SWITCH Africa Green is funded by the European Union

Waste to Wing – Greening African Aviation

Fetola is an enterprise development specialist working with small and medium sized businesses to create jobs and grow the economy.

SkyNRG is the global market leader in sourcing, blending and supplying sustainable aviation fuel to airline customers.

WWF is one of the world's largest and most respected independent conservation organisations. WWF South Africa is the co-implementer.

Duration:
36 months

Total budget:
1,336,266 Euros

Location:
South Africa (all provinces)

BACKGROUND

South Africa's agricultural sector, which formally supports some 700,000 jobs indirectly supporting an estimated 8.5 million people, would greatly benefit from the growth of a local sustainable biofuel industry. The industry could provide rural communities with an additional source of income and incentives to transition to Sustainable Consumption and Production through, for example, improved soil and water management. Lacking higher value options, farmers in South Africa frequently burn agricultural residues. Such practices increase greenhouse gas (GHG) emissions and destroy biomass that could otherwise support upstream micro-small-medium enterprise (MSME) development that could use this waste biomass as feedstock for the production of sustainable aviation biofuels. There have been some efforts to shift the agricultural sector to "green harvesting" however many farmers consider this to be a costly and time consuming option, and labour organisations have concerns about automation and job losses. South Africa also struggles with invasive alien species that destroy local ecosystems. There are several alien species clearing programmes underway in South Africa, and aliens could also be a feedstock for SAF.

Several African countries see sustainable aviation fuel (SAF) as a way to reduce GHG emissions, stimulate the Green Economy and GDP growth, and reduce dependence on fossil fuel imports. There is interest from airlines both locally and internationally to purchase SAF. A leading South African fuel producer has the technology to produce this fuel and could start production within six months if biomass feedstocks were available. This opportunity has already attracted interest from finance providers like the Industrial Development Corporation and the Development Bank of Southern Africa.

In addition to scaling volumes of SAF produced and sold in South Africa, the pilot could be replicated in other African countries where there is interest in developing biofuels. Kenya and Ethiopian governments have set biofuel blending targets for land transport, and Ethiopian Airlines has expressed interest in utilising SAF. Given that both countries have high levels of food insecurity, any SAF project should be based on waste to prevent competition with land and water needed for food production. Although not beneficiaries of this project, one of the objectives is to share the project learnings with the view to catalysing similar projects in Kenya and Ethiopia. A thriving SAF sector will help African states to displace imported fossil fuels from national energy balances while creating business opportunities for MSMEs and the communities in which they are based.

OBJECTIVES

The impact or overall objective of the project is that "By 2030, sustainable aviation fuel is a growing sector in South Africa, contributing to green and inclusive economic development, new investment, GDP and MSME growth, quality job creation and climate change resilience".

The specific objective or outcome of the project is that "By end 2020, the pre-commercial feasibility of Sustainable Aviation Fuel production in South Africa premised on MSME supplier development is demonstrated, through capacity building; sustainable sourcing, transport and processing of biomass; and market development."

ACTIONS/ ACTIVITIES

- Identify opportunities for MSMEs to provide sustainable waste-based feedstocks for Sustainable Aviation Fuel production.
- Build the capacity of MSMEs to seize green business opportunities and participate in Sustainable Aviation Fuel supply chains
- Pilot production of Sustainable Aviation Fuel using waste-based feedstocks supplied by MSMEs
- Stimulate demand and support for Sustainable Aviation Fuel in South Africa
- Promote replication by sharing lessons learned with MSME's, policy-makers and companies in sub-Saharan Africa