

Exemplary Extension

Sustainable runway extension at GAE

www.greenairports.eu

Having officially received the green light, works finally started on the runway extension at Groningen Airport Eelde in June 2012. The runway project, expected to be completed in April 2013, is exemplary in terms of the approach to sustainability; a CO2 reduction of 24% in comparison to similar building projects and a saving of almost 62,000 tons regarding materials used.

The electricity required on the project site is sourced from wind energy, and the runways and signs are lit by energy-saving LED lighting (60% saving). Moreover, the sand required to raise the ground level of the runway has been replaced by so-called 'ash' from a local recycling installation. Another unique detail is that the new surface will not be the usual tar but we are using the innovative and much more environment-friendly SMA-plus. Groningen Airport Eelde is the first airport to use such a top layer!

effects of each flight can still be reduced because airplanes do not need to break with full motor power during the landing. Furthermore, many departing passenger flights can take off with reduced power – the de-rated take off. And finally, the extended runway means that more flights can be carried out without a stop for re-fuelling (for example, to Southern European destinations), thus resulting in a significant reduction of fuel and noise.




The extended take-off and landing strip is expected to result in more flight movements, and yet the negative environmental

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The runway extension is good news for the region – and for the environment!



GSA on Tour



Joining the Hansa Green Tour 2012

On Wednesday 13th June the third edition of the Hansa Green Tour started from Groningen Airport Eelde. This international networking tour for businessmen, entrepreneurs and politicians, goes from the Netherlands to Germany – visiting innovations in the area of sustainability and renewable energy along the way.

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Following a presentation of the GSA project, the event was officially opened by Ms. Tanja Klip, executive board member of the Province of Drenthe, who raised the GSA flag with the assistance of Airport Manager Onno de Jong and Roel Swierenga, organizer of the event. The participants then left the airport in electric, hybrid and bio-fuel cars to visit some 17 locations en route, all of which showcased inspiring green initiatives and innovations.

Bremen Airport was a major 'port of call' on the second leg of this 3-day tour, where the participants were warmly welcomed by Airport Manager Mr. Dettmar Dencker and his staff. The Hansa Green Tour's visit coincided with the airport's own extensive exhibition on sustainable innovations. The runway at Bremen Airport was temporarily available to exhibit the fantastic collection of 'greentech' vehicles and, whilst listening to inspiring presentations, there was time to re-charge the cars' batteries using the airport's facilities.

While the tour continued on to its final destination in Hamburg, Bremen Airport held their own large-scale event. The GSA project was also promoted in the airport's main hall.

For a photo impression see
www.facebook.com/hansagreentour

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Environmental Expertise

Kortrijk-Wevelgem Airport start sustainability study

The board of Kortrijk-Wevelgem International Airport has selected the company “Enviro Plus” to execute a study within the framework of the Green Sustainable Airports project.



Enviro Plus is a Belgium based company consisting of 30 experts in environmental issues, active in Belgium and The Netherlands; check www.enviroplus.be

The main purpose of this study is to look for “best techniques available” to integrate these in airport buildings and infrastructure, making them as environment- friendly and sustainable as possible.

Over the past few years the airport has developed a master plan to renovate and improve the quality of the movement area, except for the runway and its lighting system which has already been totally renewed in 2004 – 2007. The airport is in preparation for the next steps to sustainability, in expectance of available funds, hopefully in 2014.

The study will offer an excellent input for the designers and builders of the new airport facilities. The know-how and experiences listed in the study should be useful for all airport engineers and developers participating in the project.

Special attention will be paid to the sustainable building and construction of hangars, a separate fire station – which has meanwhile been upgraded to fire cat 6 - a new control tower and a new hydraulic system.

The study was started at the end of August 2012 and is expected to be completed at the beginning of 2013.


At the end of September, the regional steering committee is invited to a kick off-meeting and the GSA-partners have been contacted to share their knowledge and experiences. We are very pleased with this partner collaboration and will keep everyone informed.

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Dedication and Design

Billund Airport is a determined forerunner



Billund Airport is determined to be in the lead in regards to green sustainable airport solutions. In fact it is part of our company vision and the reason for our dedication to the GSA project.

We want to share this dedication with our passengers and inspire to a greener and more sustainable way of thinking. Which is why we have started a communications project, and the starting point is a 'willow design experience'!

The Energy Willow Forest

In 2011 Billund Airport planted 12 hectares of willow for energy production next to the airport. Every two or three years the willow is harvested, delivered to our local heating plant in Billund, chipped and used for heat production. With 12 hectares of "energy willow" we cover 10-15% of our energy needs for heating.

The net energy output of cultivation of this type of willow is 20 times as large as the input. Additionally, the need for fertilization is minimal and therefore the washout of nitrate is very low compared to traditional agricultural crops.

Finally, the willow forest has proven very valuable in regards to decreasing the risk of bird strikes. Larger birds do not thrive in the willow but instead different types of deer do.

An Exhibition of Willow Design

To communicate our efforts about the energy willow we have teamed up with Danish design school TEKO, the largest design school of textile and furniture in Scandinavia.

We gave them a bunch of our rough cut energy willow and two weeks to sketch a functional piece of design furniture made of our willow, which we will use for a willow exhibition in the airport.



16 pieces of well-designed avant-garde willow seating furniture were presented to the panel of judges including, Anders Nielsen Head of Projects & Development at Billund Airport, Mette Frøkjær Experience Designer at Billund Airport and Thomas Pedersen, acclaimed Danish furniture designer well-known for the Stingray chair, among other designs. We chose 9 pieces for the Billund Airport willow exhibition, which will open around December 2012. After the exhibition in Billund Airport the willow designs will travel to other transnational design exhibitions, as will the story of their making.

'Like' Willow

For the exhibition we are conducting a facebook competition, where passengers can vote for their favorite willow piece and have the chance to win a shopping spree in the Billund Airport shops.

On the facebook site, and during the exhibition, we will run a short info film about our willow project and highlights of other things Billund Airport does to become a greener and more sustainable airport.

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It's New, it's Green

London Southend Airport 2012

The transformational redevelopment of London Southend Airport is now almost complete and serving the South East in a historic year - 2012.



A new light and airy, ultra-modern fly-through terminal building is less than 100 paces from a brand new railway station. The building has been designed with numerous 'green features' including slow start escalators, rainwater harvesting and extensive glazing to maximise solar gain. Passengers flying out from the airport will wait for a maximum of four-minutes for security, whilst those arriving with just hand luggage can expect to travel from plane to train within 15 minutes of their aircraft doors opening (30 minutes if collecting luggage) - the new terminal is all about simplicity, speed and service.

The new railway station sits on the Southend Victoria line to London Liverpool Street and has up to eight services per hour to and from London, offering passengers a seamless link between the airport and the City of London in just 53 minutes. The aim is



Technical Themes

Summary of WP3 meeting at Billund Airport

The technical report was conducted as result of the technical meeting in Billund in April (2012) with the aim of documenting technical discussions and findings. It covers the three topics of bird control, fire brigade and maintenance activities as well as de- and anti-icing.

to encourage the use of public transport by passengers by making rail access easy.

The runway at London Southend Airport has been extended by 300 metres in order to accommodate commercial passenger services to a wide range of business and holiday destinations that could not be previously served by the airport. The extension has allowed much more fuel efficient and modern aircraft to operate from Southend.

There is also a new state-of-the-art control tower equipped with the very latest technology which provides Air Traffic Controllers with greatly enhanced views of the runway. A new dual-channel radar significantly improves radar coverage making the airport and the South East even more safe and secure.

The Airport has also recently embarked on the process to apply for the reinstatement of Controlled Airspace. The airport had controlled airspace up until the early 1990's when it was removed due to a decrease in commercial movements. Controlled airspace would allow aircraft operating to and from Southend to do so much more efficiently reducing the need for extra track miles to avoid aircraft not in communication with Air Traffic Control.

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Bird Control

With airports typically being located outside city centres airports of all types are facing increasing challenges caused by bird strike. The GSA partner airports all being surrounded by nature/countryside are not spared from this challenge. The GSA airports are applying various approaches to overcome the challenge of bird strikes disturbing air traffic. Billund Airport being extremely affected by bird strikes, works, for example, in close cooperation with local authorities ensuring influence on the activities conducted to preserve the nature around the airport. Another preventive measure, which is commonly applied by airports, is to cut the grass around the runway very low (4 cm) and keep the grass in the greater area at 15 cm. This will stop the birds from landing on the area next to the runway, however it comes with the side effect that the higher grass attracts mice, which in turn attracts even bigger predator birds. One solution, which was discussed, is the usage of sand, which will stop the grass from growing but has at some airports attracted breeding geese. Other approaches disturb the birds through the usage of laser beams, mirrors, noise and other devices.

Eventually, it is of importance to combine the scaring devices used and to continuously change the method applied.

Furthermore, the generation and detailed

The Green Sustainable Airport project was initiated by Groningen Airport Eelde (the Netherlands). The Province of Drenthe is responsible for project management and is acting as Lead Partner in cooperation with Groningen Airport Eelde. There are 17 partners and sub-partners from 6 countries in the North Sea Region. Each partner airport acts as a platform in the region for developing, testing, producing, monitoring and displaying innovative solutions and quick wins. The airports have a role as spindle between regional authorities, knowledge institutes and the business sector.

documentation of any information on the strikes and the behaviour of the birds in general is considered highly important in order to adjust applied measures. The partners are facing the challenge of not having access to sufficient information about the behaviour and the species of the animals, as well as the resulting nature of the bird strikes. Flight and bird strike information (e.g. flight altitude at strike) can in many cases not be accessed to a sufficient extent and therefore complicate the derivation of actions from the obtained data.

Fire Brigade & Maintenance Activities

Increasing operational costs have increased the pressure, especially on regional airports, to decrease unit costs. Reorganising the duties of the airport staff to increase efficiency has led to fire brigade staff now also being responsible for handling operations on the apron. This has the advantage of the team becoming more familiar with the aircraft though requires the fire brigade truck to be constantly parked on the apron to ensure the availability of the fire brigade.

Several partner airports are reporting difficulties when testing and training staff on the usage of powder and foam fire extinguishers due to regulatory prohibitions. This causes Groningen Airport Eelde to conduct trainings outside the Netherlands. Therefore procedural proposals were submitted to the authorities on how to dispose the caused wastewater in a controlled way by, for example, using container devices for training purposes.

De icing and Anti icing

The cooperation of several GSA partners with manufacturers of de- and anti-icing measures has proven to be successful. Sandefjord Airport Trop together with the Norwegian Institute for Agricultural and Environmental Research is conducting research on more sustainable usage and recycling of de-icing liquids. Billund Airport is working together with Aviform to reduce the amount of sand used by the airport during winter operations.

Generally, airports are facing the problem of varying decision-makers and standards on de- and anti-icing procedures (especially concerning friction tests and de-icing measures before departure). Often, the pilots' decisions on de-icing are varying with their skills in general and therefore no standard requirements can be identified.

Even though communication and interaction exists between small and medium sized airports, there is still no way to address issues and practical information to Eurocontrol and other authorities. Still, all rules and regulations developed are suited for major hub airport and are, in some cases, not applicable to operations of regional airports. The GSA project is therefore actively approaching Authorities to overcome this hurdle and to enable communication especially between Eurocontrol and the partner airports.

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