Annual Report 2009-2010
June 2010

airport carbon accreditation

MAPPING | REDUCTION | OPTIMISATION | NEUTRALITY

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ACI EUROPE
AIRPORTS COUNCIL INTERNATIONAL

WSP

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PREFACE

We are proud to release this inaugural *Airport Carbon Accreditation* Annual Report, which documents airports' activities to better manage and reduce their CO2 emissions during the first year of operation of *Airport Carbon Accreditation.*

This report outlines the scheme requirements and details of its architecture, as well as providing aggregate emissions data from accredited airports. In addition, a section of the report is dedicated to the significant issues that have been dealt with during the year, along with our responses to those issues, as well as a look forward to year 2.

Our vision for the future is that as participation in the scheme 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 scheme Administrator (WSP Environment and Energy) and was reviewed and approved by the *Airport Carbon Accreditation* Advisory Board on 8 June 2010.

1   An Introduction to *Airport Carbon Accreditation*

1.1   CONTEXT

❖ European airports have been actively dealing with environmental concerns on an individual basis for decades, focusing on local impacts in relation to noise, air quality, water and biodiversity. However, the global nature of climate change is bringing a new kind of exposure and challenge to industries that are perceived to have a high environmental impact or significant emissions sources. As a result, a collected and co-ordinated industry response is required to ensure that European airports can demonstrate their evolutionary approach to improved performance commensurate with their business cycle and be able to demonstrate compliance, policy and legislative, in order to facilitate 'licence to operate and grow'.

> *"Eradicating greenhouse gases from power stations and cars, trucks and aviation must be Europe's next policy move to tackle climate change. We need to come up with concrete policies to decarbonise our electricity supply and transport fuels to transform the grid. That's the concrete task of the next Commission, but it is not too early to be thinking about this."*
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> **European Commission President Jose Manuel Barroso** (13 May 2009)

❖ According to the Intergovernmental Panel on Climate Change (2001), aviation contributes around 2% of global man-made CO_2 emissions, but it is recognised that this proportion may increase over time. It is estimated that airport activities account for up to 5% of total aviation emissions. Along with other aviation industry stakeholders, European airports are seeking to address the challenge of climate change and have developed a wide range of activities to reduce carbon emissions linked to airport operations. These emissions stem mainly from: energy use in airport buildings and infrastructure; transport to/from airports; air-side vehicles; aircraft ground movements and energy consumption and refrigerants.

❖ In June 2008, the annual assembly of ACI EUROPE adopted a landmark resolution on Climate Change when its member airports committed to reduce carbon emissions from their operations, with the ultimate goal of becoming carbon neutral. One year later, at the 2009 annual assembly, ACI EUROPE launched *Airport Carbon Accreditation*, allowing the assessment and recognition of participating airports' efforts to manage and reduce their CO_2 emissions.

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

1.2   SCHEME ASPIRATIONS, AIMS AND BENEFITS

❖ *Airport Carbon Accreditation* has been specifically developed to assess and recognise airport efforts to manage and reduce their GHG emissions and to ensure that suitable management processes are in place that will enable emissions reductions to be identified, and that reductions are achieved. It is intended to set a leading example of corporate leadership in responsible business practice.

❖ It is the only industry specific performance-based, voluntary, pan-European and institutionally endorsed accreditation label. As such it is a significant step in the standardisation of emissions reductions across airports and follows a goal set down by ACI EUROPE for its airports to move towards carbon neutral operations.

❖ Aviation is a highly-visible industry and for this reason, *Airport Carbon Accreditation* not only underlines the direct activities of airports, but also collaborative efforts with airlines, air traffic control, ground handlers and others – as part of a comprehensive strategy towards aviation's presence on the ground. It is intended that through the recognition of real reductions in emissions,

increased participation in *Airport Carbon Accreditation* will improve the external perception of European airports' environmental performance, and contribute to operators' credibility through independent endorsement and accreditation of carbon measurement and management.

❖ Participation also demonstrates leadership in addressing climate change and is intended to convey the key message that airports are dealing with their environmental impacts and are committed to doing even more in future. .As such, *Airport Carbon Accreditation* is a unique tool for engaging the airport industry on the path towards improved sustainability and carbon neutrality.

Key benefits of participation that have been identified by the Advisory Board and ACI EUROPE members individually include:

■ Demonstrating that airport strategic decisions consider climate change and CO2 emissions

■ Increasing airports public profile and credibility

■ Reducing exposure to climate change regulatory risk

■ Supporting efforts to justify a 'license to grow'

■ Helping to deliver significant financial benefits (an estimated 5-10% reduction in annual operating costs in the short term)

■ Demonstrating proactive management of CO2 emissions sources and increased operational efficiency

■ Providing a common management tool and framework to reduce emissions

■ Acting as vehicle for the exchange of information and development of best practice

■ Contributing to a positive public reputation of the airport industry

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1.3 SCHEME REQUIREMENTS

❖ *Airport Carbon Accreditation* acknowledges that airports are at a number of different points on a 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.

❖ By providing airports with a common framework for active carbon management, *Airport Carbon Accreditation* assesses and recognises efforts to manage and reduce carbon emissions from airport operations. Performance recognition is ensured with four levels of accreditation: mapping, reduction, optimisation and neutrality.

❖ 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 foot printing and management. Airports must have carbon footprints independently verified in accordance with ISO14064, for which evidence must be provided to the scheme Administrator. All claims regarding carbon management processes must also be independently verified.

❖ The requirements of *Airport Carbon Accreditation* each level are as follows:

- ■ Determine its 'operational boundary' and the emissions sources within that boundary which are Scope 1 and Scope 2 sources, as defined by the Greenhouse Gas Protocol
- ■ 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.

- ■ Fulfill all the requirements of 'Mapping'
- ■ Provide evidence of effective carbon management procedures including:
  – show it has a low carbon/low energy policy
  – show that a senior committee or body has responsibility for climate change/carbon/energy matters
  – show how it communicates emissions performance to relevant stakeholders
  – show it has procedures for preparing and checking an accurate carbon footprint
  – monitor consumption of fuel & energy
  – have carbon/energy reduction targets
  – show it has programmes or control mechanisms to ensure operations minimise emissions
  – show it considers emissions impact of investments
  – show it undertakes awareness training about emissions for staff
  – show it has a process of self assessment & auditing to monitor progress of improvement delivery
    - ■ Demonstrate that a reduction in the carbon footprint has occurred by analysing the carbon emissions data of consecutive years.

- ■ 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
  – any other Scope 3 emissions which the airport chooses to include.
    - ■ Presentation of evidence of engagement with third party operators to reduce wider airport-based carbon emissions. Required evidence of stakeholder engagement includes:
  – Identification and categorisation as far as possible of stakeholders the airport can guide and those it can influence.
  – Allocation of clear roles and responsibilities for engaging and facilitating partnerships with key stakeholders (airlines, ground handlers, etc)
  – Details of communications and training provided to stakeholders.
  – A clear implementation plan of the intended approach to engaging with stakeholders including proposed actions and timings.

- ■ Fulfill 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 ROLE OF THE ADMINISTRATOR

❖ The scheme Administrator provides a range of services to assist airports with participation and ensure the smooth running of the scheme. Administrator responsibilities include:

  ▪ Provision of documentation and guidance to enable applicants to prepare submissions and applications;

  ▪ Management of participation renewal;

  ▪ Provision of helpline support to airports to answer technical and general enquiries about the scheme.

  ▪ Processing of applications, renewals and fees;

  ▪ Collation of data and preparation of the *Airport Carbon Accreditation* Annual Report;

  ▪ Preparation of data for review by *Airport Carbon Accreditation* Advisory Board.

1.5 THE ROLE OF THE 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 the Administrator and other relevant organisations which have expressed an interest. 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 Patrick Gandil, ECAC (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 Daniel Calleja, Director of Air Transport, European Commission

  ▪ Mr Olivier Rapf, Head Climate Business Engagement, World Wide Fund International

  ▪ Professor Callum Thomas, Centre for Air Transport and the Environment at Manchester Metropolitan University

❖ The terms of reference for the Advisory Board have been formalized and the Advisory Board has held two meetings on 15 January and 8 June 2010.

2   Scheme uptake and achievements in year 1

In year 1 of the scheme, a total of 17 airports have become accredited, with a further 14 airports' applications either in review or due imminently. These 17 airports account for a total of 309,095,191 passengers or 20.5% of total European air traffic.

2.1   ACCREDITED AIRPORTS

❖ As of 1 June 2010, the following 17 airports have been successfully accredited at the levels shown:

Organisation	Airport	Level
AIA	Athens	1 Mapping
Bologna Airport	Bologna	1 Mapping
Dubrovnik Airport	Dubrovnik	1 Mapping
TAV	Izmir	1 Mapping
Schiphol Group	Amsterdam	1 Mapping
TAG	Farnborough	1 Mapping
Aeroports de Paris	Charles de Gaulle	1 Mapping
Aeroports de Paris	Orly	1 Mapping
Fraport AG	Frankfurt	2 Reduction
Manchester Airport Group	Manchester	2 Reduction
Avinor	Kristiansand	2 Reduction
SEA Milan	Malpensa	3 Optimisation
SEA Milan	Linate	3 Optimisation
Avinor	Trondheim	3+ Neutrality
Avinor	Oslo	3+ Neutrality
Swedavia	Stockholm-Bromma	3+ Neutrality
Swedavia	Stockholm-Arlanda	3+ Neutrality

2.2   APPLICATIONS IN REVIEW OR IMMINENT

❖ The following 14 airports have applications either in review or which are expected imminently:

Organisation	Airport	Level
ANA	Faro	1 Mapping
ANA	Flores	1 Mapping
ANA	Horta	1 Mapping
ANA	Lisbon	1 Mapping
ANA	Oporto	1 Mapping
ANA	Ponta Delgada	1 Mapping
ANA	Santa Maria	1 Mapping
DAA	Cork	1 Mapping
DAA	Dublin	1 Mapping
DAA	Shannon	tbc
Swedavia	Umea	3+ Neutrality
TAV	Ankara	tbc
TAV	Istanbul	tbc
ZAGREB	Zagreb	tbc

2.3 AGGREGATE CARBON FOOTPRINT AND REDUCTION FIGURES

❖ This section outlines the *aggregate* carbon (CO2) footprint and reduction figures achieved by the 17 airports currently accredited under the scheme. These figures derive from the individual applications themselves, as verified externally according to the scheme rules.

❖ Every attempt has been made to provide an accurate quantification of the actual emissions reductions achieved overall and to compare like with like to the best extent possible. This is not as yet fully the case as under the scheme requirements, reductions are measured against a rolling average of the previous three years' emissions. At present, not all airports have three years historical data available, and the scheme therefore recognises that until such data is available, airports can measure reductions against either one or two years of data. The data presented here reflects this.

❖ The reductions achieved by the different airports are not therefore directly comparable, in part reflecting the different operating conditions of each airport. In any event, 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. At present therefore, no comparison or ranking of airport emissions according to their CO2 emissions is provided. In future, it is hoped to compare the reductions achieved between airports, for example at the different levels of participation, but data will continue to be presented in aggregate form.

❖ As the scheme requires that airports report on CO2 emissions only, and not all GHG emissions, reductions are expressed in terms of CO2 equivalent. Under the scheme, airports may report on additional GHG gases if they wish to do so, and this is considered as best practice. Such figures as have been provided, however, are not reported here as yet.

❖ The reductions achieved by the airports participating in the scheme are genuine quantified reductions in CO2 emissions, 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 in the table below:

❖ The **aggregate reported reduction** in carbon emissions from the 17 airports accredited under the scheme (notwithstanding the comments above regarding the differences between airports' reporting) **amounts to 411,390 tCO2**.

Variable	Emissions	Number of airports
Total carbon footprint for 'year 0'[1] for emissions under airports' direct control:	803,050 tonnes CO2	17 airports
Per passenger / traffic unit	2.6kg CO2 per TU	
Total reduction in emissions from sources under airports' direct control (Level 2 and above)	51,657 tonnes CO2	9 airports
Per passenger / traffic unit	0.351 kg CO2 per TU	
Total carbon footprint for 'year 0' for emissions sources which an airport may guide or influence (level 3 and above)	2,397,622 tonnes CO2[2]	6 airports
Additional reductions from emissions sources which an airport may guide or influence****	359,733 tonnes CO2	
Total emissions offset (Level 3+)	13,129 tonnes CO2	4 airports

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

[2] These emissions sources are those detailed in the guidance document, plus any other sources that an airport may wish to include. For comparison, the emissions from sources that the same 6 airports are able to control were 102,293 tonnes CO2.

3   Case Studies

The objective of this section is to illustrate best practices developed by airports in relation to their participation in *Airport Carbon Accreditation*, irrespective of their level of participation. 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.

3.1   CASE STUDY 1: PREPARING A CARBON FOOTPRINT FOR THE FIRST TIME AT ATHENS INTERNATIONAL AIRPORT (AIA)

AIA developed its first ever carbon footprint in line with *Airport Carbon Accreditation* requirements in order to become accredited at the Mapping level in 2009.

The experience of AIA however, had begun long before the programme launch in June 2009, due to its role as leader of the 'Taskforce' appointed by ACI EUROPE to provide input into the development of the scheme. AIA therefore worked closely with ACI EUROPE, WSP Environment & Energy and representatives from other member airports to develop the scheme requirements.

In order to prepare its application, AIA built on its previous experience in estimating emissions from sources including aircraft, vehicles, and stationary sources. This in-house know-how enabled the footprint to be developed without the need for external support, thus reducing the cost of participation. In addition, AIA made use of the *Airport Carbon Accreditation* Helpline when initially defining its organisational boundary in order to determine how to address some unusual installations, such as its Sewage Treatment Plant.

AIA reports that one of the major benefits derived from the completion of its carbon footprint, was *in gaining an understanding of the relative importance of the different emission sources.* For example, it became apparent that 90% of the carbon emissions were attributed to the consumption of electricity in AIA's buildings and facilities, and *this insight will help AIA prioritise its future carbon management actions, focusing on initiatives with high emissions reduction and cost savings potential.*

This increased visibility has enabled AIA to continue with its initiatives on emissions reduction with a focus on a reduction in electricity consumption and therefore also costs. This is a goal which the company has already invested in significantly over the past several years, and they will now build upon the following achievements:

- Implementation of a Building Automation System that incorporates an extensive energy consumption monitoring network and software to facilitate load-shedding;

- Conducting energy audits;

- Participation in the GreenLight and GreenBuilding Programmes.

In addition, the carbon footprint exercise provided clear evidence of the emission benefits associated with AIA's recent strategy of converting petrol-powered vehicles to run on Liquified Petroleum Gas (LPG), an initiative that also bore financial benefits. AIA also reports that the carbon footprint and verification exercises helped establish new inter-departmental relationships within the organisation that will be beneficial for the implementation of programmes to achieve emissions reductions.

A reflection of these benefits, and of their commitment to managing and reducing their emissions*, is that Airport Carbon Accreditation has been incorporated into AIA's Climate Change Corporate Action Plan,* and subsequently adopted as a corporate target. Finally, the relevant publicity, both internal and external, has helped stimulate additional corporate awareness concerning climate change and aviation. This demonstrates how *Airport Carbon Accreditation*, by providing independent, third party recognition for an airport's achievements, helps to engage people both within and outside of the organisation. Looking to the future, and reflecting on the fact that it already has a wide range of carbon management programmes in

place, AIA plans to upgrade its accreditation to Level 2 (Reduction) in 2010.

3.2 CASE STUDY 2: REDUCING ENERGY CONSUMPTION AT STOCKHOLM-ARLANDA AIRPORT

Swedavia

Stockholm-Arlanda Airport is Sweden's largest airport and a hub for both the Stockholm region and Scandinavia: due to this prominence its energy consumption is equivalent to that of a city of 25,000 people. This means that for Swedavia, that owns and operates the airport, environment and the climate change issues have been a high priority for many years. During 2009 Stockholm-Arlanda was the first airport in Europe accredited the highest level, neutrality, in the European programme, *Airport Carbon Accreditation,* **reflecting on the achievement of a halving of emissions from the airport's own operations since 2004**.

This reduction was achieved through a wide range of measures, with initiatives including:

- Space heating of buildings from bio-fuel based district heating;
- Reduced electricity consumption through the use of LED lighting;
- Addressing emissions from Swedavia´s vehicles fleet for example through the use of biogas fuelled buses for passenger service inside the airport area.

In addition, Stockholm-Arlanda has undertaken a **large-scale infrastructure project** which is designed to further reduce emissions and costs from the space-heating cooling of buildings, and contributes to **a target of a 30% reduction in energy consumption in 2010 based on 2005 levels.** An aquifer based heating and cooling storage system, taking advantage of a natural groundwater reservoir, an aquifer, in the Brunkeberg Ridge next to the airport, was taken into service in 2009.

The system works by taking advantage of the geothermic properties of the aquifer to store warm water for use in the winter, and cold water for use in the summer. Cold water is pumped out of the aquifer during summer to be used in Stockholm-Arlanda's existing district cooling system. The warmed water that returns at c.15oC is then stored on the warm side of the aquifer until winter when it is used to preheat ventilation intake air in buildings and in ground heating coils to melt snow in aircraft parking stands. When the water returns to the aquifer, it has cooled back to about +5°C., and this cool water is stored on the cool side of the ridge until next summer. In the system no groundwater is consumed; instead the same quantity that is pumped up is also returned to the groundwater reservoir.

The aquifer is six to seven times more efficient as a store of energy than similar aquifer-based sytems; the system does not require a heat pump, meaning that the system has had a significant effect on the airport's energy consumption. **It will enable an estimated 4 GWh reduction** in electricity consumption **and a 15 GWh reduction in consumption of district heating**. This is **equivalent to the energy consumed by 2,000 single-family homes each year**. In addition, the airport has been able to replace existing refrigerant-based cooling systems with more environmentally benign water based units. In conjunction with district cooling from the nearby Halmsjön Lake, 100% of the airport's cooling needs are provided by on site renewable sources.

As Stockholm-Arlanda already used 'green' electricity and bio-fuel based district heating, the impact on CO_2 emissions is not likely to be significant as one 'carbon neutral' energy source is replaced with another. However, the new system means that green energy sources that save approximately 7000 tonnes CO_2 annually are now available to other energy users. **Cost savings from the project are estimated to be c. €1m per year**.

3.3 CASE STUDY 3 STAKEHOLDER ENGAGEMENT ACTIVITIES AT AMSTERDAM AIRPORT SCHIPHOL

Amsterdam Airport Schiphol has a range of different themes on which it engages with different stakeholders, including security, health and safety, accessibility and climate change. **Surface access accounts for approximately 30% of the airport's total carbon footprint** meaning that 'sustainable mobility' a key aspect of Schiphol's Climate Plan. The airport itself does not have operational control over the emissions sources in question, meaning that for the sustainable mobility programme **stakeholder engagement is essential if emissions reductions from surface access are to be achieved.**

The focus of the sustainable mobility initiative is to both reduce emissions and improve accessibility at the same time, by addressing the needs of employees, passengers and cargo traffic. A major aspect of this is therefore **increasing public transport provision to the airport, and 41.5% of passengers now reach the airport in this way**. In addition, the airport has run initiatives to engender awareness of climate change, and of sustainable mobility, amongst airport staff such as a 'climate competition' to encourage staff to come up with ideas to reduce emissions across the airport.

As a result of the 'climate competition', the **ECO2 parking scheme** was launched in January 2010 **to help influence mobility behaviour amongst airport employees by rewarding staff with fuel efficient and hybrid vehicles**. Those staff with vehicles emitting less than 110g CO_2/km can apply for a parking permit close to the terminal building, with 340 staff currently taking advantage of the initiative. Not only does this encourage the uptake of such vehicles, but it also enables Schiphol to communicate further details of its sustainable mobility initiative to staff, such as lift sharing and public transport availability. Furthermore, as some staff have their parking paid for by their employers at the airport, it has encouraged them to engage directly with their employers on the matter.

4   Lessons learned: summary of key issues from year 1

During the course of the year, issues have arisen with airports going through the application process. Possibly the most important lesson learnt is that although the operating conditions at every airport are unique, participation has enabled a common approach to airport carbon measurement and management by the airports concerned. In addition to ad-hoc comments and queries received through the *Airport Carbon Accreditation* helpdesk, the following sources of information have fed into the improvement of the scheme.

- A survey of participants by the scheme Administrator;

- An independent survey of participants and other ACI EUROPE member airports;

- Meeting of ACI EUROPE Taskforce to review proposed amendments to Guidance Documentation and Application Assessment Form;

- Two Advisory Board meetings to review scheme performance, progress in meeting objectives, level of aggregate airport environmental performance and key issues going forward;

- Informal discussions with representatives from industry and other media

As a result, revisions to the scheme have been made in certain areas, ranging from the helpdesk standard operating procedures through to the updating of the Guidance Documentation in Year 2. These amendments are summarised below.

4.1   HELPDESK ENQUIRIES AND FAQS

- ❖ During the first year of *Airport Carbon Accreditation*, the helpdesk has received enquiries about *Airport Carbon Accreditation* from airports and airport groups representing over 80 airports and 30 other organisations. These enquiries can be split into two categories:

  - General questions about the scheme including:

    – Benefits of participation;

    – Scheme requirements;

    – The application process;

  - Technical questions on the preparation of a carbon footprint including:

    – How to determine the airport's organisational boundary;

    – Identification of appropriate emissions factors;

    – How to account for carbon sinks at an airport.

- ❖ In line with the helpdesk standard operating procedures, an FAQ document is maintained to ensure that a consistent approach is taken with all airports. This document is also available on the *Airport Carbon Accreditation* website; please see appendix 1 for a full summary of FAQs received to-date.

4.2   SCHEME BENCHMARKING

- ❖ *Airport Carbon Accreditation* has been benchmarked against the specific and detailed guidance now available to airport operators seeking to monitor and manage their GHG emissions, such as the ACI World Guidance Manual on Airport GHG emissions management, the US Airport Cooperative Research Programme (ACRP) Report 11 – Guidebook on Preparing GHG Emissions Inventories and various national programmes. The results show that *Airport Carbon Accreditation* is the current best practice in airport GHG mitigation, as it provides for the adoption and standardisation of common reduction goals and management practices. It also directly addresses the issues relating to the reduction of airport Scope 3 emissions, which an airport does not directly

control, but may seek to guide and influence. These factors help establish *Airport Carbon Accreditation* as the airport industry reference standard.

4.3 FEEDBACK FROM AIRPORTS AND SCHEME DEVELOPMENTS DURING YEAR 1

❖ During the year a range of issues have been identified and proactively dealt with to ensure the smooth running of the scheme.

Issue / description	Response
High verification costs Verification costs vary significantly from airport to airport depending on the size and complexity of the site as well as the level of verification. As this must be carried out each year, it is a significant ongoing cost for the airports.	To reduce this burden without compromising the scheme's integrity, it has been agreed in principle that airports may get their carbon footprints verified on a bi-annual basis. However, verification will automatically be required should an airport wish to upgrade to a higher level. It should also be acknowledged that some airports have reported the verification process to have 'added value' due to the additional learning that the assurance process provides in terms of an assessment of materiality, and the systematic approach it requires for the assessment of the footprint.
Time taken to appoint verifier / carry out verification Due to the internal tendering processes at some airports, as well as the work programmes of many third-party verifiers, airports have reported that the verification process can lead to delays in submitting an application and therefore achieving Accreditation.	All airports are now advised through the helpdesk to identify a verifier as soon as possible, based on the guidelines in the FAQs. A list of those verifiers who have validated the applications for accreditation of the airports participating in the scheme is provided at Appendix B. It is also available on the *Airport Carbon Accreditation* website.
Language / interpretation problems with the scheme documentation In some instances, some aspects of the scheme Guidance Document have not been easily understood.	Issues with individual airports have been resolved throughout the year through dialogue with the helpdesk, whilst the FAQ document was published on the scheme website to supplement the document. In addition, a revised Guidance Document and Application Assessment Form have now been released for Year 2.
Long processing times for participation fees Due to local requirements in some countries, for example the accounting systems at individual airports or the requirements of the local tax office, the processing of applications has been delayed in some instances as Accreditations cannot be confirmed until the participation fee has been received.	In order to reduce the likelihood of this occurrence, the scheme Administrator now encourages airports to maintain dialogue with the helpdesk so that any country or airport-specific arrangements can be accounted for prior to the application being received.
Renewal process As the scheme runs on an annual basis, an airport's initial participation fee was calculated on a calendar year, pro-rata basis, with renewals being due at the end of the scheme year in May. However, this provides a disincentive to airports to prepare an application for a small amount of the year, only to have to apply to renew a few months later.	As this could discourage airports from submitting their applications, the renewal process has been amended so that all applications are valid for 12 months from the accreditation date.
Reporting requirements for the Advisory Board A key aspect of the *Airport Carbon Accreditation* Terms and Conditions relates to the confidentiality of airports' carbon footprint data, which must not be distributed to any third parties by the scheme Administrator. To enable the Advisory Board to approve the Annual Report, it was agreed that the individual applications and carbon footprints of airports would require scrutiny to ensure that they had been prepared in line with the minimum scheme requirements.	The Terms and Conditions were revised to reflect the requirements of the Advisory Board, with all participating airports notified of the changes.
Further guidance on stakeholder engagement for airports It was noted during the year that whilst Guidance Document contains a range of information and examples to assist airports with the development of their carbon management practices, less detail was available for stakeholder engagement.	As a part of the revision for year 2, this section of the Guidance Document has been expanded to highlight that an airport should take a systematic approach to the identification of different stakeholder groups and the different considerations required in dealing with them.

5   Looking ahead to year 2

5.1 INCREASING PARTICIPATION LEVELS

❖ In order to demonstrate the European airport industry's collective action on climate change, it is essential that further airports participate in the scheme. This will also help to ensure that *Airport Carbon Accreditation* progressively becomes the accepted industry reference standard for airport carbon mapping and management and will contribute to its growing acceptance amongst airports, the aviation industry, governmental bodies and others. ACI EUROPE and WSP Environment & Energy, as the scheme Administrator, remain committed to ensuring that participation levels continue to grow.

5.2 UPGRADING PARTICIPATION AND THE NEED FOR POLICY COMMITMENT AT LEVEL 1

❖ As a scheme designed to recognise airports achievements in carbon management, feedback from the *Airport Carbon Accreditation* Advisory Board suggests the credibility of the scheme may be diluted if airports remain at the 'Mapping' stage. Mapping has been developed to reflect that preparing a carbon inventory is the 'first step' along the road to Neutrality, and many airports will need to do this for the first time to become accredited.

❖ However, it is only at Level 2 that real emissions reductions are achieved, meaning that it is desirable for airports to progress through the levels in order to better demonstrate their collective action on climate change. Airports are therefore encouraged to progress through the levels, and to upgrade their Accreditations where possible rather than using *Airport Carbon Accreditation* as an inventory methodology only.

❖ Whilst there is no formal requirement for airports applying for the Mapping stage to commit to progress through the levels, from September 2010 all airports applying to become Airport Carbon Accredited must have a high-level policy commitment at CEO or Board level to the reduction of CO2 emissions. This was previously only applicable to Level 2 applicants and above, and demonstrates that all scheme participants must have emissions reductions as a long term goal.

5.3 OTHER LONG TERM DEVELOPMENTS

❖ **Geographical expansion**
Interest in the scheme is such that the matter of its geographical expansion to other regions at some future time has already been raised within the ACI global community. Whilst any ACI member airport may join the scheme now subject to the approval of ACI EUROPE, it is recognised that to maintain institutional endorsement and the key credibility of the scheme any extension would need to ensure that there would be no dilution of the basic scheme structure, requirements and administration, and needs to be tested further in the European region. However, through the helpdesk there has been interest from a range of airports globally and it is acknowledged that participation by these airports would help cement *Airport Carbon Accreditation* as the 'reference industry standard' for GHG management.and that other airports in other ACI regions can gain and provide benefit to the scheme, from early action through participation in the scheme

❖ **Expansion to supporting organisations**
Throughout the year, there have been a number of enquiries from organisations that provide goods and services to airports relating to the potential for them to become *Airport Carbon Accredited*. As the scheme requirements have been tailored to the airport industry and were developed through detailed 'Task Force' discussions with ACI EUROPE member airports, the framework is not yet transferable to suppliers and contractors that may provide airports with a wide range of goods and services. However, there is the potential that the *Airport Carbon Accreditation* framework could be adapted to a series of generic criteria that such organisations could use. This could be seen as an 'affiliate' or 'associate' Accreditation. Whilst this may not directly assist ACI EUROPE in its role as

the trade association for European member airports, in the long term it could assist airports in their procurement processes, as well as providing a basis for stakeholder engagement.

5.4 HOW TO BECOME AIRPORT CARBON ACCREDITED?

Based on the experiences in the first year of administering the scheme, it is recommended that airports wishing to participate take the following course of action. We recommend that airports have a continued dialogue with the scheme Administrator during this process to ensure that information is prepared correctly and in line with the minimum scheme requirements.

Helpdesk details:

+44 845 868 2708
aca@wspgroup.com

1. Contact scheme Administrator for scheme documentation;

2. Review documentation;

3. Decide on Level of participation based on level of carbon management activity at airport;

4. Collate data and prepare documentary evidence to support application; identify an independent third party verifier;

5. Fill out application form and get it verified; contact scheme Administrator to make arrangements for payment;

6. Submit application to scheme Administrator for processing; pay participation fee.

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

Appendix A Frequently Asked Questions

GENERAL QUESTIONS ON *AIRPORT CARBON ACCREDITATION*

1. WHY SHOULD I JOIN *AIRPORT CARBON ACCREDITATION*?
- Raise profile and credibility
- Minimise exposure to climate change risks
- Gives substance to policy decisions
- Secures a license to grow
- Achieve financial rewards and reduce costs

2. WILL THE INFORMATION I SUBMIT BE PUBLICALLY AVAILABLE?
No. All data that is provided to the scheme Administrator will remain confidential.

3. HOW WILL THE INFORMATION SUBMITTED BE USED?
The scheme Administrator will compile aggregated data for annual reporting to ACI EUROPE but there will be no way that any part of this aggregated data can be dis-assembled and elements of it attributed to individual airports. When compiling best practices and case studies permission will be sought from the relevant airport(s) prior to publication. Data on individual airports will be available to the *Airport Carbon Accreditation* Advisory Board, however this will be done in strict confidence.

4. HOW MUCH DOES IT COST TO PARTICIPATE IN THE SCHEME?
The cost of participation varies depending on the size of the airport and the level at which you wish to participate. Details of the pricing structure can be found at the back of the Application Assessment Form.

APPLICATION QUESTIONS

1. IS THERE A DEADLINE FOR APPLICATIONS TO THE SCHEME?
The *Airport Carbon Accreditation* scheme runs from May to May each year, but there is no deadline for application. Applications received before the 15th May of each year will be included within the *Airport Carbon Accreditation* Annual Report published in June of the same calendar year.

2. HOW LONG DOES IT TAKE TO BE ACCEPTED ONTO THE SCHEME ONCE AN APPLICATION HAS BEEN SUBMITTED?
WSP Environment and Energy aim to process each application once payment of the participation fee has been received from the airport. Once payment is received, applicants will be advised within one week whether their application has been successful, and if so the relevant certification will be issued. If not, airports will be advised of any defects (i.e. missing information), and given the opportunity to provide it. There is no time limit for this, however airports would be encouraged to do so as quickly as possible.

3. HOW MANY AIRPORTS CAN BE INCLUDED IN A 'BAND E' APPLICATION?
There is no limit on the number of airports that can be included in a Band E application, provided that each airport has fewer than 500,000 passengers a year. However, it is not possible to add further airports to a band E application once it has been submitted. For band E applications, an overall carbon footprint should be submitted, rather than carbon footprints for individual airports.

SCHEME VERIFICATION

1. WHAT DO I HAVE TO DO TO GET MY CARBON FOOTPRINT VERIFIED?
Participating airports are required to submit a verified carbon footprint under all different levels of ACA, as detailed in section 9 of the Guidance Document. To ensure the independence of this process WSP are unable to recommend specific organisations that are able to do this work.
- Nationally Accredited Organisations (e.g. UKAS, ASCBe)
- Reputable environmental consultancies
- Reputable accountancy firms

If an airport already retains an organisation for other reporting purposes (for example annual financial reporting or ISO14001/EMAS certification) then they should also be able to verify the carbon footprint. It should be noted however that the verification body should not have been involved in the preparation of the footprint.

A list of verifiers that other airports have already used to successfully verify a carbon footprint is included on the *Airport Carbon Accreditation* website.

2. CAN WSP DO THE VERIFICATION OF THE CARBON FOOTPRINT OR THE DOCUMENTS?

WSP are not able to do the verification of the carbon footprint or the documents, as this must be carried out by an independent third party.

3. WHAT IF I DO NOT HAVE THE RELEVANT INFORMATION AVAILABLE IN ENGLISH?

As detailed in section 2.7 of the application assessment form and section 3.1 of the guidance document, in the event that the supporting documents for the application assessment are NOT in English participating airports are also required to verify the application assessment form.

PREPARING THE APPLICATION

1. IS IT POSSIBLE TO USE THE OLDER PREVIOUS YEARS (E.G. 2006) FOR THE CARBON FOOTPRINT YEAR?

The guidance document (under section 8.1) details "*the scheme will accept a footprint which was prepared up to 12 months before the date it was submitted **so long as it completely meets the minimum requirements of the scheme***". If the airport wishes to enter at Level 2 then the airport have to prove that they have made a reduction in carbon emissions from a rolling average of previous years which will mean that the airport have to calculate carbon footprint from additional years.

2. OUR PREVIOUS YEAR'S CARBON FOOTPRINT WAS CALCULATED USING A DIFFERENT METHODOLOGY. IS IT POSSIBLE TO USE THIS TO DEMONSTRATE EMISSIONS REDUCTIONS?

A carbon footprint prepared using an alternative methodology can be used to demonstrate reductions in emissions in the first year of scheme participation provided that an acceptable summary of the differences of the footprint scope (as compared with a footprint prepared in line with the minimum guidance requirements) can be provided. However, in subsequent years, the footprint compared according to the minimum scheme requirements should be used to demonstrate emissions reductions.

3. HOW DO I SELECT THE OPERATIONAL BOUNDARY FOR SCOPE 1 AND 2 EMISSIONS?

As detailed in section 4 of the guidance, all activities that are wholly owned by the airport and/or are carried out for the benefit of the airport should be included within the scope of the footprint. Leased or rented equipment that is under the control of the airport and operated for the sole benefit of the airport should also be included in scope 1 or 2. However, activities that are the responsibility of third-party operators should therefore be included within scope 3 of the footprint.

4. SHOULD BUSINESS TRAVEL BE INCLUDED IN THE CARBON FOOTPRINT?

Business travel in company owned or controlled cars (e.g. company cars) is classed as an emissions source under the airport's 'direct control' or scope 1. Business travel in non-company owned or controlled vehicles such as rental cars, employees cars, trains and commercial planes are covered in scope 3. The guidance document (under section 8.4) provides further detail of the scope 1 and 2 carbon reporting.

5. SHOULD WE INCLUDE ENERGY CONSUMED BY OUR TENANTS OR AIRPORT PARTNERS?

The guidance document (Section 8.4.2 Energy Sold to Third Parties) provides further detail. However in summary, airports that generate energy in combustion plant that it owns (scope 1 emissions) and sells off that generated energy is not allowed to net off the emissions associated with that energy scope 1 emissions. If an airport purchases energy which is included in the airport's scope 2 emissions and resells this to another third party (e.g. tenants or airport partners), the airport is allowed to net off emissions from Scope 2 sources if the energy sale **is metered**.

6. WHAT EMISSION FACTOR SHOULD AIRPORTS USE FOR FIRE FIGHTING EXERCISES?

There does not appear to be a common emission factor for fire fighting exercises as this will be dependent upon the vehicles and foam used.

7. SHOULD FRENCH AIRPORTS USE THE ACA EMISSION FACTORS OR THE ADEME EMISSION FACTORS WHEN CALCULATING THEIR CARBON FOOTPRINT?

The guidance document (section 8.4.6 Emission factors) details "*an airport may use its own emissions factors if it can provide robust evidence that the factor being used is appropriate*". For the ACA scheme it would be acceptable to use either the ACA or ADEME emission factors but this would need to be justified within the carbon footprint.

8. IS THERE SCOPE FOR OFFSETTING EMISSIONS FROM ELECTRICITY PURCHASED FROM THE LOCAL INCINERATOR?

Airports should use the local emission factor from the incinerator for the electricity purchased. The French ADEME method does allow you to assume this is zero carbon for the Bilan Carbone method. Airports should use the local emission factor for the incinerator and use that specific emission factor for calculating the carbon emissions from the electricity purchased from the incinerator. Under ACA airports should use the local emission factor regardless of whether it has sent waste to this incinerator and purchased energy from this.

9. IS AN AIRPORT GROUP CARBON MANAGEMENT STRATEGY SUFFICIENT TO DEMONSTRATE CARBON MANAGEMENT AT INDIVIDUAL AIRPORTS?

A group carbon management strategy may be sufficient to demonstrate some of the minimum requirements according to the scheme guidance. However, in order to demonstrate reductions in emissions at an airport level, it will be necessary to provide evidence that this strategy is being implemented at airport level.

10. WHAT OFFSETS ARE ACCEPTABLE FOR SCHEME PARTICIPANTS?

Section 13 of the guidance outlines the types of offset that are permissible for scheme participants. In the event that an airport wishes to use offsets from bespoke projects, information about the specific project should be provided to WSP so that a judgement on their suitability can be made.

11. CAN CARBON SINKS AT THE AIRPORT BE INCLUDED WITHIN THE FOOTPRINT?

Carbon sinks should not be included within the carbon footprint at Levels 1-3, however if they fulfil the scheme offsetting requirements then they may be used to contribute to the offsetting of residual emissions at Level 3+.

Appendix B List of verifiers

Organisation	Airport	Level	Verifier
AIA	Athens	1 Mapping	TUV Hellas
Bologna Airport	Bologna	1 Mapping	CERMET
Dubrovnik Airport	Dubrovnik	1 Mapping	Trames
TAV	Izmir	1 Mapping	Bureau Veritas
Schiphol Group	Amsterdam	1 Mapping	KEMA
TAG	Farnborough	1 Mapping	Clouds Environmental
Aeroports de Paris	Charles de Gaulle	1 Mapping	Bureau Veritas
Aeroports de Paris	Orly	1 Mapping	Bureau Veritas
Fraport AG	Frankfurt	2 Reduction	Institut für Umwelttechnik
Manchester Airport Group	Manchester	2 Reduction	Carbon Trust, UK
Avinor	Kristiansand	2 Reduction	DNV
SEA Milan	Malpensa	2 Reduction	TUV Sud
SEA Milan	Linate	2 Reduction	TUV Sud
Avinor	Trondheim	3+ Neutrality	DNV
Avinor	Oslo	3+ Neutrality	DNV
Swedavia	Stockholm-Bromma	3+ Neutrality	Bureau Veritas
Swedavia	Stockholm-Arlanda	3+ Neutrality	Bureau Veritas

Airport Carbon Accreditation has already received formal endorsement

From the European Civil Aviation Conference (ECAC) and the European

Organisation for the Safety of Air Navigation (EUROCONTROL)