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**Short comment**

Page 82: Over time, new forms of Power to Liquid generation of SAF may be unlocked through R&D. The use of feedstocks such as hydrogen to create synthetic SAF are nascent, but research in this space is encouraging. Also should include reference to liquid phase catalytic technology to economically convert cellulosic biomass, such as sugarcane bagasse, to SAF. Technology has been piloted in Australia by Mercurius Biorefining with support from the Queensland and Federal government.

The conventional thinking that there are only three current routes to SAF; ATJ, FT and HEFA is inaccurate. We assert that there is another; Liquid Phase Catalytic (LPC) which is the route that REACH™ technology uses. Mercurius Australia was founded in 2012 and has worked with CSIRO on our Liquid Phase Catalytic (LPC) REACH™ technology to produce SAF from residual biomass, specifically bagasse for more than two years from 2013–2015 and we have been working with QUT since 2012. In fact we just finished a pilot project in Mackay, QLD June 30 this year processing 100kg of bagasse per day producing SAF range hydrocarbons. Mercurius is in fact that only 'real, happening now' technology that exists in Australia to convert non-food cellulosic biomass into SAF and we have plans for a pioneer plant in QLD in 2026 processing 30 tonnes of bagasse a day that potentially could produce 9000 liters a day of SAF with our strategic partner Kolon Industries of South Korea. Kolon are more interested in our chemical stream to produce FDCA for PEF so much of the early production from the pioneer plant will go toward that but we will continue to produce enough quantities of our REACH™ produced SAF for testing and certification.

Page 83: Biofuels can emit more greenhouse gases than some fossil fuels on an energy-equivalent basis, depending on production process and time horizon of analysis.<sup>89</sup> Crop-based feedstocks may also compete with food production, potentially increasing the cost of essential grains and cooking oils. Robust certification arrangements, which provide assurance of SAF environmental credentials will be required to support confidence in SAF integrity. Further investment into R&D for technologies that can utilize abundant sources of cellulosic feedstock available in Australia will be required to produce SAF with low to potentially negative carbon emissions. When REACH™ technology goes commercial (projected 2028) we will be able to produce over 110 million litres of carbon negative SAF per year from a 1000 tonnes of bagasse per day refinery. So in theory, Mercurius could meet the entirety of the SAF needed by the Australian aviation sector (500 million litres per year by 2030 as posited by Qantas) with 5 commercial plants processing 1000 tonnes per day of bagasse. I think that is exciting and fits in better with the feedstocks that are actually available now rather than contemplated to exist at some point in the future. Also, REACH™ technology produced SAF would piggy back on HEFA certification as our SAF product will have similar enough characteristics to do so.

Let's compare the alternatives:

- 1) Alcohol To Jet (ATJ) technologies have never been proven at scale and have a very iffy LCA profile and have an extremely high cost to produce while simultaneously creating CO<sub>2</sub> in its production and often crossing the line when considering food for fuel and land use issues with its dependence on corn ethanol.
- 2) As far as FT is concerned, there are many examples of extremely expensive FT plants failing to meet costs and shutting down or never actually getting built after 100s of millions of dollars were spent.
- 3) HEFA is real and has some potential but the finite nature of its feedstocks means that it will never be able to scale to produce the volumes necessary to meet Australian aviation industry needs for carbon reduction. REACH™ technology could help expand the production volumes of HEFA by processing the residues left after oil extraction thereby increasing the volume of SAF produced from the same feedstock.

Include Australian companies pushing the frontier... section in Section 5.2 Sustainable aviation fuel: Mercurius Pty Ltd has piloted a technology using a liquid phase catalytic approach to produce drop-in SAF from lignocellulosic biomass feedstocks, such as sugarcane bagasse.