

Sugar High: SA canegrowers could produce 433 million litres of aviation fuel a year

The South African Canegrowers Association (SA Canegrowers) and the Roundtable on Sustainable Biomaterials (RSB) are excited to announce the findings of a joint study on the viability of using South African sugarcane to manufacture sustainable aviation fuel (SAF). Earlier this month the study was presented to the Value Chain Diversification Task Team established under the Sugar Industry Value Chain Masterplan, which is mandated to develop a medium to long term strategy for the diversification of the sugarcane value chain. SA Canegrowers has a seat on this Task Team along with other industry and government stakeholders.

The study, which is entitled “The Viability of South African Sugarcane as Feedstock for Sustainable Aviation Fuel Production”, indicates the huge potential in the diversification of the sugarcane sector. In particular, by diverting 50% of the 19 million tons of cane produced by growers each year towards ethanol production, the industry could produce approximately 700 million litres of low-carbon ethanol annually for local or international biofuel markets. This ethanol could then be converted into 433 million litres of sustainable aviation fuel (SAF) for the aviation industry – by local refineries adapted to produce jet fuel via Alcohol-to-Jet (ATJ) pathway, or internationally by existing ATJ producers.

Considering both aviation and road transportation, the study calculates that local South African demand for fuel ethanol alone could be approximately 2.4 billion litres annually, with 75% (1.8 billion litres, equalling to the entire OR Tambo supply at 50% biofuel blend) from aviation, and 25% (600 million litres) from the national fuel blending mandate, underscoring the potential for further growth.

Sustainable Aviation Fuel or SAF is a drop-in, low-carbon fuel alternative for the aviation industry produced from bio-based or recycled feedstock. With no other options such as electrification or gasification, liquid fuels remain the only way for the aviation sector to meet their decarbonisation targets of carbon neutral growth as of 2021, and halving its emissions by 2050 compared to 2005.

Globally, there are currently 6 billion litres of SAF offtake agreements, and the industry is looking for additional sustainable feedstock options to increase supply and meet demand. Leading international airlines, many of which fly regularly to South Africa, have both commitments to achieve net zero GHG emissions in the next decade and to purchase SAF. These commitments are further supported by policy incentives and targets in the USA, European Union and via the ICAO CORSIA scheme (International Civil Aviation Authority’s Carbon Offsetting and Reduction Scheme for International Aviation). These fuels could present a new revenue stream for South African canegrowers who have experienced a downturn in the market for their goods locally and had to resort to loss-making export markets, and contribute

towards safeguarding the futures of 21 000 black small-scale growers, 65 000 farmworkers as well as the 270 000 indirect jobs and the million livelihoods the industry supports.

These findings come at a time when the sugar industry is on its knees as a result of plunging world sugar prices, weak protection against cheap imports and a major drop in local demand for sugar due to the introduction of the sugar tax (or Health Promotion Levy) in 2018.

They are also in line with one of the key focus areas of the recently finalised phase one of the Sugar Industry Masterplan, which is focused on responding to the many threats facing the industry and putting the sector back onto a path to growth.

One of the main conclusions in the Masterplan is that there is significant opportunity for the development of a diverse range of downstream value streams from sugarcane to increase the profitability of cane growers, such as: Bioethanol for fuel blending; Biojet fuel / SAF; Biogas; No- and low-calorie sweeteners as well as other crops such as maize, sorghum, avocados, mangos, forestry for timber and medicinal cannabis.

Importantly, the research study also highlights what is required to enable successful diversification of sugarcane into the production of ethanol. These include:

- Creating an enabling regulatory framework;
- Conducting proper impact assessments;
- Improving national Greenhouse Gas reporting requirement;
- Implementing preferential procurement processes and labour laws to promote local labour;
- Assisting small scale growers with essential occupational health and safety structures and equipment; and
- Ensuring internal administrative support at farm level.

“SA Canegrowers is pleased that the presentation to the Value Chain Diversification Task Team was well received with members positive about the work done so far. Aviation biofuels as a potential value stream for cane growers will now be unpacked further by the task team. We look forward to working together with government and our industry counterparts to come up with a diversification strategy that addresses these current blockages and ensures the long-term sustainability and profitability of the industry.”- Rex Talmage, Chairman of SA Canegrowers.

To access the full report, visit: <https://rsb.org/2020/10/19/rsb-sa-canegrowers-research-points-to-huge-saf-potential-in-south-africa/>

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[Editor's note: The Roundtable on Sustainable Biomaterials (RSB) is a global multi-stakeholder organisation that supports the SAF and the wider bioeconomy sector with sustainability solutions, partnerships and certification. The RSB standard and certification system is a tool for meeting regulatory compliance (EU RED and CORSIA) and market access, and for demonstrating that SAF production is truly sustainable, does not affect food security, and achieves significant GHG emission reductions in line with the sector's decarbonisation goals. For more information visit: <https://rsb.org/aviation/>]