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SUBMISSION ON COMMONWEALTH GOVERNMENT'S AVIATION WHITE PAPER: TERMS OF REFERENCE

On behalf of Jet Zero Australia, we would like to thank you for the opportunity to comment on the Terms of Reference (TOR) for the Aviation White Paper, led by the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA) on behalf of the Commonwealth Government.

Jet Zero Australia welcomes the TOR's Purpose, Scope and Themes, and in particular the White Paper's stated focus on achieving net zero carbon emissions in the aviation sector through Sustainable Aviation Fuel (SAF).

Globally there are no other proven and commercial technologies available for achieving significant emissions reduction in aviation other than SAF, and the TOR is right to highlight SAF as the most promising technology pathway for significant emissions reduction in aviation.

Jet Zero Australia's strategic vision

Jet Zero Australia is leading domestic industry in commercialising SAF production, with plans progressing to develop Australia's first Alcohol to Jet Fuel (ATJ) facility, taking surplus ethanol production on Australia's East Coast and converting it to SAF in a plant in Queensland that will commence construction in 2024/25.

The SAF industry is poised for significant growth, with 290 member airlines of the International Air Transport Association (IATA) committing to net zero emissions by 2050. This includes Australia's largest carrier, Qantas, who has also committed to buying 500 million litres of SAF by 2030. Achieving this target will require the mitigation of 21.2 gigatons of carbon between now and 2050, with at least 65 percent forecast to be necessarily abated through SAF.

Australia is well positioned to benefit from production of SAF from the ATJ process. Australia already holds the most certified organic agricultural land area in the world, producing surplus volumes of sustainable ethanol from both wheat and sugarcane molasses.

Furthermore, with Australia being the second biggest emitter of carbon per capita on domestic air travel, and with over half of Australia's leading companies now committing to net zero targets, there is currently an extraordinary value opportunity for a rational and well-qualified group like Jet Zero Australia to establish a business offering airlines and their customers a fuel product with sustainable certification.

Jet Zero Australia is a member of Bioenergy Australia's SAF Alliance, established in 2021 to capitalize on demand for SAF, with plans progressing to develop Australia's first Alcohol to Jet Fuel (ATJ) facility.

Domestic SAF production is a strategic industrial and national priority

If the Commonwealth Government was to deliver meaningful policy support to industry in the development of an onshore SAF sector, Australia could capitalise on the following major strategic benefits:

- delivery of significant emissions reduction to Australia's most emissions-intensive transport sector
- no requirements for fleet modification, even when blended at higher percentages with traditional jet fuel
- adoption of globally proven and regulated technology which now has had 375,000+ SAF fuelled flights made safely around the world since 2008
- provides significant upstream economic benefits to the agricultural sector, without competing with food sources
- takes advantage of the best sequestration crop on the planet, sugarcane, and which Australia grows in abundance
- enhanced fuel security for both our civilian and military aircraft when compared with imported jet fuel.

Jet Zero Australia is at the intersection of engagement with the airlines, airports, fuel suppliers, growers, private equity and policymakers to ensure that all stakeholders are able to work together toward realising a new domestic SAF sector. However, the future of the industry is highly reliant on the direction of government policymaking, particularly when we consider the emissions reductions targets both the Commonwealth Government and the major airlines have committed to in the seven short years leading up to 2030.

Like any emerging industrial sector, the initial volumes produced will likely be more expensive than the alternative, and that is no different when comparing SAF to traditional jet fuel. Hence one strategic objective of the Aviation White Paper must be how could the Commonwealth Government use its full range of policy and funding tools to fast-track volumes of SAF production capacity that meet, at a minimum, our own domestic aviation requirements.

Rapid development of our onshore SAF productive capacity Australia will:

- assist with achieving urgent 2030 emissions reductions targets, particularly given the long lead time in getting major projects out of the ground

- move down the production cost curve as quickly as possible, reducing the per litre production cost, and minimising subsidisation
- avoid Australia's high-quality biomass being lost to competitors overseas to support an offshore SAF production industry.

If Australia does not act urgently on developing significant onshore production volumes of SAF, there is a risk that the emerging international competition will result in the high-quality biomass we produce here will be shipped offshore for SAF production elsewhere. This will result in Australia being reliant on SAF produced offshore and sold back to us at a premium, and our country missing out on the skilled jobs, technology and capital investment on offer.

SAF is a proven and available pathway to reduced emissions

It is Jet Zero Australia's view that SAF has a significant role to play in enabling the aviation sector to reduce its emissions and meet its net zero commitments, both in the near term, and well into the future. This position is one supported by the industry, with 500 MLpa committed demand from Qantas by 2030, and a forecast of 449BLpa from the aviation industry globally by 2050.

SAF is a technology that is ready for use in the immediate to near term, requiring little to no change to existing aircraft or airport infrastructure, and can 'plug-in' with relative ease[1]. The benefit of this is that it enables the aviation sector to bridge a crucial time gap in reducing emissions, while SAF affordability and technical processes will gradually come down in cost over time.

In terms of efficacy, it has been shown that if just 5 percent of Australia's jet fuel requirements were replaced by a 50-50 SAF blend, annual emissions intensity would be reduced by 2.5 percent. Based on 2017 figures this would equate to ending roughly 550,500 tonnes of annual CO_2 emissions[2].

Should this ratio increase to 40 percent by 2050, as suggested by a roadmap outlined by the CSIRO[3], the Australian aviation industry would be projected to save $2B annually on fuel imports and achieve a 17 percent reduction in aviation greenhouse gas emissions by 2030, relative to an all petroleum-based jet fuel future. Ultimately, industry believes that the evidence positions SAF as a leading solution for emissions reduction in both the near and long term.

[1] (2022) Bioenergy Australia <b7283f_90915fc9530c40aca7795d93e36260b6.pdf (usrfiles.com) >

[2] Department of Infrastructure and Regional Development 2017 <Managing the Carbon Footprint of Australian Aviation (infrastructure.gov.au)>

[3] (2011) CSIRO <SAFRM Report_finalPRINT_18May.indd (csiro.au) >

SAF generates skilled employment and a new export opportunity

The benefits of developing an Australian SAF sector supports a significant national economic opportunity, with regional and rural economies most well positioned to take economic advantage. The creation of a more comprehensive bioenergy sector is projected to increase employment by an estimated 26,200 jobs over the next decade, as well as contributing $10 billion in extra GDP per annum[4].

This underscores the immense comparative advantage Australia has in developing a domestic SAF sector, with production potential of 1,908 ML per annum, or 18 percent of the aviation fuel market. Developing the SAF industry alone could create 7,400 jobs by 2030, and up to 15,600 by 2050, the majority of which would be concentrated in regional and rural areas, while generating $2.8 billion in GDP by 2030, and $7.6 billion by the year 2050.

This closely position aligned with Jet Zero Australia's plans to invest in the north Queensland region, and to ultimately support Townsville becoming an Asia-Pacific hub biomanufacturing and biorefining, as per the vision of the *Queensland Biofutures 10-Year Roadmap and Action Plan*[5].

If you would like to speak further about any of the feedback raised in this document, please contact us on:

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[4] (2021) ARENA <australia-bioenergy-roadmap-report.pdf (arena.gov.au)>
[5] (2022) DSDILGP <Queensland Biofutures 10-Year Roadmap and Action Plan (June 2022) (statedevelopment.qld.gov.au)>