS

Scope 3 emissions are only reported at Levels 3/3+ of the programme, and include a number of minimum emissions sources, such as the Landing Take-Off cycle and staff business travel, however airports can report any other emissions they wish to in this category, for example from offsite waste disposal and in-flight emissions. The graph below shows the aggregate Scope 3 emissions that were reported through **Airport Carbon Accreditation** in Year 2 and Year 3 of the programme for airports at Levels 3/3+. The Scope 1 & 2 emissions for those airports are also shown to give an idea of the relative size of the Scope 3 emissions.



**Figure 4** -- Aggregate Scope 1, 2 and 3 emissions reported through **Airport Carbon Accreditation** during years 2 and 3 of the programme, for airports at participation levels 3/3+, tCO<sub>2</sub>

Demonstrating a reduction in Scope 3 emissions is not a requirement for accreditation at Levels 3 and 3+, however the graphs below show that airports are using their ability to guide and influence these emissions to drive reductions in this area as well, both in absolute and per passenger terms relative to the three-year rolling average. Again, Year 0 refers to the current reporting year, i.e. Year 3 of the **Airport Carbon Accreditation** programme.



**Figure 5** -- Total Scope 3 emissions for Levels 3/3+, 3 Year Rolling average vs. Yr 0

**Figure 6** -- Total Scope 3 emissions per passenger for Levels 3/3+, 3 Year Rolling average vs. Yr 0

Absolute Scope 3 Emissions Reduction	365,528 tCO <sub>2</sub>
% Reduction in emissions per passenger	4%

## 3.3 Asia-Pacific performance

### 3.3.1 SUMMARY

Since its launch in Asia-Pacific in November 2011, four airports have become accredited, with three airports joining at Level 1, and one airport, Bangalore, joining at Level 2. As the programme has not fully developed yet in this region, it is not yet possible to report carbon reductions as above. The aggregate footprint figures for Scopes 1 & 2 are presented below, to be built upon as more airports join the programme in the region in the coming year.

	2011-2012
Total Scope 1 and 2 Emissions	497,249 tCO <sub>2</sub>
Carbon footprint per passenger	4.95 kgCO <sub>2</sub> /pax



# 4 Case studies

This section illustrates some of the work that participating airports are doing in the field of carbon management, as well as some of the experiences of the accreditation process. Examples have been chosen from airports at a range of levels and geographies. It is anticipated that as best practice develops this section will form an increasingly important part of future reports, and will support the process of information exchange that has been established already.

## 4.1 Becoming the first Asia-Pacific airport to be accredited



Abu Dhabi International Airport is fast becoming recognised as one of the major connection hubs in the Middle East, handling 10 million passengers in 2009, which is expected to increase to 20 million by 2015. In 2011 they carried out their first carbon footprint and became **Airport Carbon Accredited** at Level 1, becoming the first ACI Asia-Pacific member airport to do so.

### THE DRIVERS FOR BECOMING ACCREDITED

As part of the Abu Dhabi Sustainability Group, ADAC has committed itself to reducing its carbon footprint and raising awareness of sustainability issues. Being a part of this municipality lead group was a key driver for joining the programme, in addition to a desire for raising awareness within the business and improving the understanding of the airport's carbon impact.

### CARRYING OUT THE FIRST CARBON FOOTPRINT

Having never developed its carbon footprint before, there were challenges in defining boundaries and identifying all necessary sources, as well as issues such as even locating all the relevant meters within the airport. Once the data had been collected and assessed, it became clear that there were more intelligent ways in which energy could be used within the airport. ADAC has since worked with its energy suppliers and managers to install simple technological solutions to reduce energy use, and is now looking into the installation of smart-meters across the site.

### EMPLOYEE ENGAGEMENT

Challenges remain in raising awareness amongst the organisation. Workshops are now held with employees to explain sustainability issues in general and to help them understand that they are part of a journey towards safeguarding the planet for future generations. Education around energy and waste management, recycling and water use is improving and employees are encouraged to engage with the issues in order to improve performance.

### THE FUTURE

*"We are proud to be the leading airport operator in the region to start playing our part in addressing aviation's impact on climate change. A key milestone for us is the participation in **Airport Carbon Accreditation**. The certification recognizes ADAC's efforts towards applying comprehensive carbon management in the capital's airport. This application also demonstrates ADAC's commitment towards developing a sustainable future in aviation and effectively managing the environmental impacts of our operations across our five airports in the Emirate of Abu Dhabi."*

James E. Bennett, CEO of ADAC

## 4.2 The importance of carbon management to Eindhoven Airport's expansion plans

### EindhovenAirport

Eindhoven Airport is part of the Schiphol Group and, with nearly 3 million passengers in the last year, it is the second largest airport in the Netherlands. Eindhoven Airport became accredited for the first time in Year 2 at Level 1: Mapping, and successfully upgraded its accreditation to Level 2: Reduction during Year 3.

#### RESPONSIBLE AIRPORT GROWTH

Being a part of the Alders Roundtable consultation group, which allows negotiations between Eindhoven Airport, regional and national governments, environmentalists and other stakeholders, especially residents in the region, has helped to secure a responsible and phased growth of Eindhoven Airport for the period up to 2020. In order to allow airport growth, conditions relating to sustainability measures were included within this agreement; one of which was to achieve the highest level of **Airport Carbon Accreditation**, Neutrality, before 2015.

#### ACHIEVING ENERGY REDUCTION AT EINDHOVEN AIRPORT

Eindhoven Airport created a special project team in order to achieve all the requirements of **Airport Carbon Accreditation** Level 2: Reduction. As the Airport has been ISO14001 certified since 2003, this environmental management standard was chosen as the basis for the development of their Carbon Management Plan.

Several simple measures were introduced to minimize and monitor energy usage at the Airport including the replacement of standard lighting with LED lighting, energy efficient T5 lighting and motion sensor lighting in offices. A system has also been installed to monitor the energy consumption of computers and printers. In addition, more energy efficient glazing in the terminal, the installation of a heat pump and adjusting baggage conveyor belts to stop sooner have also resulted in lower energy usage.

The energy reduction initiatives within Eindhoven Airport have contributed to a relative reduction of 14% in CO<sub>2</sub> emissions per passenger in 2010 compared to 2009.

#### FINANCIAL BENEFITS AND THE FUTURE

As a result of becoming **Airport Carbon Accredited**, Eindhoven Airport management have become more aware of their CO<sub>2</sub> emissions and, through energy use reduction initiatives, have experienced a direct reduction in energy bill costs.

An extension of the terminal is necessary to be able to accommodate the expected growth in passenger numbers. Participation in **Airport Carbon Accreditation** is one of the conditions of the Alders Table agreement making this one of the main motivations for Eindhoven Airport to participate in the scheme.

#### THE FUTURE

*"Eindhoven Airport has a mission. Eindhoven Airport wants to be a multimodal, sustainable transportation hub, so that the airport contributes to the economic growth in Southeast Brabant. A modern airport, where speed and experience are added values. A modern airport also means that we want to be one of the leaders in the field of sustainability. **Airport Carbon Accreditation** helps us realise our ambition."*

Joost Meijs, CEO Eindhoven Airport

## 4.3 Stakeholder engagement activities at Geneva Airport



Geneva Airport handled around 13 million passengers in 2011 and expects this to reach 14.5 million by 2020. The Airport became accredited for the first time in Year 3 at Level 3: Optimisation.

### MOTIVATION FOR JOINING THE SCHEME AND PREPARING FOR THE APPLICATION

Geneva Airport has been engaged in an energy efficiency and CO<sub>2</sub> emissions reduction programme, monitored by the Swiss Federal Authorities, since 2005. As part of this programme, Geneva Airport has introduced several measures to reduce energy consumption and have been keeping an air emissions inventory. In order to comply with the **Airport Carbon Accreditation** requirements, the Airport had to make some adjustments to their inventory boundaries; however, most of the information needed to apply was already collected. Therefore, the main driver for Geneva Airport to apply to **Airport Carbon Accreditation** was to gain European-wide recognition for the work the Airport had been undertaking 'routinely'.

### STAKEHOLDER ENGAGEMENT

As part of achieving Optimisation, airports are required to provide evidence of activities which engage stakeholders in energy efficiency or emissions reduction initiatives. Geneva Airport was able to demonstrate stakeholder engagement in the following programmes:

→ Geneva Airport's Employee Mobility Plan has been in place since 2002 and was awarded Best Pan-European Workplace Mobility Plan in 2009 by the European Platform on Mobility Management. Under this programme, incentives have been introduced for choosing alternatives modes of transportation; such as subsidies for those using public transport or commuting by bike or on foot. In addition, the Airport has improved bike infrastructure, provided transportation for employees in the early hours before the start of public transport and allocated car parking spaces only to employees who cannot access the airport easily (in less than 20 minutes) using public transportation. This programme has increased the percentage of employees using sustainable modes of transportation for commuting, thus reducing the Airport's carbon footprint.

→ Geneva Airport has a long-term plan to improve the efficiency and use of all vehicles at the airport. The progressive phase-out of older vehicles is one of the main goals of this plan and in order to get the authorisation to introduce a new vehicle, companies must show that the vehicle follows the latest engine air pollution regulation. Similarly, all vehicles must have a yearly engine emissions check, following the same rules as any Swiss vehicle. The cost of vehicle authorisation is modulated according to the type of engine: it is free for electrically powered vehicles and increase incrementally for more polluting vehicles. Geneva Airport regularly communicates updated documentation to those companies operating vehicles within the airport which discusses the best engine technologies available and under some circumstances, Geneva Airport may also subsidise the improvement of current vehicles engines.

### THE FUTURE

*"The **Airport Carbon Accreditation** provides Genève Aéroport a recognition at the European level of the effort made to mitigate the environmental impact of our activities. We are proud of getting this accreditation at Level 3, which is a motivation for all our staff to do even better in the future. We already have ambitious goals for 2012, i.e. the installation of a new large solar panels installation and – in the mid-term – the construction of a new pier which will be CO<sub>2</sub> neutral"*

Robert Deillon, CEO Aéroport International de Genève

## 4.4 Retaining Level 3+ at Milan Linate and Malpensa Airports



SEA SpA is responsible for the development and management of Milan Linate and Milan Malpensa Airports. 9.5 million passengers passed through Milan Linate Airport in 2011 and 18.5 million passed through Milan Malpensa Airport. SEA has been part of **Airport Carbon Accreditation** since it was first launched in 2009 when both airports achieved Level 3, Optimisation. In 2010, the airports upgraded their accreditation to Level 3+, Neutrality, which was successfully retained in 2011.

### REDUCING MILAN MALPENSA AND LINATE CARBON FOOTPRINT

SEA appointed Energy and Maintenance Managers who have been responsible for introducing energy saving equipment and initiatives including varying the levels of air conditioning in different areas of the terminal, introducing more energy efficient lighting and replacing shuttle buses with more efficient models. In collaboration with ENAC (the Italian Civil Aviation Authority) a proposal was approved to switch off of the lights on runway 35R at Malpensa Airport at night thereby resulting in significant reductions in energy consumption. In addition, two modern and efficient trigeneration power plants provide the energy required by Linate and Malpensa Airports.

Milan Linate and Malpensa airports have been able to demonstrate a continual reduction in their emissions of carbon dioxide each year for the last six years, with Linate Airport reducing from 21,334,11 tCO<sub>2</sub> in 2006 to 16,299,56 tCO<sub>2</sub> in 2011 and Malpensa reducing from 87,903,31 tCO<sub>2</sub> in 2006 to 36,501,77 tCO<sub>2</sub> in 2011 (Scope1 and Scope 2).

### STAKEHOLDER ENGAGEMENT

SEA directly employs more than 5,000 people. The Energy Saving Campaign was launched by SEA in order to raise the profile of environmental and energy use issues with their employees. This involved:

- producing a video which highlights energy saving opportunities and gives SEA personnel suggestions and good practice advice for the use of electric and electronic equipment, the options available for travel to and from work and business travel, and, information and suggestions for energy saving opportunities in the home;
- producing a shorter version of the above-mentioned video aimed at all airport users;
- distributing t-shirts to 600 male administrative employees inviting them to go without a tie as a symbolic gesture for their energy saving commitment; and,
- displaying posters containing information for energy saving ideas and the relevant company policy in all public and operating areas.

In addition to this, Airport Committees involving (amongst others) airline representatives, baggage handlers, all airport operating bodies and government organisations meet each month to discuss environmental issues in both Linate and Malpensa Airports.

### THE FUTURE

*"SEA is committed to maintaining high attention in order to minimize the environmental impacts of its airports. In particular, SEA wants to reaffirm the level of results achieved within **Airport Carbon Accreditation** in reducing CO<sub>2</sub> emissions. We believed in **Airport Carbon Accreditation** and we still consider it a very effective initiative. We also think that a special effort should be devoted in the near future to the means for assuring connections from / to our airports, a further rationalization of energy management and an effective development of a suitable mix of renewable sources related to operational needs".*

Giulio De Metrio, SEA COO and Deputy CEO

## 4.5 Renewable energy initiatives and the financial benefits of the scheme at Athens International Airport



Athens International Airport (AIA) became one of the first airports to participate in the programme when it was launched in 2009. Initially gaining accreditation at Level 1 (Mapping) by constructing and verifying its first-ever carbon footprint, the following year AIA upgraded their accreditation to Level 2 (Reduction) and in doing so, set themselves an ambitious emission reduction target of 25% for those sources under AIA's direct control by the year 2020, using 2005 as a baseline.

### MONITORING ENERGY USE AND FORMING AN ACTION PLAN

AIA has been monitoring energy consumption, including that of other companies operating within the airport, since the airport opening in 2001. More recently, AIA initiated an awareness campaign where participants were encouraged to submit ideas for reducing greenhouse gas emissions for those sources under AIA's direct control. This resulted in AIA's first Climate Change Corporate Action Plan (CCCAP) in 2008. Since then, the CCCAP has been updated on an annual basis with actions aimed to address (amongst others) energy, operations, transportation, natural environment, and stakeholder awareness.

### ENERGY REDUCING INITIATIVES

AIA has focused considerable effort on investigating the potential of exploiting renewable energy sources at the airport. Following the successful implementation of a pilot 5 kWp photovoltaic installation at the airport's train station in 2004, AIA invested heavily in solar power, constructing an 8.05 MWp Photovoltaic Park (PV Park) - the largest unified photovoltaic installation at an airport worldwide. The facility covers an area of 160,000 m<sup>2</sup> and is comprised of 28,740 panels and more than 270 km of cables. AIA's PV Park is designed to produce enough clean energy to cover 20% of the company's needs, corresponding to 10% of the entire airport community's needs. In addition, the operation of the PV Park is expected to avoid the emission of more than 11,000 tonnes of CO<sub>2</sub> per year. The PV Park has been operational since July 2011.

In addition to the installation of renewable energy sources, the internal monitoring of energy consumption, application of the "Polluter Pays" principle to energy billing as an incentive for energy conservation, implementation of a range of measures to reduce energy consumption, investment in new energy-saving technologies, and increased employee and partner awareness has all resulted in the airport reducing its carbon footprint by 19% (versus the baseline year of 2005) by 2011; representing a reduction in CO<sub>2</sub> emissions of more than 12,000 tonnes.

### SUBSTANTIAL FINANCIAL BENEFITS

It should be noted that, in addition to environmental benefits, the Airport Company has also reaped significant financial benefits. In fact, the estimated cost savings associated with the reduction in its carbon footprint amounts to approximately €1,000,000 over the last 6 years.

### THE FUTURE

The Airport Company is currently taking steps to upgrade its accreditation to Level 3 (Optimisation) by increasing efforts to engage stakeholders within the airport community. AIA is also investigating other types of renewable energy that could possibly be exploited at the airport, such as geothermal and biomass.

*"Athens International Airport has been involved with **Airport Carbon Accreditation** since its inception. It has provided an opportunity to showcase important work we've already undertaken with regard to energy management while helping us to translate our ambitions into a long-term emissions reduction target. As operator of the world's largest unified photovoltaic park at an airport, we aim to explore other renewable sources of energy in the future."*

Dr Yiannis N. Paraschis, CEO, Athens International Airport



# 5 Programme developments during Year 3

**Airport Carbon Accreditation** has now passed the three year milestone since it was launched in 2009. In only 36 months, **Airport Carbon Accreditation** has expanded to cover 59 European airports, up from 43 airports last year, which represent 52.8% of European passenger traffic. This year has seen a consolidation of the programme in Europe with 35 renewals, 5 upgrades, 1 downgrade and 18 new entries at various levels. A reduction of over 48,600 tonnes of carbon dioxide from sources under the airports' direct control was reported in Year 3 of the programme, with airports using their influence to reduce stakeholder emissions by a further 365,528 tonnes of carbon dioxide. This gives a total reduction of 414,128 tonnes of CO<sub>2</sub> for Year 3 - equivalent of flying between Frankfurt, the first airport to be accredited back in 2009, and Singapore, the latest airport to be accredited in 2012, over 340,000 times<sup>4</sup>.

Year 3 also saw the voluntary programme formally extended to the 500 airports of the ACI Asia-Pacific region which covers 42 countries. The launch was announced during the Airport Exchange 2011 event held by ACI EUROPE and ACI Asia-Pacific in Abu Dhabi on 30 November 2011. Abu Dhabi International Airport became the first airport in the region to achieve certification within the programme. Bangalore Airport also committed to become accredited within 12 months, and has honoured that commitment by since becoming the second airport in this region to achieve certification. Mumbai and Singapore Changi Airports have also since joined the scheme bringing the total to four airports.

Commenting on this achievement Patti Chau, Regional Director, of the Asia Pacific region said **'We are delighted that Airport Carbon Accreditation is now available to Asia-Pacific Airports. This corner of the earth will soon be the biggest aviation market in the world and airports are keenly aware of the need to make their facilities and operating processes as environmentally sustainable and efficient as possible'**

The 63 accredited airports in ACI Asia-Pacific and ACI EUROPE represent 17% of worldwide passenger traffic.

The modalities governing the programmes extension have been agreed between ACI EUROPE and ACI Asia-Pacific and WSP Environment and Energy will continue to administer the programme.

**Airport Carbon Accreditation** developments and prospects in the ACI Asia-Pacific region are summarised in section 2.2 of this report.

Also of significance is that the International Civil Aviation Organization (ICAO) agreed to appoint a focal point to the programmes' Advisory Board that already includes representatives from the European Commission, the European Civil Aviation Conference (ECAC), EUROCONTROL and the United Nations Environmental Programme (UNEP). The Board now also includes representatives from ACI Asia-Pacific.

Marking ICAO's participation on the Board, Secretary General, Raymond Benjamin said: **'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 Europe and for extending it to the Asia-Pacific region, in line with ICAO's global strategy for dealing with climate change'**.

These programme achievements were accompanied by continuing review and updating of the programme requirements on the basis of feedback from participating and ACI member airports, the **Airport Carbon Accreditation** Advisory Board, regulators and policy makers. This process ensures that the programme continues to set the standard for carbon management for (European and Asia-Pacific) airports by safeguarding its integrity. It also helps to ensure continued participation and progression and increase external recognition.

4. Calculated using the UK Department for Energy Food and Rural Affairs/Department of Energy and Climate Change's GHG Conversion Factors for Company Reporting (2012, v1.0) assuming an average passenger travelling a distance of 10,258km, equivalent to 1.218tCO<sub>2</sub> per flight.

The key areas of development during Year 3, are summarised below:

- Medium to long term direction of the programme
- Communicating the environmental performance of the programme
- Updating the **Airport Carbon Accreditation** requirements through the on-going review and amendment of the programme documentation.

## 5.1 Medium to long term direction of the programme

Following discussion within the **Airport Carbon Accreditation** Task Force and Advisory Board, it was recognised that the model of annual renewal may not be sustainable in the long term, particularly at Level 3 and above, where the carbon management practices of airports are well established. Moreover, not all airports participating in the programme wished to move towards carbon neutrality, and some were specifically using the programme to demonstrate that they were 'best in class' in carbon management.

In order to address these points, the Advisory Board determined that there needed to be a way for the most advanced airports to remain part of the programme over the medium to long term, not only to safeguard the credibility of the programme, but also to provide other airports with a clear end point at which it is acknowledged that the concepts of carbon management and stakeholder engagement are well established across an airport.

As a result, the **Airport Carbon Accreditation** Guidance was amended to allow participating airports who have been accredited at Level 3 or 3+ (i.e. after two successful renewals at that level) to move from annual renewal to a three yearly renewal cycle, should they wish to do so, subject to meeting the following conditions in addition to the existing renewal criteria at Level 3/3+:

- Submit quantitative, verified information on Scope 3 emissions reductions achieved through engagement with stakeholders at the airport for at least one emissions reduction initiative
- Provide additional data on the airports planned stakeholder engagement activities for the three year period
- Continue to submit carbon footprint data to the Administrator on an annual basis.

This option is available to airports from the start of Year 4 of the programme on 15<sup>th</sup> May 2012.

As of that date, 6 airports out of the 18 airports currently at Levels 3/3+ would be eligible to take up this option.

## 5.2 Ongoing review of Airport Carbon Accreditation requirements and documentation

In Year 3, changes to the **Airport Carbon Accreditation** requirements, above guidance and standard operating procedures, in addition to those listed above are summarised in the table below.

Issue / description	Response
Need for editing and streamlining of Guidance Document	The Guidance and Application Assessment Form were edited and streamlined to remove outdated information and shorten the text.

# 6 Looking ahead to Year 4

During the past three years, **Airport Carbon Accreditation** has become established as the accepted industry reference standard for airport carbon mapping and management. To ensure that this remains the case, it is critical that participation levels continue to increase during 2012/2013.

ACI EUROPE and the Programme Administrator will continue to work with the Advisory Board and European Airports to build on the successes of the first three years of **Airport Carbon Accreditation** and ensure that airports remain accredited in the long term. Key aims for Year 4 include:

- Incorporating new policy, reporting standards and best practice into **Airport Carbon Accreditation**
- Conducting training for verifiers to promote a better understanding of the programme requirements
- Developing an ACI World Business Partner Affiliate Programme – see Section 6.3 below.

## 6.1 Incorporate new policy, reporting standards and best practice into Airport Carbon Accreditation

ACI EUROPE, the Programme Administrator and the Advisory Board will continue to work to ensure that further examples are incorporated into the requirements, through the maintenance of dialogue with the aviation industry and policy makers. In particular, attention will be paid to the participation of airlines in phase III of the EU ETS.

## 6.2 Conducting verifier training

There was no Webinar verifier training in Year 3 as previously planned and this is now scheduled for Year 4.

Webinar(s) will be held at times to be announced throughout the year according to demand. They are intended to provide verifiers and interested airports with a greater understanding of the overall programme and the administrator and airport's role in the verification process. They will also explain the verification requirements and output, outline and go through the verification process and demonstrate what is NOT required.

The intended audience comprises verifiers listed on the **Airport Carbon Accreditation** web pages, nationally accredited certification bodies, reputable consultancy firms, organisations already reporting on an airport's behalf (Financial reporting, ISO / EMAS certification). However, the verifiers must be independent of the airport and the administrator and must not have been involved in the preparation of the airport's carbon footprint they are seeking to verify.

Interested verifiers and airports should make their interest known to the Help Desk in the first instance.

Undertaking this training will enable verifiers to be listed as **Airport Carbon Accreditation** trained on the programme website [www.airportcarbonaccreditation.org](http://www.airportcarbonaccreditation.org).

## 6.3 Developing an ACI World Business Partners affiliate programme

The World Business Partner (WBP) Programme of ACI EUROPE has reviewed and approved proposed objectives and requirements for an affiliate programme, equivalent to the Level 1 requirements of **Airport Carbon Accreditation** for Airports and a small WBP task force is assisting with the development of appropriate guidance material.

The possible timeline for the launch of this initiative is at the beginning of Year 5 of the programme.

## 6.4 How to become Airport Carbon Accredited?

Any airport wishing to join the 63 airports that have already been accredited should take the following course of action. We recommend that airports have a continued dialogue with the **Airport Carbon Accreditation** Administrator during this process to ensure that information is prepared correctly and in line with the minimum **Airport Carbon Accreditation** requirements.

- Contact **Airport Carbon Accreditation** administrator to obtain up-to-date programme documentation;
- Review documentation;
- Decide on level of participation based on level of carbon management activity at airport;
- Collate data and prepare documentary evidence to support application; identify an independent third party organisation to verify data and supporting documentary evidence.
- Contact **Airport Carbon Accreditation** Administrator to make arrangements for payment;
- Submit application to **Airport Carbon Accreditation** Administrator for processing; pay participation fee.

Once all documentation has been submitted and participation fee received, the programme administrator will process the application according to its standard operating procedures and notify airports of any additional requirements within one week. Once the programme administrator is satisfied that the minimum **Airport Carbon Accreditation** requirements for the level of application have been received, certification and additional materials will be issued.

### Helpdesk details:

+44 (0) 845 868 2708  
aca@wspgroup.com

## Appendix A - List of verifiers

ORGANISATION	AIRPORT	LEVEL	VERIFIER
ADAC	Abu Dhabi	1 Mapping	Clouds Environmental Consultancy Ltd
ANA	Faro	1 Mapping	Deloitte
ANA	Flores	1 Mapping	Deloitte
ANA	Horta	1 Mapping	Deloitte
ANA	Lisbon	1 Mapping	Deloitte
ANA	Oporto	1 Mapping	Deloitte
ANA	Ponta Delgada	1 Mapping	Deloitte
ANA	Santa Maria	1 Mapping	Deloitte
Bologna Guglielmo Marconi Airport	Bologna	1 Mapping	CERMET
Budapest Airport Zrt.	Budapest	1 Mapping	KEMA Emissions Verification Services B.V.
Changi Airport Group (S) Pte Ltd	Singapore Changi Airport	1 Mapping	Bureau Veritas
DAA	Cork	1 Mapping	Bureau Veritas
DAA	Dublin	1 Mapping	Bureau Veritas
DAA	Shannon	1 Mapping	Bureau Veritas
Dubrovnik Airport	Dubrovnik	1 Mapping	Trames
Eindhoven Airport	Eindhoven	1 Mapping	KEMA Emissions Verification Services B.V.
Finavia Corporation	Helsinki	1 Mapping	Oy Enemi Ltd
GVK Airport Developers Pvt. Ltd	Chhatrapati Shivaji Int. Airport, Mumbai	1 Mapping	Bureau Veritas
Warsaw Chopin Airport	Warsaw	1 Mapping	Institut für Umwelttechnik Dr. Kühnemann und Partner GmbH
Flughafen Dusseldorf GmbH	Dusseldorf	1 Mapping	Muller BBM
Ruzyne-Prague Airport	Prague	1 Mapping	TUV SUD
TAV	Izmir	1 Mapping	Bureau Veritas
TAV	Ankara	1 Mapping	Bureau Veritas
TAV	Istanbul Ataturk	1 Mapping	Bureau Veritas
Aéroports de Paris	Charles de Gaulle	2 Reduction	Bureau Veritas
Aéroports de Paris	Orly	2 Reduction	Bureau Veritas
AIA	Athens	2 Reduction	TUV Hellas

ORGANISATION	AIRPORT	LEVEL	VERIFIER
Antalya Airport	Antalya	2 Reduction	Clouds
Avinor	Kristiansand	2 Reduction	DNV
Bangalore International Airport Limited	Bangalore	2 Reduction	Det Norske Veritas AS
Brussels Airport	Brussels	2 Reduction	Esher Consultancy bvba
TAG	Farnborough	2 Reduction	Clouds
Finavia Corporation	Lapland Airports	2 Reduction	Oy Enemi Ltd
Fraport AG	Frankfurt	2 Reduction	Institute für Umwelttechnik Dr. Kühnemann und Partner GmbH
Hamburg Airport GmbH	Hamburg	2 Reduction	BRUB CERT GmbH
BAA Heathrow	London Heathrow	3 Optimisation	Carbon Trust, UK
Genève Aéroport	Geneva	3 Optimisation	TUV SUD
Manchester Airport Group	Manchester	3 Optimisation	Carbon Trust, UK
Munich Airport GmbH	Munich	3 Optimisation	Intechnica
Schiphol Group	Schiphol	3 Optimisation	KEMA
Zurich Airport AG	Zurich	3 Optimisation	DNV
Avinor	Oslo	3+ Neutrality	DNV
Avinor	Trondheim	3+ Neutrality	DNV
SEA Milan	Linate	3+ Neutrality	TUV Sud
SEA Milan	Malpensa	3+ Neutrality	TUV Sud
Swedavia	Umea	3+ Neutrality	Bureau Veritas
Swedavia	Stockholm-Arlanda	3+ Neutrality	Bureau Veritas
Swedavia	Gothenburg	3+ Neutrality	Bureau Veritas
Swedavia	Stockholm-Bromma	3+ Neutrality	Bureau Veritas

**Airport Carbon Accreditation** has received formal endorsement from the European Civil Aviation Conference (ECAC) and the European Organisation for the Safety of Air Navigation (EUROCONTROL)



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

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

For application & technical queries,  
telephone: **+44 845 868 2708**  
or Email: **[aca@wspgroup.com](mailto:aca@wspgroup.com)**

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