From small messages come big reductions in CO2

ATLANTA – As part of a programme of fuel efficiency and emissions reductions measures, Delta Air Lines, a member of the AIGA group, is striving to achieve a 2% annual improvement in fuel efficiency by 2050, a target date for the Single European Sky. The airline is also striving for a 1.5% average annual improvement in fuel efficiency and the ICAO goal of a 2% annual improvement.

Delta has been using Attila at Hartsfield-Jackson Atlanta International Airport on a continuous basis since December 2006, and is saving more than five million gallons of fuel savings and 50,000 tonnes of CO2 reductions annually. Delta aims to capture all available fuel savings at very base airports like Atlanta, much more efficient operations are achieved across the whole fleet but especially at the expense of individual flights. A final benefit is that Attila recovers unused slots in the current schedule and realises the benefits of much better utilisation of airspace and less need for flights to remain in holding patterns.

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In contrast, the continuous descent approach can lead to a reduction in CO2 per landing of over 100 kilo- litres across nine million flights each year in Europe, this provides significant emissions reductions.

But Delta is not alone in its efforts. Many other airlines are also using continuous descent approaches to improve fuel efficiency and reduce emissions. For example, American Airlines has implemented a continuous descent approach at more than 100 airports to improve fuel efficiency and reduce emissions. This approach, known as the Continuous Descent Approach (CDA), involves aircraft flying in a smooth, continuous path from take-off to landing, rather than climbing and descending in stages. By doing so, airlines can achieve significant fuel savings and reductions in greenhouse gas emissions.

Importantly, Attila’s benefits accrue to the system and not necessarily to individual airlines. As more and more airports around the world adopt continuous descent approaches, the benefits will be realised across the whole industry. This is why continuous descent approaches are becoming increasingly popular among airlines and air traffic control organisations around the world.

Continuous descent approaches are also being used to improve efficiency and reduce emissions at other airports around the world. For example, through various initiatives at leading airport operators, we are seeing significant reductions in CO2 emissions. For example, at Los Angeles International Airport, continuous descent approaches have reduced CO2 emissions by over 10% compared to traditional approaches.

In conclusion, continuous descent approaches are a crucial tool in the fight against climate change. By reducing CO2 emissions, these approaches are helping to ensure that air travel remains a viable, sustainable mode of transportation for the future. As airlines and air traffic control organisations continue to adopt and refine these approaches, we can expect to see even greater reductions in CO2 emissions and a positive impact on the environment.
Bringing blue to the skies of Mexico

MEXICO CITY – Volaris, Mexico’s largest and most efficient low-cost carrier, announced that for its 2012 and 2013 fleet of five new Next Gen aircraft, the airline will work with Mexican company Sea Green to establish a carbon offset program that involves offsetting the airline’s carbon footprint. The agreement with Sea Green is part of the airline’s on-going sustainability and environmental initiatives under its Eco-Power program.

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Volaris’ Eco-Power program focuses on reducing its environmental footprint and offers various options for customers to offset their carbon footprint. The program includes measures such as using biofuels, improving fuel efficiency, and reducing waste.

In addition to the carbon offset program, Volaris also has a variety of other sustainability initiatives in place, including using energy-efficient lighting and equipment, recycling programs, and offering reusable or biodegradable products to customers.

The new Next Gen aircraft are fuel-efficient and offer several environmental benefits, including lower fuel consumption and emissions, reduced noise levels, and improved fuel efficiency.

Volaris has been recognized for its sustainability efforts by various organizations and awards, including being named one of the 100 Most Sustainable Companies in the World by Corporate Knights in 2020.

Qantas supports Climate Research

NEW DELHI – Qantas, one of the world’s leading airlines, recently announced that it has entered into a partnership with the University of California, Los Angeles (UCLA) to support climate research. The partnership is part of the airline’s ongoing commitment to sustainability and reducing its carbon footprint.

Qantas’s partnership with UCLA will focus on developing innovative solutions to reduce carbon emissions and promote sustainable practices.

The collaboration will involve joint research projects, knowledge exchange, and the sharing of best practices in areas such as aviation, energy, and technology.

This partnership is expected to contribute to the airline’s efforts to achieve its sustainability goals and position itself as a leader in the aviation industry in terms of environmental responsibility.

Early modelling suggests that airlines operating a 10-hour intercontinental flight can cut flight time by about 5%, which would save an estimated 8% of the carbon footprint for flights crossing the Pacific Ocean.

The iFlex programme will concentrate on long-haul routes through low-density airports, as engines whose fuels can be achieved through a more flexible air-space structure. The South Atlantic and Africa will be the initial focus concentrating on the Johannesburg to Atlanta and Dubai to Sao Paulo routes.

In the coming months, iFlex will work with airlines, ICAO, IATA and governments on proof-of-concept work which will include data analytics and route simulation using modern flight planning tools. A pilot project is planned for 2011 where flights will be able to better optimise their takeoff by taking advantage of the prevailing weather conditions.

FedEx inducts new solar-powered hub at Cologne Bonn Airport

COLOGNE – FedEx has inducted a new solar-powered hub at the Cologne Bonn Airport in Germany. This marks the company’s commitment to sustainability and its ongoing efforts to reduce its carbon footprint.

The hub is designed to be powered by solar energy, using photovoltaic panels to generate electricity and reduce the need for fossil fuels. It is one of several solar-powered facilities that FedEx has inducted worldwide.

This solar-powered hub is the latest example of our commitment to sustainability, supporting our customers through their own initiatives and helping to reduce their carbon footprint.

FedEx has been recognized as a leader in sustainability by various organizations and awards, including being named one of the 100 Most Sustainable Companies in the World by Corporate Knights in 2020.

British Airways, Airways, Cranfield Uni accelerate availability of algae for fuel

GENEVA – Several powerhouses of the aviation industry are backing Cranfield University’s pioneering project to solve how to harvest algae to produce jet fuel in commercial quantities. The Sustainable Use of Renewable Fuels (SURE) project, which is a collaboration between British Airways, Cranfield University, among many others, was announced at the Aviation Environment Conference in Geneva.

The consortium will take a structured approach to addressing five major considerations for the successful use of fuels from a renewable source like microalgae. These include: on-board microalgae microalgae growth; processing, capacity and distribution; commercial; and legislation and regulation. Specific studies will look at future sustainability modelling and environmental life-cycle assessment.

The project will focus on developing a sustainable, scalable and cost-effective algae fuel production route for jet fuel, with the aim of reducing the carbon footprint of aviation.

Meanwhile, British Airways has announced that it is working with its partner Cranfield University to develop a biofuel alternative to fossil fuels, with the goal of reducing carbon emissions by 20%.

Qantas’ support of climate research is part of its broader commitment to sustainability and reducing its carbon footprint. The airline has set ambitious targets to achieve a 20% reduction in emissions by 2020 compared to 2005, and is working towards a carbon-neutral fleet by 2050.

This partnership with the University of California, Los Angeles (UCLA) is expected to contribute to Qantas’ efforts to reduce its carbon footprint and position itself as a leader in the aviation industry in terms of environmental responsibility.

Information about the amount of CO:2 emitted for the booked flight is available as well as the cost to offset the CO2 amount. The system utilizes the efficiencies and reliability of ALATs’ long-established financial system to enable airlines and their customers to purchase ticket and offset at the same time.

The IATA Carbon Offset Programme is based on a transparent, evidence-based, emissions reductions projects which voluntary credits which comply with the recognized Gold and Voluntary Carbon Standards. The customer will offset the direct and indirect emissions from the trip and the amount of CO:2 emitted for the booked flight is available as well as the cost to offset the CO2 amount. The system utilizes the efficiencies and reliability of ALATs’ long-established financial system to enable airlines and their customers to purchase ticket and offset at the same time.

IATA to deliver even more emissions savings with iFlex project

GENEVA – Airlines can cut an average of 2% of total fuel burn per flight on certain long-haul trips under a new IATA project to implement more fuel-efficient routes and save CO2.

The International Air Transport Association (IATA) has announced the iFlex pilot program, which will work with airlines, air navigation service providers, and governments to implement more flexible routings to take advantage of wind patterns. The program is aligned with ICAO’s strategic objectives under the Global Air Navigation Plan and is consistent with the industry’s environment targets and four-pillar strategy to reduce emissions.

“We have some tough targets to meet,” Giovanni Bisignani, IATA’s director general and chief executive officer.

Aircraft to offer EcoPower engine washing to bring down emissions

MUMBAI – Air India has signed an agreement with the Indian National Air Transport Association (INDIA) to offer EcoPower engine wash service at Mumbai International Airport.

This initiative is part of Air India’s commitment to reduce its environmental footprint and support the sustainable development of the aviation industry.

With this agreement, Air India will be able to perform EcoPower engine washes on various airline engines that operate at Mumbai International Airport. This will help in reducing the carbon footprint of the region.

Air India will also perform washes on other engines to reduce carbon emissions and support the sustainable development of the aviation industry.

In addition to this, Air India has also taken several measures to reduce its carbon footprint, including the use of biofuels, improved fuel efficiency, and sustainable procurement practices.

EcoPower engine wash service is a sustainable and environmentally-friendly solution that helps reduce carbon emissions and support the sustainable development of the aviation industry.

Qantas has developed a comprehensive approach to emissions reduction and energy efficiency. This includes the introduction of more fuel-efficient aircraft, a commitment to influence the commercialization of sustainable aviation fuel in Australia (through membership of the Sustainable Aviation Fuels Group), the development of alternative propulsion technologies, and emissions reduction initiatives on the company's fleet.

In addition to this, Qantas is committed to reducing its fuel consumption by 10% per flight on certain routes, with the goal of achieving a 50% reduction in fuel consumption by 2050.

Qantas has also implemented various sustainability initiatives, such as the development of a comprehensive sustainability strategy, the implementation of a carbon offset program, and the use of renewable energy sources.

This partnership with the University of California, Los Angeles (UCLA) is expected to contribute to Qantas’ efforts to reduce its carbon footprint and position itself as a leader in the aviation industry in terms of environmental responsibility.

SriLankan Catering recently became one of a handful of airline caterers in the world to receive the prestigious ISO 14001-2004 certification for Best Environmental Practices. SriLankan Catering reduced its carbon emissions and fuel usage by 40% during the last year, among a series of planned conservation efforts.

Thai Airways and IATA join to offer offsets

Thai Airways International has launched a carbon offset programme with the International Air Transport Association (IATA) to provide customers with the opportunity to offset carbon emissions generated from flying. Thai Airways is the first airline in the Asia-Pacific region to join the programme with IATA. “Working with IATA, Thai is now able to offer customers the opportunity to compensate for carbon emissions through the Thai website when they book their flights.”

The new iFlex programme will allow airlines and air navigation service providers to work together to improve the efficiency of flights, reduce fuel consumption, and lower carbon emissions.

This will help airlines reduce their operational costs and improve their environmental performance, ultimately contributing to the reduction of greenhouse gas emissions and the mitigation of climate change.

Thai Airways’ partnership with IATA to offer offsets is part of the airline’s ongoing commitment to sustainability and reducing its carbon footprint. The airline has set ambitious targets to achieve a 20% reduction in emissions by 2030 compared to 2019.

Information about the amount of CO2 emitted for the booked flight is available as well as the cost to offset the CO2 amount. The system utilizes the efficiencies and reliability of ALATs’ long-established financial system to enable airlines and their customers to purchase ticket and offset at the same time.

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For further information on sustainability within the aviation industry: www.icao.aero
World-leading solar power station for Alice Springs Airport

ALICE SPRINGS – Alice Springs Airport has been chosen as one of the world’s first pre-conditioned air projects that will save airlines millions of dollars in fuel costs.

“Mr Kew said: "We are thrilled if we could make this happen some time in the future," Mr Kew said. "If we could make this happen some time in the future, it will become the first airport in the world to be powered by solar energy."

Airport will receive the largest grant of its kind in Australia, which will be used to help power their auxiliary power units. The cooled or heated air will be piped to the aircraft via hose, which will take the place of the traditional hot or cold air generators.

While Heathrow cannot control emissions from planes flying, aircraft taxi times have been cut by 30% - helping reduce the length of times engines are powered up while on the ground.

During the last year 131,000 tonnes of CO2 has been saved which is the same as cutting the carbon footprint of 13,000 people to zero. Aircraft Carbon Accreditation rates Heathrow at Level 3 ‘optimisation’ - the highest level of performance achievable without offsetting emissions. Heathrow’s success has come through three years of joint working across the airport, with airlines, air traffic control, baggage handlers and other ground staff focusing on:

- improving energy efficiency, cutting energy use and waste
- greening the energy supply through biomass and combined heat and power plant

London - Heathrow’s progress in tackling climate change has been recognised with a major award from the airport industry’s trade body. Airports Council International (ACI) has highlighted Heathrow’s success and the airport will be the first in the world to be powered by solar energy. The airport has been named as one of the world’s first pre-conditioned air projects that will save airlines millions of dollars in fuel costs.

The award was won by the airport’s director of environment,可持续性 and Airside Operations, Ben Hanley, who said: “This has been an incredible achievement for the airport and our partners. We are committed to reducing our carbon footprint and we are proud to have achieved this milestone.”

The award recognises Heathrow’s commitment to reducing its carbon emissions by 40% by 2020 and its target to be carbon neutral by 2050. The airport has already cut its carbon footprint by 30% since 2008 and has set a target to reduce its carbon emissions by 50% by 2030.

The award also recognises Heathrow’s efforts to reduce water usage, which has dropped by nearly 8% since 2008. The airport has invested in a sustainable water management system, which includes a rainwater harvesting system, and has also implemented smart metering to monitor water usage.

Heathrow’s success has been achieved through a partnership approach, with the airport working closely with its partners to reduce their carbon emissions. The airport has also implemented a range of energy efficiency measures, including the use of LED lighting, smart thermostats and the use of renewable energy sources.

The airport is also leading the way in sustainable transport, with the airport-based company Heathrow Live providing cycle lanes and electric vehicles to staff and visitors. The airport has also introduced a number of initiatives to reduce its carbon footprint, including the use of solar panels, wind turbines and the installation of a fuel cell power plant.

The award recognises Heathrow’s commitment to reducing its carbon footprint and its efforts to become a sustainable airport. The airport has already achieved a number of significant milestones in its sustainability journey, including the reduction of its carbon footprint by 30% since 2008 and the setting of a target to reduce its carbon emissions by 50% by 2030.

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An industry Europe can be proud of

The European aerospace industry is a world leader in providing environmentally friendly solutions for air transport. Through constant technological innovation, it has contributed to significantly improving aviation’s environmental performance. For example, fuel consumption levels – and corresponding CO2 emissions – from a jet aircraft have decreased by 80% since the 1980s. Such a spectacular result has been achieved thanks to our efforts in research and innovation, in areas such as aerodynamics, structural weight reduction, aeronautics, materials, engines, etc.

So a lot has already been achieved. But a lot more remains to be done. Civil aviation today represents 2% of man-made CO2 emissions. With the growth in aviation worldwide heavily linked to economic development, it is clear that major technological improvements will be required to make tomorrow’s air transport sustainable.

As an industry we are determined to explore every area where significant progress can be obtained. Together with the European Commission, we are working hard within the Clean Sky programme to achieve the ACARE goals thanks to technological breakthroughs. For instance we have been exploring innovative solutions such as the so-called ‘Open-Rotor’, a new type of engine which will significantly reduce consumption and emission levels.

We also see bioscience as a very promising area of progress, if their production can be scaled up sufficiently to meet our industry’s needs. Airlines and aircraft manufacturers have already demonstrated that ‘drop-in’ biofuels can be used in flight. We expect certification in 2011.

So far we have solutions in store. We also have very ambitious objectives in the long-run, together with airlines, airports and air navigation service providers, we intend to cut CO2 emissions from aviation by 50% by 2050 compared to 2005.

But we cannot manage all this on our own. Climate change is too important an issue to be tackled either by industry or regulation alone. In that context we call for the building of a new partnership between our industry and Europe’s institutions and governments. We welcome the creation of a Research High Level Group at the initiative of Commission Vice President Kallas (with the support of Commissioner Gürtel-Quinn) to define long-term objectives for aeronautics research, including goals for the next Framework programme. It is crucial that this 8th Framework programme maintains a high level of support for R&T in aeronautics to give our industry the means to develop breakthrough technologies for tomorrow’s sustainable air transport.

We also encourage the Commission to secure the full deployment of SESAR as part of the Single European Sky. That will bring substantial safety and environmental benefits reducing CO2 emissions by up to 10%.

To this end, we urge the Commission to include SESAR deployment in the white paper on transport and adopt a communication on the SESAR deployment strategy. We also encourage it to ensure, together with the private sector, appropriate financing for the deployment of SESAR.

Private and public organisations need to work hand in hand to prepare the green future of air transport that is within our reach. Europe is ideally placed to take the lead in that new era, if all stakeholders reinforce their partnership and increase their funding for research and technology. The time for action is now.

From the Desk of...

François Gayet, secretary general, ASD

Airbus flight-tests A350 XWB composite fuselage panel

TOOLVE – in the development programme for its new-generation A350 XWB aircraft, Airbus is flight-testing a fuselage panel made from carbon fibre reinforced plastic (CFRP). The 15m² area comprises the rear part of the upper fuselage section (Zone 200). The tests, conducted by Airbus’ flight-test aircraft A340 MSN001, are part of a three-week campaign to evaluate pressurized CFRP acoustic properties and to help fine-tune sound insulation for the A350 XWB cabin. By using 53% lightweight carbon fibre composite materials such as this panel, the new A350 has massive fuel-saving potential. Final assembly of the A350-900 is scheduled to start in 2011, with first delivery to an airline customer expected in 2013.

New composite wing reduces drag, increases efficiency

STOCKHOLM – right now, preparations are being made ahead of the manufacture of Saab’s most complex composite article to date. A wing shell where the parts are integrated into a single co-cured item. The laminar flow will reduce drag and therefore lower fuel consumption and emissions.

As part of its role within Clean Sky SFWA (Smart Fixed Wing Aircraft), Saab will develop and produce an upper wing shell which, together with parts from other partners will form an entire outer wing. This outer wing will be test flown on an Airbus A340-300 in 2014 to verify the laminar flow that reduces drag, thereby lowering fuel consumption and emissions. The wing concept is expected to form a key component of Airbus’ future Single-Aisle family.

One step is now ready in the preparations ahead of the production planned for 2012. A test panel has been built to test the design and tooling concept and to ensure that the item meets the strict demands on surface quality.

Jonas Hedin, sub-project manager at Saab within CleanSky SFWA, describes the test panel: “It is a 2 by 2 metre wing shell. The leading edge, stringers, front spar mounting and rib fastenings are integrated into a single item, and to avoid the fasteners piercing through the shell, the entire item is cured simultaneously.

This is a highly advanced composite article and is also the first piece of hardware we are producing within Clean Sky SFWA.”

The newly produced test panel weighs barely 100 kg. The material is the same carbon-fibre prepreg that is being used in the Airbus A350, and is the latest available on the market. The Alcaz project, combined with experiences that have been built up over the past ten years, have provided much of the basis for the wing shell’s development.

Gatwick’s green stamp of approval sees signals decade of change at world’s busiest single-runway airport

LONDON – Gatwick Airport has announced the launch of its first sustainability plan as an independent airport and becomes the largest independent airport in the UK to achieve the Carbon Trust Standard, signalling its commitment to becoming a sustainable airport. The plans - called ‘A Decade for Change’ - set out the airport’s environmental targets across its business activities for the next 10 years with the overall goal of Reducing its carbon emissions by 50%.

Other key goals include: contributing to Gatwick’s local communities; transforming public transport access for passengers and staff; improving air quality through the use of new technology and systems; reducing operational noise; sending no waste to landfill; increasing recycling to 70%; reducing energy and water consumption by 20% and protecting local habitats at the airport.

“Believing in a responsible and sustainable way is at the heart of our business. As new owners we’ve grasped the opportunity to introduce new, challenging targets and initiatives to improve our environmental credentials,” said Stewart Wingate, CEO of Gatwick Airport. “Over the past six months we’ve been working very hard to develop a plan that takes us through to 2020, that both recognises our responsibilities and fits with our aspirations for growth and success,” added Stewart.

The airport is already on its way to becoming a sustainable airport, as recently, it became the largest airport in the UK to achieve the Carbon Trust Standard for reducing its carbon footprint with plans in place to further reduce carbon emissions year-on-year. Gatwick was already the largest airport in the country to achieve certification to ISO14001, the international environmental standard.

Concept aircraft points to future of flight

FARNBOROUGH – Air passengers got a glimpse into the future of flight at the Farnborough Airshow this year as Airbus unveiled its new concept plane.

More than a flight of pure fantasy, the concept plane illustrates what air transport could look like in 2050 – even 2030 if advanced in other areas. Airbus experts in aircraft materials, aerodynamics, cabin and engines came up with the design which is an ‘engineer’s dream’ to meet the expectations of the passengers of the future. Ultra long and slim wings, semi-embedded engines, a U-shaped tail and light-weight “intelligent” body all feature to further improve environmental performance or ‘eco-efficiency.’

The result: lower fuel burn, a significant cut in emissions, less noise and greater comfort.

Charles Champion, executive vice president engineering at Airbus, says, “The Airbus concept plane represents an engineer’s dream about what an aircraft could look like in the long term future. It’s not a real aircraft and all the technologies it features, though feasible, are not likely to come together in the same manner. Here we are stretching our imagination and thinking beyond our usual boundaries.

With the Airbus concept plane we want to stimulate young people from all over the world to engage with us so that we can continue to share the benefits of air travel while also looking after the environment.”

Robin Mansingh, a leading independent futurologist, looks ahead: “Most of us want re- duced traffic congestion – both on the ground and in the sky – together with improved comfort for a better travelling experience. By 2050, we’ll also expect seamless access to a plethora of technology and applications. And ‘flexibility’ will become the new mantra for air travel, with us as passengers choosing levels of speed or luxury on cruise ships of the sky.”

Further future-gazing by Airbus shows blueprints for radical aircraft interiors. “In the Future by Airbus’ the company talks of morphing seats made from ecological, self-cleaning materials, which change shape for a snug fit, walls that become see-through at the touch of a button, allowing 360-degree views of the world below; and holographic projections of virtual decors, allowing travellers to transform their private cabin into an office, bedroom or Zen garden.”

‘Green’ energy sources like fuel cells, solar panels or even our own body heat might provide energy for powering some systems on tomorrow’s aircraft. As aeronautics engineers continue to not mature as a source of inspiration, some of these aircraft may even fly in formation like birds to reduce drag, fuel burn and therefore emissions.
The Airbus A380 is more fuel-efficient than a single-aisle commercial aircraft, as the preparation of the flight demonstrator on a Trent 900 engine recently. A new intake technology will be extensively flight tested and ground tested in cooperation with the SSTC to ensure safe and efficient operation of this new technology. This flight test campaign will result in significant data advances about the technology’s maturity and will be used for a potential implementation in the next generation of large commercial aircraft.

Clean Sky aims to develop cleaner and quieter aircraft. It is built upon six different technical areas: smart fixed wing, green regional aircraft, green rotorcraft, sustainable and green engines, systems for green operations and eco-vehicles,

For several years now, aircraft, engine and material manufacturers have been working on the development of an acoustic liner which could be installed on the first A380s and other aircraft, aiming at enhancing engine intake acoustic performances, while maintaining material anticorrosion and aerodynamic performances. Airbus, with support of Rolls-Royce, has a major role in this programme and is the lead in this technology development by completing the design and test of the intake demonstrator. The intake technology is part of the Clean Sky joint technology initiative, which is a European Union and aviation industry joint programme. Clean Sky aims to develop cleaner and quieter aircraft. It is built upon six different technical areas: smart fixed wing, green regional aircraft, green rotorcraft, sustainable and green engines, systems for green operations and eco-vehicles.

European Commission commands airport CO2 achievements

BRUSSELS – In route to the EU Aviation Summit in Bruges, Slim Kallas, European Commission vice president for transport, presented the Commission’s Action Plan for its latest achievement within Airport Carbon Accreditation, at a ceremony in the presence of Belgium state secretary for mobility, Eline Schrapene.

Airport Carbon Accreditation is an initiative by ACE Europe enabling airports to measure their carbon emissions in a uniform and independent way as well as promote initiatives to reduce their carbon emissions. The programme acknowledges the efforts made in carbon emission management and reduction.

The accreditation scheme contains four levels of the award. The first level confirms the determination of the carbon footprint of the airport operator, verified by an independent third party. In a second stage, a carbon reduction plan including long-term targets is drawn up. The third stage comprises the engagement of our airport partners in developing and adopting measures to reduce the emission of greenhouse gases. A fourth level sends airport awards that achieve carbon neutrality.

Brussels Airport has become accredited at the ‘Reduction’ level, thanks to its achievement in reducing its own CO2 emissions by over 10,000 tonnes in the past year.

Oliver Lang, director general of ACE Europe said, “Brussels Airport is testament to the business performance of airports in Europe, for which an ambitious environmental management is essential to delivering efficient and sustainable airport operations.”

He added “We are extremely grateful that vice president Kallas is recognising Brussels Airport as Europe’s airports have already moved from words to action, when it comes to tackling their CO2 emissions.

Presenting the certificate, Kallas commented, “In transport, sustainability is not an ‘optional extra’ – it has to come as standard. We can only succeed in achieving climate change if the actions of regulators are complemented by citizens and businesses taking action of their own.”

“Over 550,000 tonnes of CO2 reductions in Brussels Airport Carbon Accreditation is playing a crucial role in helping move aviation emissions onto a more sustainable footing in line with the historic agreement reached in ICAO.”

BRUSSELS – The SESAR Joint Undertaking (JU), in cooperation with the European Commission’s Single Sky Initiative (SSI) and the European Commission’s CEF programme, is developing SESAR’s concept of performance-based operations. A project ‘greener airports operations & technologies’ (AIRE) aims to improve energy efficiency and aircraft noise emissions for surface, terminal and oceanic flights.

The project ‘greener airports operations under adverse conditions’ executed by DSNA in partnership with Aéroports de Paris and Air France will study operational situations in adverse conditions, caused by bad weather or other factors that constrain runway use. For one of the five selected projects for terminal operations, one is conducted by Lufthansa in cooperation with DFS and Germanwings. The project will help the Germanwings partner propose to train a new procedure capturing the airflow of Düsseldorf and Cologne. This area has a high traffic density and is a complex area entailing the achievement of significant environmental benefits when implemented.

AIRE was launched in 2007, designed to improve energy efficiency and aircraft noise in cooperation with the European Aviation Administration (EASA) and is responsible for its management from a European perspective. In 2009, the 115 partners have joined forces to make the AIRE umbrella, 18 partners in five continents, 4 projects, 1,152 green flight trials under the AIRE umbrella.

As a result of a complementary call for tender, more partners will be involved in AIRE and the programme will consist of single-aisle and twin-aisle airplanes (reduction to 30% reductions in emissions. The project aims to achieve this flight demonstration in 2015, consistent with the currently anticipated market readiness.

The project’s green objectives are: saving fuel, reducing CO2 emissions, reducing noise, de-icing, improving ground flow, reducing emissions on the ground, improving air control, and air traffic control. It will be implemented in cooperation with the EU AIRE umbrella, 18 partners in five continents, 4 projects, 1,152 green flight trials under the AIRE umbrella.

A key green project is the AIRE project ‘Reducing fuel consumption by 5% by 2020’ in cooperation with the Federal Aviation Administration (FAA) and the US. This project aims to reduce fuel consumption by 5% on large commercial aircraft.

MANCHESTER – The UK’s Aerospace, Defence and Security trade organisation welcomed ACE Europe’s decision to make its debut at Manchester Airport in September.

Manchester is its second UK destination and the first regional (or non-hub) airport to have the A380, an important milestone in the mid-life phase of this efficient aircraft.

The A380 is more fuel-efficient than a hybrid car, travelling 100 passenger kilometres per l of fuel at speeds in the single digits and produce the same perceived noise on take-off (82 decibels or dB) as that produced by heavy traffic, less than that experienced inside a London underground train (VFLs). When fitted with Rolls-Royce engines and with major contributions from other UK companies, the A380 is up to 15% more fuel-efficient than VFLs

Ian Goldie, chair of ADS, said: “The UK aerospace sector is number one in Europe and second only to the US globally. The Air Airbus A380 in an endorsement of this success. Up to half of the aircraft is made in Britain with major contributions from many world-leading companies of all sizes, especially the wings made by Airbus in the UK.”

NATS, British Airways and BAA in UK-first with “Perfect Flight”

LONDON – Britain’s aviation industry has come together to reach an important environmental milestone, turning the normal Saturday evening service from Heathrow to Edin-burgh into the UK’s first “perfect flight”.

Every factor within the journey – from the pushback from the stand and taxiing to an optimised flight profile and continuous descent approach – was calibrated to achieve minimum emissions and delays.

Data from a British Airways flight will now be gathered and analyzed, together with air traffic control and airport information, to understand the benefits. Initially, it is believed up to a quarter of tonne of fuel could be saved, equating to nearly one tonne of CO2.

NATS and BA worked with BAA at Heathrow and Edinburgh to achieve this landmark flight, it was, which it is now called NAYS. Andy Sampson and Kel Kirkland. Kel said, “Unlocking such individual link in the chain on a single flight is not easy. Everyone has had a part to play.

“Will it be some time before we can expect to see the ‘perfect flight’ replicated day in, day out but we have demonstrated it is possible and we can work towards it in the long-term.”

BA strategy and environment manager Dean Plum said: “This highlights what can be achieved if every individual part of a flight is optimised. The data obtained should show that what seemed to be a normal, scheduled flight actually achieved something extraordinary.

BAA Heathrow airport director Colin Wood said, “This flight is a great example of what can be achieved when the aviation industry works together.

“The benefits should include reduced taxi time, lower carbon emissions, improved air and noise quality and lower airline fuel costs.

We are always looking for ways to improve the environmental efficiency of ground operations at our airports and trials such as these are fundamental in delivering new procedures and technologies.”

The Airbus A321 was able to fly without the everyday but necessary constraints imposed on air traffic because it was a one-off. It was also able to fly at its most fuel-efficient altitude for longer than usual.

Green taxiing proves its worth

FARNBOROUGH – Messier-Bugatti, part of the Safran group, is a world leader in carbon wheels and brakes and landing systems. It recently showcased developments in its green taxiing initiative, which will enable aircraft to autonomously maneuver on ground without relying on thrust from the main engines.

To avoid using engine thrust, Messier-Bugatti is developing several solutions to power the main landing gear, as these gears upstairs to up to 90% of the aircraft weight. Messier-Bugatti is targeting 2016 for introduction on single aisle aircraft.

Other new features of the programme are expected to see the ‘perfect flight’ replicated day in, day out but we have demonstrated it is possible and we can work towards it in the long-term.

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Boeing launches real-time service to help airlines save fuel

SEATTLE – Boeing is introducing new technologies that will reduce the cost of fuel burn and improve environmental efficiency.

Boeing projections show that Direct Routes and Wind Upgrades will collectively reduce fuel burn of flight time per year for a medium-size U.S. airline by the equivalent of operating hundreds of flights that do not release any emissions.

Boeing’s second Direct Routes initiative, Wind Upgrades, offers airlines increased fuel efficiency and improves aircraft performance by pairing data link messages that are transmitted from the ground to real-time, flight-customised wind information. The messages enable the aircraft’s flight management computer to re-compute flight control inputs based on more accurate and precise information.

Currently, if flight crews obtain wind data from several sources prior to departure, they must filter through all the information to determine the best course of action.

“First phase of new Bombardier wing manufacturing facility in Belfast complete

BELFAST – The first phase of construction of the 600,000 sq. ft. (55,742 m2) facility in Belfast that will house the manufacture and assembly of Bombardier’s new Cseries commercial aircraft has now been completed on schedule.

Bombardier’s Belfast operation is responsible for the design, manufacture and integration of a regional jetliner portion of the new Cseries aircraft, including all flight control surfaces, the propulsion system and interiors.

The facility, which is part of a £520 million investment by Bombardier in its Northen Europe operations, is designed to meet high environmental standards. The building’s layout and design are optimized for efficiency and minimal environmental impact.

AFRA targets 90% recyclability of global fleet by 2016

SEATTLE – Jeanne Yu, Boeing Commercial Airplane’s director for airplanes environment, performance, said “AFRA” is the only global organization committed to the environmentally responsible management of air- planes throughout their entire life cycle and AFRA is relentlessly pursuing 90% recyclability of global fleet by 2016.

AFRA and its key member Boeing also aim to reduce the amount of aircraft waste going to landfills to 25% by 2025.

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AMSTERDAM – CANSO has joined the ACI Europe and Eurocontrol partnership to combat airport congestion and reduce fuel burn and CO2 emissions.

The threat of climate change, the global economic crisis and the resulting changes in the structure of the European aviation market have led to a renewed focus on efficiency and performance for Europe’s airports.

In October 2008, ACI Europe and Eurocontrol signed a collaboration to increase operational efficiencies at European airports. This partnership, known as the ACI Eurocontrol A-CDM project, aims to harmonise air traffic control across the world to see where and how other air traffic controller has done this. In a recent update from NATS on target for 10% CO2 cut by 2020 as new CEO urges faster pace

In the USA that will translate to fewer delays, less air pollution and greater system reliability,” said Naverus general director Steve Fulton.

“Modernising the US air traffic control system is a monumental task that requires the commitment and private sectors alike. We have shown how third-party navigation providers, like GE, and airlines, like American, are helping accelerate these improvements.”

Paul Steele, ATAG’s executive director, said, “The ATAG Air Transport Action Group is the forum where the industry can come together and work towards common solutions to common issues. We are the only group that represents the broad spectrum of the air transport sector at a global level.”

“Naturally, a part of GE Aviation, designed the path, which incorporates Required Navigation Performance technology (RNP), a core component of the FAA’s NextGen air space modernisation plan. RNP paths are the custom-tailored to reduce airport congestion, shorter flight times, etc. The event heralds an acceleration of airspace modernisation efforts that use precise ‘highways in the sky’ to reduce delays, slash aircraft CO2 emissions and improve airline operating efficiency.

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628,000,000 tonnes

Worldwide, flights produced 628 million tonnes of CO₂ last year. Globally, humans produced over 30 billion tonnes of CO₂.

2%

The global aviation industry produces around 2% of all human-induced carbon dioxide (CO₂) emissions.

12%

Aviation is responsible for 12% of CO₂ emissions from all transport sources, compared to 74% from road transport.

Over 33 million people are employed worldwide in aviation activities and related tourism. Of this, 5.5 million people work directly in the aviation industry.

82%

A jet aircraft coming off the production line today is around 80% more fuel efficient per seat km than one delivered in the 1960s.

1,715 airlines operate a fleet of 23,000 aircraft serving 3,750 airports through a route network of millions of km managed by 160 air navigation service providers.

Nearly a quarter of the operating costs of airlines is spent on fuel: 23%, which is up from 13% in 2001. The proportion is likely to rise further as fuel prices go up. So this alone is a major incentive for the industry to focus on fuel efficiency.

$1.3 trillion

In order for the aviation industry to reach its target of 1.5% average fleet fuel efficiency per annum from now until 2020, the world’s airlines will have to purchase 12,000 new aircraft at a cost of $1.3 trillion.

80%

Alternative fuels, particularly sustainable biofuels, have been identified as excellent candidates for helping achieve the industry targets. Biofuels derived from biomass such as algae, jatropha and camelina have been shown to reduce the carbon footprint of aviation fuel by up to 80% over their full lifecycle. If commercial aviation were to get 6% of its fuel supply from biofuel by 2020, this would reduce its overall carbon footprint by 5%.

2.2 billion

In 2009, over 2.2 billion passengers were carried by the world’s airlines.

$425 billion of GDP per year, considerably larger than some members of the G20 (and around the same size as Switzerland). If aviation were a country, it would rank 21st in the world in terms of gross domestic product (GDP), generating $425 billion of GDP per year, considerably larger than some members of the G20 (and around the same size as Switzerland).

Our climate targets:

1.5%

We will improve our fleet fuel efficiency by 1.5% per annum between now and 2020.

Stabilise

From 2020, net carbon emissions from aviation will be capped through carbon neutral growth.

50%

By 2050, net aviation carbon emissions will be half of what they were in 2005.

3-5 years

With certification expected at the beginning of 2011, it is estimated that the first drops of sustainable aviation biofuel could be making their way into commercial flights in 3 to 5 years. Once production is scaled up, the % of fuel supplied will increase rapidly.

35%

While air transport carries around 5% of the volume of world trade shipments, it is over 35% by value – meaning that goods shipped by air are very high value commodities, often times perishable or time-sensitive.

Deliveries of fresh produce from Africa to the UK alone supports the livelihoods of 1.5 million people, while producing less CO₂ than similar produce grown in the UK, despite the energy used in transport.

3 litres

The new Airbus A380, Boeing 787 and Bombardier CSeries aircraft use less than 3 litres of jet fuel per 100 passenger kilometres. This matches the efficiency of most modern compact cars.

The aviation industry was the only global sector to present a united plan for reducing its emissions to governments at the 2009 Copenhagen Climate Talks.

The South African horn made infamous at the 2010 World Cup, the vuvuzela, at full blast is rated at 127 decibels. An A380 on the other hand takes off with a relative whisper at 82dB.

Sources: