FLIGHT FIRST FLIGHT TO OPERATE WITH BIOFUEL MADE FROM LOCALLY GROWN TOBACCO PLANTS

News / Airlines

The South African Airways Group (SAA) today operated Africa's first sustainable Biofuel flights.

Today's SAA and Mango flights on Boeing 737-800s between Johannesburg and Cape Town make history as the first sustainable biofuel flights to have taken place on the African continent. The flights used home-grown feedstock from the Marble Hall area in the Limpopo region of South Africa as part of Project Solaris, a biofuels project named after the energy tobacco plant used. The nicotine-free, hybridised tobacco plant lends itself to the production of biofuel as the Solaris plant produces small leaves and prodigious flowers and seeds that are crushed to extract a vegetable crude oil. The Solaris plant is ideally suited for this purpose as the remaining seedcake is used as a high protein animal feed supplement that also contributes to food security.

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“The project has brought economic and rural development to the Limpopo province in keeping with SAA’s mandate to support the South African National Developmental Plan. It establishes a new regional bio jet fuel supply chain of which we can rightfully be proud. SAA as a leading African and global airline is a trailblazer when it comes to environmental and social sustainability in Africa,” says Musa Zwane, SAA’s Acting CEO.

“Mango has always been in great support of environmental initiatives and has, over the past decade, engaged in several sustainable and environmentally beneficial social development programmes. In addition, over time, we have taken several measures to reduce fuel consumption and, as a positive consequence, the reduction of emissions through the installation of lighter seating and removal of excess aircraft weight among others. It is a privilege to participate in the SAA biofuel programme. The project also shows how, when various role players come together and collaborate, success is imminent,” says Nico Bezuidenhout, Mango CEO.

This African First, is a collaboration between the South African Airways; the Boeing Company, the industry leader in global efforts to develop and commercialise sustainable biofuel; SkyNRG, the global market leader for sustainable jet fuel, having supplied more than 20 airlines worldwide; and Sunchem Holding, an industrial research and development company working in the field of extracting energy from plants and the Solaris patent holder. The Boeing Company celebrates its centenary this month.

“It is fitting that on our 100 year anniversary we are flying on fuels ?that not only power the flights but ensure a sustainable future for our industry,” said Miguel Santos, managing director for Africa, Boeing International. “This project is a great example of environmental stewardship that delivers economic and health benefits to South Africa.”
The first Solaris crop, comprising 50 hectares, was produced and harvested in December 2014 by Sunchem SA, from where the seed oils were extracted through crushing the seeds produced by the plants. The plant then produces additional flowers and seeds which are harvested a few months later. The seedcake remaining after the crushing can be utilised for animal feed as it is high in proteins and the oil extracted is then available for refining into a biofuel.

“Over the last two years Sunchem SA successfully worked side by side with local farmers in Marble Hall, Limpopo to grow the Solaris crop and make today’s biofuel flight a success. We are very proud about this achievement as it shows that the patented Sunchem Solaris technology opens a new market for Southern Africa and beyond,” says Hayo de Feijter, CEO Sunchem SA.

This biofuel is refined to a high global specification and can be blended with conventional fossil jet fuel and used as a ‘drop in’ fuel. This means that no modifications to the aircraft or engines are required at all and the aircraft is simply fuelled with this certified blend. Aviation biofuels undergo more tests and have to meet stricter specifications than conventional jet fuel. All fuel used conforms to global standards. The long-term ambitious goal of the programme is to operate all flights out of SAA’s hub at the OR Tambo International Airport in Johannesburg on sustainable biofuels. The fuel for the flights was supplied by SkyNRG and produced by AltAir Fuels.

Maarten van Dijk, CEO SkyNRG; “We are proud to supply South African Airways together with our partner AltAir Fuels, the first and only refinery worldwide that produces sustainable biojet fuel on commercial scale. This flight represents an important next step for Project Solaris and we thank the Dutch government for their ongoing support that has been key in achieving today’s success.”
The Solaris crop achieved certification from the Roundtable on Sustainable Biomaterials (RSB), one of the strongest sustainability standards in the world. RSB certification provides a model for expansion of Project Solaris to larger scale production. The RSB standard is considered the ‘gold

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standard' of environmental sustainability for biomaterials and incorporates stringent environmental and social requirements that ensure the biomaterials are environmentally friendly and are certified to reduce emissions while the growing of the plants is done in a socially responsible and caring way to ensure that local communities benefit and the crop does not threaten food security.

Rolf Hogan, Executive Director RSB says "RSB is honoured to be part of this project that is making a positive impact in the Limpopo province in South Africa. This project can improve the lives of smallholder farmers in South Africa as well as inspire others around the world to show that it is possible to produce environmentally, ethically and socially sustainable biofuel. We hope this project serves as an example that can be duplicated around the world in various regions with diverse feedstocks."

This project is supported by the WWF-SA through a research grant from the Boeing Company that aims to investigate the viability and impact of a large scale biofuel programme on South Africa and on the environment considering all relevant factors such as water use and food security.

James Reeler of the Policy and Futures Unit with WWF South Africa commented: "We commend SAAfor taking this important first step to engaging with the burning issue of aviation emissions. Biofuels could feasibly reduce up to 9% of aviation's greenhouse gas emissions by 2035, as long as the growth of the industry addresses the potential sustainability issues associated with biofuel production. By using RSB-certified feedstock, SAA has demonstrated its concern with not only reducing its carbon footprint, but also ensuring that the biofuel supply chain reduces other social and environmental risks."

The partners today also launched a stakeholder and sustainability plan called the Southern Africa Sustainable Aviation Fuel Initiative (SASAFI) to ensure a long-term domestic fuel supply for SAA and other regional fuel users. The goal for the initiative is to scale-up over the next several years to gain additional biofuel capacity. If successful, farmers will be able to tap into local and global demand for certified feedstock without adverse impact to food supplies, fresh water or land use.

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