European Commission's Consultation on a Roadmap for a low carbon economy by 2050

Closing date: 8 December 2010

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ACI EUROPE is the European region of Airport Council International (ACI), the only worldwide professional association of airport operators. ACI EUROPE represents more than 400 airports in 46 European countries. Member airports handle 90% of commercial air traffic in Europe, welcoming nearly one and half billion passengers each year.

Airport operators in Europe directly employ 156,000 staff, along with a total of 1,200,000 employees on airport sites. These airport related jobs amount to a €59 billion annual contribution to European GDP.

Airports in Europe are not just supporting their local economy – increasingly, they are defining it. This situation reflects the fact that air transport lies at the heart of modern, globalised economies and that there is simply no viable substitute to the 150,000 routes that constitute the air transport network connecting Europe.

However, if they are to continue to foster economic growth and job creation, a new market-based outlook of airports and their role in the European economy is needed. Aviation is at a crossroads. International aviation is responsible for 2% to 3% of manmade emissions and airport emissions account for 5% of this share. The sustainability agenda means that over time, new economic and technological fundamentals will substantially redefine the entire sector.

Mindful of the European Commission's Strategy "Europe 2020 – A strategy for smart, sustainable and inclusive growth" ACI EUROPE believes that setting up ambitious emissions reduction targets should be considered as an opportunity to reflect on a systematic approach, taking into account their potential social and economic impacts. The greening of the economy represents an ambitious yet necessary policy objective. For aviation, this is an unprecedented challenge with far-reaching technological and economic consequences.

Defining a roadmap for a low carbon economy entails developing a more efficient and coherent infrastructure system, where the role of nodal access points such as airports should be strengthened. **An efficient, competitive and sustainable infrastructure network is not achievable without efficient, competitive and sustainable nodes.**

Please kindly note that ACI EUROPE replied to the questions for which it is competent.

The EU has put in place a regulatory framework related to climate and energy. Which of the following EU legislations you expect to be the most effective in terms of delivering emissions reduction by 2020 and beyond?
Do you have any comments on the policies evaluated in the previous questions? Do you have any comments on any other policies?

Back in 2005, ACI EUROPE supported the introduction of **aviation emissions in the EU ETS**[1]. In line with this pro-active environmental policy, ACI EUROPE believes that the EU ETS remains the most efficient tool for emissions reduction.

The best approach for addressing aviation's CO2 emissions is a long-term global strategy, which identifies and phases in the most environmentally-effective, economically efficient and politically deliverable measures.

Resolution 37/19 "Consolidated statement of continuing ICAO policies and practices related to environmental protection- climate change" adopted in October 2010 is a critical step towards the acceptance of such a global framework and the leading role of ICAO should be acknowledged in this respect.

The aviation industry remains committed in reaching its long term emissions reduction target of 50% net CO2 emissions reduction in 2050 compared to 2005 levels[2]. It made clear that such massive reductions could only be achieved through the combination of factors, the four-pillar strategy: technology, operations, infrastructure, market-based measure. Under the "technology" pillar, the use of sustainable biofuels constitutes the most promising potential for emissions reduction. With the adoption of the Renewable Energy Directive, European institutions have clearly established the use of biofuels in the energy mix as a priority. However, breakdown targets per sectors and transport modes could act as a strong incentive for supporting the industry's R&D efforts and for defining a clear roadmap for the use of biofuels in the sector.

European airport operators directly control a limited part of activities releasing CO2 emissions. This is acknowledged in the Greenhouse Gas Protocol jointly developed by the World Resource Institute and the World Business Council for Sustainable Development[3]. Indeed, CO2 emissions at an airport can be classified in "control, guide and influence", depending on the involvement of the airport company in the implementation of the CO2 emitting activities. For instance, the airport manager controls emissions from purchased electricity, heating, cooling, onsite waste and water management, airport company's fleet,…Building emissions represent a large part of the emissions that the airport can control.

[1] http://circa.europa.eu/Public/irc/env/eccp_2/library?l=/work_group_aviation/stakeholder_position/europes_finalpdf/_EN_1.0_&a=d

[2] http://www.envirosummit.aero/images/Downloads/stories/targets_pathway_paul_steele.pdf

[3] The Greenhouse Gas Protocol Initiative http://www.ghgprotocol.org/about-ghgp

Thus, the implementation of the **Recast Energy Performance of Buildings Directive** will certainly confirm what European airports have experienced as being a potential energy saving area. At Stockholm-Arlanda Airport, space heating of buildings from bio-fuel based district heating, reduced electricity consumption through the use of LED lighting and the development of an aquifer based heating and cooling storage system are contributing to making Stockholm-Arlanda Airport carbon neutral for its own activities (also see question 15).

The EU will need a diverse portfolio of technologies to build a low-carbon future. Some examples of potential technologies and energy efficiency solutions are carbon capture and storage, renewable energy technologies, electric vehicles, fuel cells, smart grids, heat pumps, cogeneration, next generation nuclear power, zero emissions building…Which technology do you think will be the most important in achieving a low carbon economy by 2050 and how can the EU foster their development and deployment?

In relation to the previous question, the availability of **sustainable biofuels** for the aviation industry requires a technological breakthrough that can only be supported by publicly financed research projects. In this respect, it is absolutely critical that the European Commission defines biofuel for aviation as a research priority and devotes adequate funding through its forthcoming FP8 programme.

Also, emissions related to **surface access** (travelling public and employees from companies on the airport site) represent a large amount of CO2 emissions (up to 50% at Stockholm-Arlanda Airport) Thus, it is clear that the generalisation of the use of alternative, more sustainable sources of energy for individuals and public authorities (public transport) is a pre-requisite to "greening" the European transport network and decreasing the impact of aviation-related activities, including on local air quality.

Last but not least, at airport level, **low-carbon technology should be adapted to very specific airport fleet**. Indeed, the low volume of vehicles at each airport does not create a critical mass to trigger required R&D financing by car and truck-makers.

An initiative by the French government consisted in designating an entity in charge of organising and pooling the needs of public and privates companies, local and national authorities for electric vehicles. The objective was to reach a critical mass that would lead to the supply of fit-for-purpose electric vehicles in a competitive and economically sustainable environment.

Such initiatives should be encouraged at cross-border level, so as to allow airport companies across Europe to benefit from the best available low carbon technology.

What are in your opinion the most important initiatives the EU should pursue in the next 5 to 10 years to secure a successful transition towards a low carbon economy by 2050?

Delivering a low-carbon economy by 2050 will necessarily rely on a low-carbon transport system. This does not only mean using the best available technology for each transport ode but also questioning the efficiency of the current transport system.

Defining a roadmap for a low carbon economy entails developing a more efficient and coherent infrastructure system, where the role of nodal access points such as airports should be strengthened. **An efficient, competitive and sustainable infrastructure network is not achievable without efficient, competitive and sustainable nodes.**

For air transport, it is absolutely necessary to consider the integration of airports in the ground infrastructure and the integration of airports in the air infrastructure, so as to avoid unnecessary congestion and associated emissions.

The first aspect is related to the integration of airports in a sustainable network of transport modes, turning European airports into multimodal platforms. Passenger and freight transport could then combine different modes, to offer the most suitable service. Thus, the EU should strongly encourage multi-modal links at airports, in particular direct air/rail connections.

The European **Air Traffic Management (ATM) system** is an invisible network physically linking all airports in the Single European Market amongst themselves and connecting them with the rest of the world. It is crucial that airports do not become the bottleneck of the airspace infrastructure. The integration of airports in IP1 illustrates the necessity to handle this issue adequately.

Single European Sky and its technical arm SESAR will lead to the end of a fragmented ATM system and will consequently have positive externalities on emissions, cost effectiveness, safety and capacity:

- **Safety**: enhanced by a factor 10;
- **Capacity**: ability to handle 3 times more traffic;
- **Environment**: reduction of emissions by 10% per flight;
- **Economic efficiency**: 50% reduction per unit of services to the airspace users.

According to the Communication of the Commission on SESAR, SESAR is expected to create 200 000 jobs in Europe and contribute 50 billion € to EU GDP, thus contributing to a low carbon and successful economy by 2050.

It is clear that the first implementation package of the Single European Sky, IP1, is suffering from the economic crisis that has hit the aviation sector very hard. Therefore, it is unsure if by 2013-2015, the SESAR deployment will have the solid basis that was expected for the deployment of IP1 technology and procedures. **Without a solid foundation, the research results of SESAR will not be able to make the paradigm shift the European ATM network needs.**

Therefore, funding for the air transport industry – be it individual airports, airlines or ANSP's – will be key. Airlines and airports should not be penalized as they are run as fully fledged businesses. Indeed, they already need to introduce cost cutting programs

and postpone investments in better technology. The money left is needed for investments in safety and – in the case of airports - in security.

Only the research component of the SESAR programme is financed. There is, for the moment, no public money involved in the deployment phase of SESAR. It is crystal clear for most observers that the industry will not be able to invest the sums needed to keep up the necessary pace for the materializing of the Single European Sky and delivering on its objectives. The European Commission should acknowledge this situation and decision-makers make more funding available for SESAR.

Achieving a low-carbon future means investing in the medium to long-term. How can the EU roadmap help to create a stable environment to encourage investment in low carbon technologies? Would it be a good idea to consider a mid-term objective for 2030 and, if so, in what form?

Beyond an emissions reduction target, ACI EUROPE strongly supports the establishment of a **consistent approach to environmental policies**. Indeed, a stable investment environment cannot be decoupled from **a stable regulatory environment**.

For an airport to be integrated as a good citizen, it has to mitigate the negative impact of airport-related activities on the quality of life of neighbouring communities. Following permanent exchanges with surrounding communities at local level, airport management have considered and treated noise as their number one concern. Noise mitigation policies entail a range of tools, including noise quotas, operational procedures but also the choice of noise preferential routes. In this case, noise sensitive areas are avoided, which sometimes mean flying longer routes and burning more fuel, thereafter emitting more CO2.

This issue should not be overlooked by policy-makers, when defining environmental priorities. Policy-makers should be aware of the fact that setting priority for the aviation sector has a long-term impact on research and development by manufacturers. Changing priorities therefore add a high level of unpredictability, which certainly does not create the adequate environment for a fully fledged business.

Along the same lines, the proliferation of **national aviation taxes, so-called "Green" taxes** do not contribute to installing a confident business environment. The European aviation sector was heavily hit by the economic and financial crisis in 2008/2009. European airports lost around 100 million passengers due to the crisis, with a major impact both on aeronautical (airport charges) and commercial revenues (e.g. retail). In addition, European airports were fully impacted by the unexpected closure of parts of the European airspace in April/May 2010 due to the Icelandic volcano – just at a moment when the worst of the economic crisis seemed over. In total, European airports suffered lost revenues of €300 million and lost 18 million passengers during the closure of the airspace.

Against this background, the additional taxation of aviation in some EU Member States is highly counterproductive and further damages one of the key pillars of the European economy, hindering investment in one of the most innovative sectors in the EU.

We want to cut emissions in the EU by 80% to 95% by 2050. Some of the measures needed to achieve this could bring about more sustainable growth, extra jobs, accelerated innovation, cleaner air, increased energy security and lowering our vulnerability to external energy shocks. Which of these do you think should be top of the list? What should the EU do to maximise the benefits you think should be delivered in priority by future climate action?

ACI EUROPE members have been working on several years on various options to decrease the CO2 impact of their own activities. Energy efficiency measures were identified as delivering the highest potential for reduction. At an airport they relate to energy efficiency in buildings but also to **efficiency of operations on the ground and in the air**.

In order to maximise the benefits of such initiatives, it is absolutely crucial to establish clear priorities between environmental impacts at an airport, in particular **noise and emissions**.

Indeed, non-fuel efficient and capacity constraining procedures may be imposed on airports for noise reasons. These noise constraints may cause unnecessary track miles and airport/TMA congestion (e.g. use of a noise preferential runway causing up to 20 min taxiing). They may even stimulate the need for new airport infrastructure that would otherwise not be necessary.

Obviously the noise impact of aircraft must be rigorously managed, but where possible maximising the usage of existing infrastructure and avoid unnecessary causing inefficiencies, delay and congestion, especially when the noise benefit is questionable.

In the interests of **optimising noise interdependency with carbon reduction** we therefore highlight the following SESAR Master Plan Environmental Sustainability Requirements:

"*Perform transparent socio-enviro-economic impact assessment for all key ATM decisions to ensure that unnecessary or non-optimal environmental constraints and practices are avoided*".

ACI EUROPE believes that the above requirement should apply to any proposal of non-optimal ATM constraints including those from external rule-makers.

"*Provide a framework for the planning for more sustainable airport growth through widespread adoption and publication of airport strategic master plans that are fully integrated with local land-use plans and policies*."

ACI EUROPE believes that the above requires planning authorities to work with airport authorities to find the most sustainable airport development and operational solutions, including land-use planning arrangements that avoid unnecessary additional aircraft fuel burn. This is presently not always the case.

We hope that the above SESAR requirements and the potential interdependency between the European Commission's low carbon strategies and European Commission's noise policy (e.g. Directive 2002/49 and Directive 2002/30) are fully accounted for in any relevant Regulatory Impact Assessments.

What sectors do you think may be most vulnerable to the negative impacts of climate change, and what policies do you think the EU should pursue to help them to adapt? Do you have any suggestions on the integration of adaptation policies in the Common Agriculture Policy, civil protection, environment, energy, transport, research and development policies?

A range of climate impacts have been identified that could potentially affect airport operations. Local effects are far more important for airports than global averages.

Sea level rise can result in regular flooding, coastal erosion, storm surge flooding, with consequences on runways and taxiways, terminal buildings, road, rail and access roads. Solutions are not easy dykes, levees, seawalls, improved drainage with major pumps, elevation of structures, airport closure or relocation.

Similarly, expected **temperature rise** would have an impact on airport planning and response, with a payload limitation in hot weather, the need for longer runways or airspace redesign due to slower climb rates.

Ultimately, **capacity loss is to be feared**, as well as changes in prevailing wind condition affecting optimal runway orientations.

The airport industry is exchanging best practices at global level, through ACI world, with the ultimate goal of shifting form mitigation to adaptation. To date, immediate focus at airport level is very much on mitigation. Some airports have started a process of risk assessment (e.g. in the UK, at the request of the UK government). Indeed, this challenge may be considered as very long term (50 to 100 years) but European airports today are tangible assets and expected to last more than 50 years.

ACI EUROPE urges the European Commission to foster the exchange of best practices between the EU Member States and trading partners, in order to ensure that the potential impact of climate change on transport infrastructure is taken into account in future investment plans.

Do you have success stories that could lead to new initiatives for steering EU transition to a low-carbon economy you wish to highlight?

In May 2009, ACI EUROPE launched *Airport Carbon Accreditation*, the first ever industry specific standard for carbon mapping and reduction[4].

In November 2010, 28 European airports were accredited at various level of the programme, counting for over 34% of European passenger traffic and leading to the aggregate reduction of 559,000 tonnes of CO2 (for the full list of accredited airport is available here http://www.airportcarbonaccreditation.org/participants.html).

The high level of participation, despite the human and financial resources required in the worst ever trading conditions, find its roots in the **scientific robustness** of the programme. Indeed, it is based on existing international standards in the reporting and accounting for carbon emissions – e.g. those of the World Resources Institute and the

[4] http://www.airportcarbonaccreditation.org/news.html

World Business Council for Sustainable Development– as adapted to the airport environment, through a control, guide and influence matrix.

Airport Carbon Accreditation is specifically designed for airports. It is a European wide scheme allowing airports to follow a common framework for the measurement, reporting and reduction of their carbon emissions with the possibility of becoming carbon neutral. Its basic idea is to assess and recognize efforts by airports to reduce their GHG emissions initially within their direct control and it is specifically designed to ensure that suitable management processes are in place that will enable emissions reductions to be identified, and that reductions are achieved.

Airport Carbon Accreditation is thus comprised of 4 progressively stringent levels of accreditation with recognition of improvements at each stage as follows:

MAPPING: Externally verified carbon footprint;
REDUCTION: Carbon management plan and footprint reduction;
OPTIMISATION: Extension of footprint to activities that an airport can guide and influence, with implementation of an engagement plan involving airport third parties;
NEUTRALITY: All of the above, plus verified offsetting of any remaining CO2 emissions under the direct control of the airport, thus resulting in the airport company becoming carbon neutral.

The administration of *Airport carbon Accreditation* is independent and conducted by WSP Energy and Environment, a world leading environmental consultancy. An independent **Advisory Board**, composed of eminent experts from the aviation, academic, NGO and institutional world (European Commission, WWF Europe, Manchester Metropolitain University, Eurocontrol, European Conference of Civil Aviation and the United Nations Environmental Programme) oversees the management of the programme, ensuring that it stays ahead of the curve. Eurocontrol and ECAC officially endorsed *Airport carbon Accreditation,* thus contributing to further establishing it as the carbon management standard for the airport industry.

ACI EUROPE's objective is to encourage its members' participation and progression within the programme. **The formal endorsement of the programme by the European Commission** would acknowledge the success of an industry-led initiative that delivers and would give the right signal to airports across Europe.

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