

## Opinion editorial – Chasing green molecules, a moment of opportunity

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**By Dr Helge Sachs, Senior Vice President Sasol ecoFT**

Investment in mobility is increasing, not slowing down. Billions of dollars are being spent on researching and developing new technologies, like autonomous driving or the production of carbon neutral fuels for shipping, vehicles and aviation. This increased mobility will result in an increase in carbon emissions if these new technologies are not implemented quickly and if we do not do something fundamentally different.

CO<sub>2</sub> emissions have risen rapidly in the last two decades with almost 50%\* of total global carbon emissions coming from aviation (308 million tonnes per annum), shipping (262 million tonnes per annum) and heavy-duty traffic (762 million tonnes per annum). The world needs to decarbonise, particularly in hard-to-abate sectors and industries where the change needed is unprecedented.

Significant research and development is going into exploring and pursuing technologies to help these sectors and industries reduce their global carbon emissions. Many of these technologies are nascent and not yet tested scale. However, Sasol has existing, commercial proven technology at scale that can advance decarbonisation - FT (Fischer Tropsch) technology.

FT technology has enormous potential for tomorrow's sustainable world. FT is one of the most unique and readily available technologies that can produce sustainable "drop-in" fuels and chemicals. Its hydrogen and carbon feedstock flexibility means it can use green hydrogen and bio-based carbon or captured carbon to produce sustainable synthetic fuels and chemicals. These products are derived from syngas, which is a mixture of carbon monoxide and hydrogen, traditionally from gasification of solid feedstocks, such as coal or biomass or by reforming of natural gas.

However, as mentioned FT is agnostic to the origin of the components of the syngas (derived from the combination of carbon and hydrogen) as an input/feedstock to the FT process, and with different catalyst formulations and operating conditions, the product slate can be adjusted to suit particular market requirements. By manipulating the catalyst formulation and operating conditions of the process, FT products can range from hard waxes to diesel, aviation fuel, other lighter fuels and a range of intermediate products for chemicals manufacturing.

Power-to-Liquids (PtL), leveraging FT technology, is set to be the winner in the Sustainable Aviation Fuels market from 2035 onwards, as other technologies face feedstock availability limitations, retained carbon emission footprint, scalability and/or land and water use limitations. FT technology is fully compatible with green feedstocks to produce sustainable products that are sought after in a low-carbon world.

Our existing synthetic aviation fuels are already accredited by a number of industry players, such as IATA, aircraft and engine manufacturers, airlines and government agencies.

We have partnerships with leading industry players and companies to advance our ambitions of helping the world transition to net zero. Together with like-minded partners, we have the technology to achieve this ambition. And the opportunity is now.

*\*Source: International Energy Outlook 2019*

<https://www.sasol.com/about-sasol/sasol-ecoft>

## **About Sasol ecoFT**

Sasol ecoFT is a pioneer in sustainable fuels and chemicals through its proprietary FT (Fischer-Tropsch) technology that converts green hydrogen and sustainable carbon sources into sustainable products. As part of Sasol, a global leader in synthetic fuels and chemicals, we have more than 70 years' experience in providing sustainable FT solutions globally. We seek to contribute to a thriving planet, society, enterprise and innovate for a better world.

### ***For more information:***

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