dAIR

DECARBONISING AIRPORT REGIONS

Policy Recommendations



INTERREG IVC
INNOVATION & ENVIRONMENT
REGIONS OF EUROPE SHARING SOLUTIONS

European Regional Development Fund
European Union

14 partners • **10** Member states •
1 European Association • Experts • Stakeholders •

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ABOUT dAIR

The dAIR project aims to share information between project partners on measures implemented to reduce CO_2 emissions from airport operation activities and surface access. The project aimed at identifying 20 good practices, with at least 4 of them transferred and implemented by a number of partners.

The project pays special attention to the optimal involvement of businesses, R&D communities and universities in creating well-connected green airports.

Through study visits, workshops and stakeholder fora, the 14 member organisations were able to exchange experiences and see what CO_2 reduction solutions have been used and have worked at other airports. They then examined how these solutions can be applied to their own region.

Reports – completed before and after the study visits – gave partners an opportunity to explain the characteristics and impacts of their own practices and to get feedback from other project partners. Based on these reports, a methodology was designed to identify good practices within the project.

The study visits led to fruitful discussions between the participants. The recommendations that follow are the result of these discussions:

These recommendations are the result of a thorough analysis of the practices presented by Project Partners during their study visits. The list of good practices, together with a description of each practice, is available online at www.dairproject.eu

GENERAL RECOMMENDATIONS

1. Implement existing policies and legislation concerning CO_2 emissions in the Member States. Economic efficiency is, in fact, the only tool that can force or even enable stakeholders to implement CO_2 reduction measures. If the measures are economically negative or neutral, no actions tend to be taken.

2. CO_2 reduction should be carefully planned and be part of a long-haul strategy. In this context, there is a need to calculate the carbon footprint and establish the emissions generated by the various activities within the airport and its surroundings, not only by airport activities but also by surface access.

3. Establish stringent goals and measurable objectives/targets to achieve the best results. Stockholm's Arlanda Airport, for example, operates under a CO_2 emissions cap and is the only airport in the world to do so. This cap means that emissions from different sources may not exceed the level produced in 1990. However, the cap has to be achievable by limiting CO_2 emissions which can be controlled by the airport and its local authority.

4. Have realistic objectives for the return on investments. CO_2 reduction projects may require investments of varying magnitudes. The dAIR project revealed that companies pay close attention to return on investments (ROI) and only approve investments that will prove profitable. The timeframe given for the ROI may vary substantially between 3 and 9 years.

5. Introduce a policy for sustainable tendering. Suppliers and subcontractors should be asked about the sustainability features of their products and services. They need to meet a number of criteria relating to environmental performance, quality, safety and security in order to be awarded a contract.

6. Encourage cooperation between public authorities, universities and businesses

in order to develop innovative solutions.

7. Transport and the reduction of CO_2 emissions is a territorial issue that covers several administrative entities. The project showed the usefulness of developing a **cooperative planning culture and governance** that includes all relevant authorities within a given airport area.

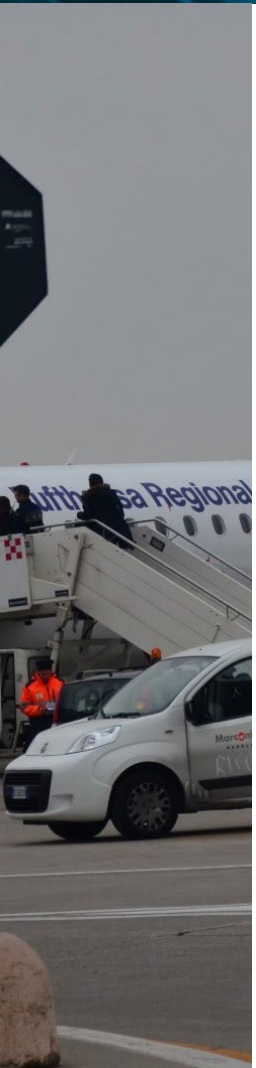
8. Build on people's involvement and participation regarding all issues pertaining to their mobility and accessibility needs during the planning and implementation processes.

9. Ensure the energy source is green before implementing projects. The project revealed that it is not sufficient to implement green solutions if the energy sources themselves are not green. Therefore, clear information on the "greenness of the energy" should be a prerequisite of any project/measure.

10. Avoid buzz investments. Do not invest in projects/measures that get a lot of publicity without being backed up by concrete facts attesting their medium and long-term benefits. Costly and complex options that do not offer proportionate benefits should not be pursued.

11. Benchmark in order to offer insight into the different levels of airport energy consumptions and emissions. This is a baseline for defining strategies that can save CO_2 emissions and money.

12. Inform the travellers of what has already been done to reduce CO_2, what's going on for the moment and the future plans. The amount CO_2 saved or planned to be saved should be included. Not in brochures, but on screens placed where people are waiting for trains, planes, buses.



AIRPORT OPERATIONS

1. Maximise the use of the existing infrastructure instead of building additional infrastructure.

2. Implement a clearly phased decarbonisation plan. Such a process is described in **the Airport Carbon Accreditation Programme (ACA).** This is a private scheme endorsed by ACI that helps airports reduce costs, consumptions and emissions while being the baseline for a long-term sustainability strategy. In 2013, ACA was named one of the top 3 low-carbon projects in Europe, out of 269 entries. At the moment, there is no equivalent to the ACA Scheme.

3. Use the Collaborative Decision Making or a similar Process to improve operational efficiency at airports. It reduces delays, improves the predictability of events during the progress of a flight and optimises the utilisation of resources. However, the dAIR project has showed that proper coordination must be ensured among all stakeholders, both at the airport and network level, in order for CDM to be fully effective and deliver the expected environmental benefits (fuel and emissions savings).

4. Improve energy efficiency of buildings. There are several certified or non-certified ways of improving building efficiency. The dAIR project revealed that energy efficient buildings are essential in reducing CO_2 emissions. The building efficiency is part of the terms of reference.

5. Promote intelligent building management systems to provide optimal control of heating, ventilating, air-conditioning and lighting systems.

6. Use local specificities to encourage the use of **sustainable heating and cooling solutions.**

7. Promote the use of renewable fuels for transport (biofuels, ethanol, methanol etc.). These are more sustainable than conventional fuels and only make a low contribution to the carbon cycle.

8. Promote sustainable winter management techniques.

SURFACE ACCESS

1. Start with low hanging fruits before implementing long and often cost-intensive projects. For example:

- a bus on-demand system is easier to implement than a new metro line.
- maximise the use of the existing infrastructure instead of building additional ones:
  - » **Peak-hour lanes** can reduce the amount of congestion on motorways leading to the airport;
  - » **Express buses** to and from the airport reduce travel time for passengers.

2. Do not rely on the goodwill of passengers to use public transport as they are more inclined to choose convenience over CO_2 reduction. The greenness of their choice is the cherry on top, not the main reason for their choice. In this perspective, **incentives have to be given to passengers to encourage the use of environmentally friendly modes.** These can be financial in nature, since the attractiveness of public transport partly depends on its price.

3. Improve **passengers' access to public transport** by:

- overcoming regulatory and other barriers preventing operators from offering intermodal journey solutions (differing insurance requirements, questions related to liability and differing passenger rights legislation applicable to different transport modes);
- introducing multimodal journey planners and reservation systems;
- promoting integrated ticketing (passengers should have the possibility to purchase bus/rail tickets when purchasing their flight or on board the flight);

improving the **availability of travel information and communication towards users.**

- **aligning rail, bus, and air transport schedules** to avoid long journeys and change-over times;
- supporting a public transport system to and from the airport that is:
  - » compatible with the mobility needs of passengers and able to quickly adapt to changes;

» flexible and integrated with other forms of mobility to allow easy access to the city, its centre and immediate surroundings;
» efficient and with high quality standards;
» easy to use and reasonably priced.

4. Airports and companies working in or near the airport area need to provide **adapted transport systems and solutions for their employees.**

- Reducing mobility needs is a key contribution to a more sustainable mobility. This can be achieved by promoting, where possible, tele-working for staff.
- Develop Mobility Plans for staff and passengers. These are integrated packages of measures designed to support a change in individual and/or group travel behaviour and promote more sustainable transport modes.

5. Take into account the demand, ticket prices and the types of vehicles used when **designing new bus services.**

6. Improve the availability of taxis at the airport terminal and encourage companies to provide **clean taxis.**

7. Promote solutions encouraging the **energy efficient use of vehicles –** such as eco-driving – to reduce fuel consumption.

8. Introduce **electric cars** only if the energy production is green (renewable energy).

9. Promote **check-in and baggage drop-off arrangements at railway stations.**

10. Go **beyond conventional transport** systems. The dAIR project showed that walking, cycling, and shared modes can be promoted by projects in order to contribute to the reduction of CO_2 emissions.

INNOVATION

Public authorities are not the principle actors in innovations, but they have a unique role in fostering and facilitating innovation activities in their territories. Public authorities and local and regional public authorities in particular, have a key role in **shaping the right framework conditions** for innovation:

1. Develop a regional innovation ecosystem working on a common agenda: Local/regional public authorities are positioned at a unique intersection between private businesses, knowledge and research institutions, and intermediary organisations.

2. Make citizens and end-users active agents in the innovation process: Demand-led innovation has a higher success rate and integrated end-user knowledge from the start accelerates the market uptake of new products and services. Involve citizens and end-users from the very start.

3. Create structures to allow the co-creation of innovations: Living Labs (LLs) are environments used by companies and knowledge institutes to develop products and services in close cooperation with end users. LLs often operate within a territorial context, such as cities or regions. Public authorities can facilitate the emergence and operation of LLs by providing the necessary (ICT) infrastructure, such as broadband networks, and by providing service support to LL actors.

4. Take position in a multi-level governance context
Due to their proximity to and experience with local actors and institutions, local/regional public authorities play a key role in connecting their territories to the national and European level. Influence policy and decision-making at those levels to enable the implementation of local/regional action plans.

5. Public Procurement of Innovation (PPI) : use your purchasing power to stimulate the market uptake of innovation

Public authorities can act as launch customer for innovative goods or services which are not yet available on a large-scale commercial basis and may include conformance testing. PPI results in the first application/commercialisation of innovative solutions (goods or services with better performance than existing products on the market). Authorities should do so since a big, stable demand through government procurement can create demand long before a commercial market is established.

6. Pre-commercial Public Procurement: create new knowledge

The procurement of research and development (R&D) is an important tool to stimulate innovation. It allows public authorities to steer the development of new solutions, tailored directly to their needs. PCP is the procurement of research and development services. It involves different suppliers competing through different phases of development, while the risks and benefits are shared between the procurers and the suppliers under market conditions.
Risk-benefit sharing under market conditions refers to the approach in PCP where procurers share with suppliers, at market price, the benefits and risks related to the intellectual property rights resulting from the R&D.
By acting as technologically demanding first buyers of new R&D, public procurers can drive innovation from the demand side. This enables European public authorities to innovate the provision of public services faster and creates opportunities for companies in Europe to take international leadership in new markets.

7.Open up public data

The reuse of public sector information has great economic potential. By playing a leading role in implementing open data policies, local/regional authorities can improve liveability, stimulate business and engage and empower citizens. Authorities can use data to provide (real time) information in order to address issues from traffic congestion to peak load electricity management. Making data available has the potential to address a number of societal challenges, stimulates behavioural change and, moreover, can be at the origin of the creation of new economic activities.

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