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World premiere: Lufthansa first airline to use biofuel on commercial flights

Bio-synthetic kerosene to be used from April 2011

At a joint press conference today, Lufthansa Chairman and CEO Wolfgang Mayrhuber, with Peter Hinze, Parliamentary State Secretary and Government Aerospace Coordinator, and Professor Dr. Johann-Dietrich Wörner, Chairman of the Executive Board of the German Aerospace Center (DLR), presented a biofuel project planned by Lufthansa. The project is backed by the government within the framework of its aviation research programme aimed at underpinning the sustainability of air traffic.

In April 2011, Lufthansa is to begin a six-month trial with an Airbus A321 on scheduled commercial flights on the Hamburg-Frankfurt-Hamburg route. Pending certification, one of the aircraft's engines will use a 50-50 mix of biofuel and traditional kerosene. The primary purpose of the project is to conduct a long-term trial to study the effect of biofuel on engine maintenance and engine life. During the six months trial, Lufthansa will save around 1,500 tonnes of CO₂ emissions, said Lufthansa Chief Wolfgang Mayrhuber in Berlin today. "Lufthansa will be the world's first airline to utilise biofuel in flight operations within the framework of a long-term trial. This is a further consistent step in a proven sustainability strategy, which Lufthansa has for many years successfully pursued and implemented," said Mayrhuber.

Peter Hintze, Parliamentary State Secretary at the Federal Ministry of Economics and Technology, said: "With its aviation research programme (LUFO), the Federal Government is supporting the German aviation industry in its efforts to master the technological challenges of establishing a safe and sustainable air traffic system. That backing is afforded within internationally comparable framework conditions."

About 77 per cent of LUFO funding is directly or indirectly related to the environment and sustainability. Only an integrated research approach of the like practised in research networks, above and beyond the classical discrete disciplines, offers the chance of achieving the ambitious climate protection objectives by 2020 and, simultaneously, safeguarding the technological competitiveness of the German aviation industry.”

The “burnFAIR“ project dedicated to the testing of biofuel, unveiled by Lufthansa today, is a successful example of integrating research efforts for the purpose of realising climate care objectives. This project is part of an overall “FAIR” initiative (Future Aircraft Research), in which other issues – alongside biofuel compatibility - such as new engine and aircraft concepts or other fuels, e.g. liquified natural gas (LNG) are under study. The Federal Government is contributing a total of five million euros towards the “FAIR” initiative, of the total 2.5 million euros are earmarked for the Lufthansa “burnFAIR” project.

Prof. Dr. Johann-Dietrich Wörner, Chairman of the Executive Board of the German Aerospace Center (DLR), dwelt on the project background at the Berlin press conference: “Our “burnFAIR” project is designed to research the long-term alternatives to conventional aviation jet fuel. The object is to gather data on pollutants from biofuel in comparison with conventional kerosene over a longer period. The measured pollution pattern related to diverse stresses in flight and the composition of the exhaust gases will allow us not only to draw conclusions about the compatibility of biofuel but also about the maintenance needs of aircraft engines. Since, above all, we expect a significant reduction in soot particles.

Lufthansa is currently making intensive preparations for the practical tests. Aside from the actual research project, the acquisition of biofuel in sufficient volume and the complex logistics it involves is proving a challenge in the run-up to the trial. The aircraft, for example, will be fuelled only in Hamburg. Furthermore, an array of internal processes must be modified, since Lufthansa does not normally deploy a plane exclusively on a single route, but always in a rotation chain on flights to different destinations.

The project will cost Lufthansa an estimated 6.6 million euros. “We know that biofuel is an issue we must address carefully. We can see the opportunities this fuel offers and give serious attention to the debate on the requisite raw materials. But we first want to acquire experience in daily practice in the use of biofuels. We are doing pioneering work in that no

other airline to date has operated an aircraft engine with biofuel over a longer term,” observed Wolfgang Mayrhofer. “Our fuel is sustainable. No rain forest will be deforested for Lufthansa biofuel. In the procurement of biofuel, we ensure it originates from a sustainable supply and production process. Our licensed suppliers must provide proof of the sustainability of their processes.”

Production of the bio-synthetic kerosene utilised by Lufthansa rests on the basis of pure biomass (Biomass to Liquid- BTL). The producer is Neste Oil, a fuel refining and marketing company from Finland. The company has years of experience in biofuel production and has cooperated with Lufthansa for many years. Certification of its biofuel is expected in March 2011.

The use of biofuel is one element in a four-pillar strategy aimed at reducing overall emissions in air traffic. Ambitious environmental goals can only be achieved in future with a combination of various measures, like ongoing fleet renewal, operational measures such as engine washing and infrastructural improvements. Projects dedicated to these themes are also underway under the aegis of the aviation research programme. Thanks to new technologies, Lufthansa has improved its fuel efficiency by 30 per cent since 1991. Average fuel consumption per passenger is now down to 4.3 litres of kerosene over 100 kilometres.

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