



Neste submission on the Aviation White Paper

Thank you for the opportunity to make a submission on the Aviation White Paper. Neste supports the federal government's desire to help decarbonise Australia's aviation sector by encouraging the use of Sustainable Aviation Fuel (SAF) - and suggests some recommendations that would make it more effective in achieving that objective.

Biofuels mandates/obligations are an effective tool to rapidly decarbonise the existing aircraft fleet without the need of changing existing fueling infrastructure or aircraft powerplants . Through use of internationally recognised certification programmes such as European Union's Renewable Energy Directive (EU-RED) and The Carbon Offsetting and Reduction Scheme for International Aviation ("CORSIA"), governments can ensure that biofuels are environmentally sustainable and create real net emission reductions.

Introductory remarks: Neste and Biofuels

About Neste

Neste is the world's largest producer of Sustainable Aviation Fuel (SAF). Neste already supplies SAF to several airlines in the Asia Pacific region including Singapore Airlines, All Nippon Airways and Air New Zealand.

Neste MY Sustainable Aviation Fuel™ is commercially available and in use worldwide, today. SAF is a cleaner, direct replacement for fossil Jet fuel and reduces greenhouse gas (GHG) emissions by up to 80%¹ compared to fossil Jet fuel over the fuel's life cycle. As a drop-in fuel, it can be used with existing aircraft engines and airport fuel infrastructure, requiring no extra investment to them. Unlike fossil Jet fuel, Neste MY Sustainable Aviation Fuel™ contains no aromatics or impurities and hence burns much more cleanly.

Neste's SAF has International Sustainability and Carbon Certification (ISCC) and CORSIA certificates, which both have been approved by the U.S. Environmental Protection Agency (EPA). Thus, our production and raw material sourcing comply with EU-RED and the

¹ Calculated with established life cycle assessment (LCA) methodologies, such as CORSIA methodology.



requirements of EPA, and meet the environmental obligations in the EU Member States and the United States respectively. Furthermore, in 2022 Neste delivered the first time in aviation history a CORSIA certified batch of SAF to a commercial airline. This milestone was delivered to American Airlines at San Francisco International Airport.

Renewable Raw Materials

We use a wide variety of sustainably-produced raw materials (feedstocks) to produce our renewable products at our renewables refineries in Finland, the Netherlands and Singapore. Proportions of individual raw materials in Neste's refining vary from year to year, depending on their availability, price, and specific market requirements, for example. An extensive portfolio of globally-sourced raw materials provides flexibility, as it allows us to respond to the needs of different markets and customers. For SAF, the two primary feedstocks in use are:

- **Animal Fat (AF)** from food industry waste that is unsuitable for human consumption; and
- **Used Cooking Oil (UCO)** that is certified by European Commission recognised voluntary schemes (e.g. ISCC) and/or is compliant with US biofuel regulation requirements (EPA RFS2).

Table 1. Feedstocks used for SAF in the next 20 years.

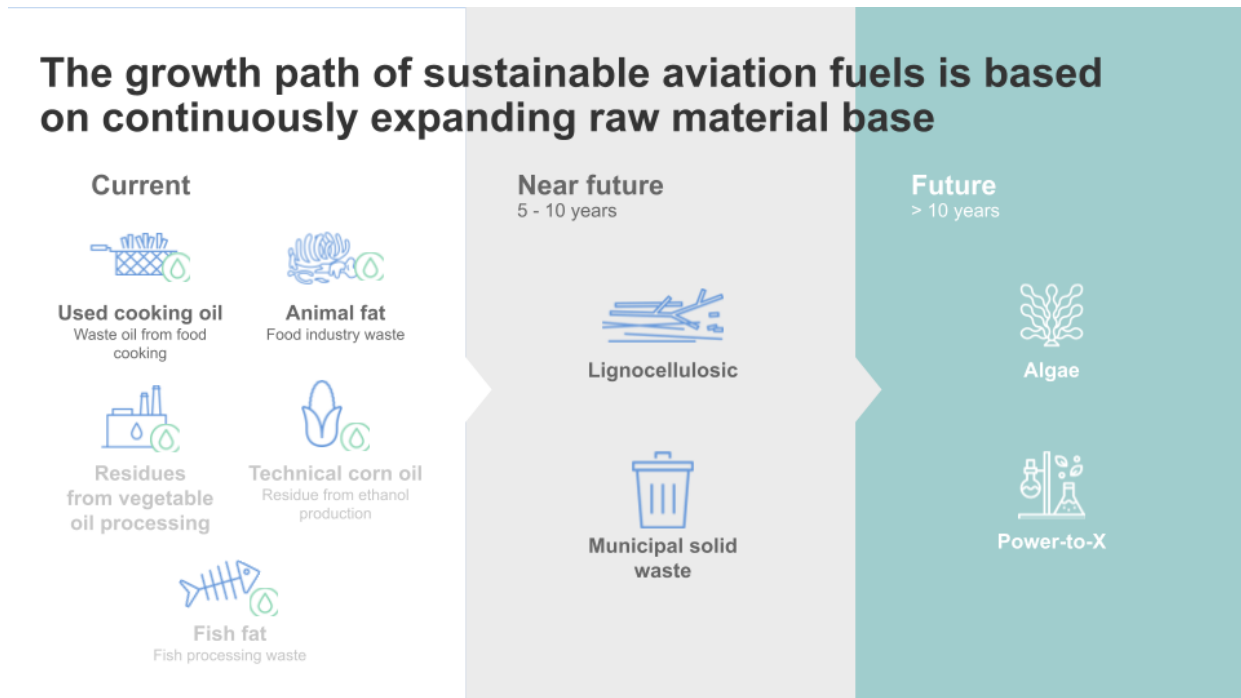
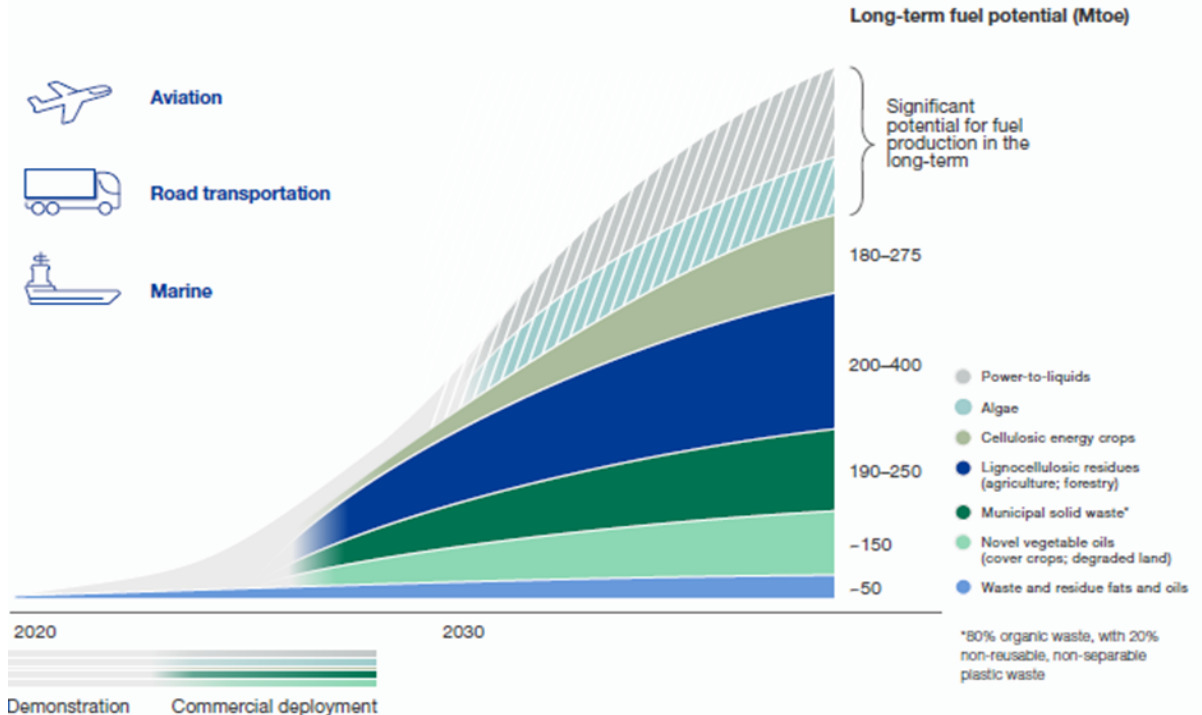


Table 2. Global Feedstock potential sustainable transportation production 2050

Global raw material potential for renewable fuels (Mtoe)



Sustainable Aviation Fuel is an effective tool to quickly reduce emissions

Biofuels, particularly drop-in biofuels like Sustainable Aviation Fuel, are an important part of the toolkit in reducing carbon emissions. Manufactured from waste products and residuals that have absorbed atmospheric carbon dioxide, biofuels reduce net emissions compared to fossil fuels.

Neste's renewable products alone helped our customers reduce net emissions by 11.1mn tonnes in 2022, equivalent to 2.28% of Australia's annual net emissions, and we have a goal of helping our customers reduce 20mn tonnes of emissions by 2030. There is enormous potential for growth in biofuels supply over coming decades by making use of existing and future waste streams furthering the goal of a circular economy, and displacing continued fossil fuel extraction.

Unlike hydrogen or electricity, biofuels can be used in existing aircraft fleet engines, allowing for instant emissions reductions without costly capital investments to replace aircrafts or fuelling infrastructure, and can be used where other low-carbon alternatives are not available.



Comments on the White Paper

We support the federal government's desire to develop a framework and policies that will guide sustainability in Australia's aviation sector.

Aviation has been identified in ARENA's Bioenergy Roadmap (November 2021) as a hard to abate sector and this means delivering outcomes to reduce emissions, will require multiple pathways and technologies.

We refer now to the specific questions in the White Paper. Please note that due to our expertise in supporting our customers to reduce their GHG emissions, we will focus on the first question only.

How to maximise the aviation sector's contribution to achieving net zero carbon emissions, including through sustainable aviation fuel and emerging technologies.

The aviation sector accounts for 2-3% of global carbon emissions, and is expected to grow to >20% by 2050 if action is not taken. In aviation, in addition to GHG emissions, non-CO2 effects, like contrails, have two-times higher climate impact.

To minimise this climate impact, it will be essential to maximise the sector's contribution to supporting net-zero emissions. IATA has set the target for net zero aviation by 2050 in October 2021, with expectation for SAF to deliver 65% of required emission reductions. Furthermore, ICAO Member States and IATA adopted a collective long-term global aspirational goal (LTAG) of net-zero carbon emissions by 2050

There are several ways that the aviation industry can achieve this goal and SAF will be a critical part of this.

SAF is a low-carbon fuel which can be blended and used with traditional fossil fuel and is made from sustainably sourced waste and residues. The use of SAF can significantly reduce carbon emissions and many airlines globally are already using SAF. To maximise the use of SAF to reduce carbon emissions, it is critical that the right policy frameworks, including



obligations/mandate and/or incentives are put in place to increase production and availability, and eventually reduce costs as well.

It is important to mention that there is SAF currently available outside of Australia; for example Neste's Expanded Refinery in Singapore, will produce up to 1mn tonnes of SAF by end 2023. Most of Australia's fuels are already imported into the country and it would make sense to allow for SAF to do the same. While setting up local production should be part of the long-term sustainable aviation strategy, the reality is that without the right policies and incentives, there is unlikely to be any local production capabilities that will feed SAF into the country in the next three to five years.

Mandates/Obligations are a good tool to encourage SAF adoption

It would be important to have governmental support for the adoption of SAF to create certainty of demand for investments in SAF production capacity, which involve high capex and are supported by investors only if there is a long-term certainty of demand.

Internationally, we have seen that mandates are an effective way to encourage and embed the use of biofuels, including SAF. Mandates are internationally recognised as a policy signal for the development of SAF demand and production. And within this space, we highlight that in our experience, emissions intensity reduction schemes have been identified as the most effective mechanism for driving domestic SAF uptake.

A high mandate would incentivise a more robust market for both domestically produced and imported biofuels which would deliver significant emissions reductions. This can happen alongside the establishment of domestic manufacturing capability and enable faster and larger emissions reductions.

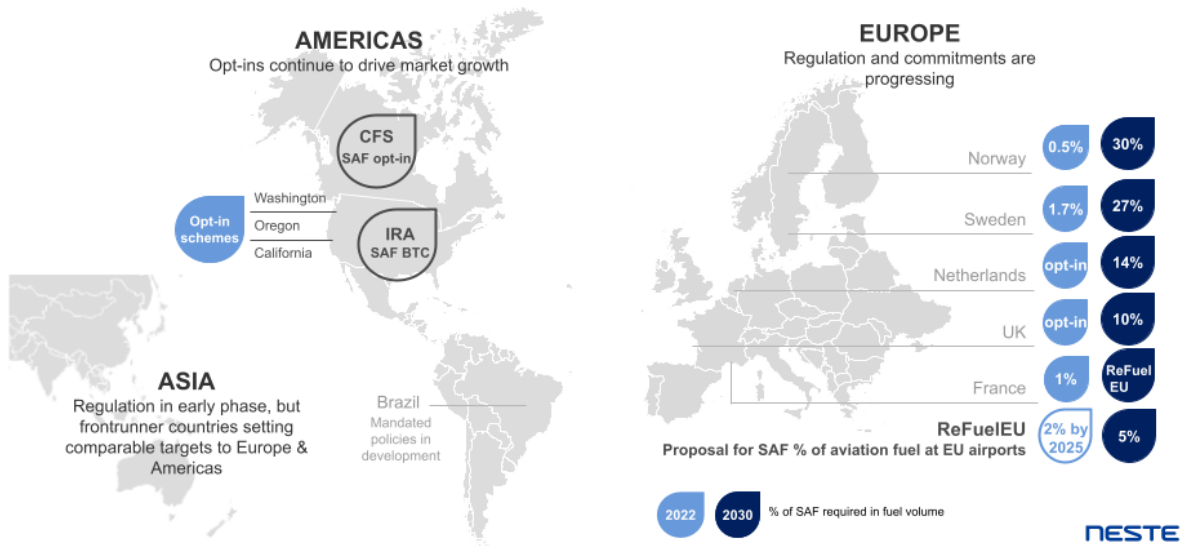
Such schemes are based on reducing the emissions intensity of fuels relative to a set target over time. In July 2021, the European Commission presented a package of proposals to make the EU's climate, energy, land use, transport and taxation policies fit for reducing net greenhouse gas emissions by at least 55 % by 2030, compared with 1990 levels, known as the 'fit for 55' package. The package includes a proposal to ensure a level playing field for sustainable air transport, also known as the ReFuelEU Aviation initiative. The proposed initiative sees a 2% overall SAF target in 2025, rising to 5% in 2030, to 20% in 2035 and reaching 63%

by 2050. Other EU countries with 2030 SAF adoption mandates include the UK 10%, Norway 30%, Sweden 27%, and the Netherlands 14%.

Table 3. Global SAF regulations and commitments by 2023

Continuing growth of the SAF market will require policy support to create demand certainty for investments

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Neste supports the approach of an emissions intensity reduction obligation, rather than requiring certain volumes of biofuels to be blended or otherwise used.

Frontrunner countries in APAC are already shaping policies for SAF, with ambitions that are aligned to those in Europe and North America. For example, the International Advisory Panel (set up by the Civil Aviation Authority of Singapore) proposed in September 2022 a structural offtake mechanism for SAF by 2025. In New Zealand, the government announced that a dedicated SAF mandate would be developed by 2025 and in Japan, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) has set the target of 10% for SAF in 2030. Other APAC countries, like India, South Korea and Malaysia have also indicated that they are exploring mandates.

The slide below summarises a range of tools that can be considered in SAF policy and market development that could be examined and explored:

Possible tools for SAF policy and market development phase to maintain and strengthen international competitiveness

Policy Tools:	Public funding	For SAF introduction SAF pilot project	Incentives	For SAF market and demand creation SAF demand-side target	SAF supply-side mandate
Expected outcome	Industry promotion through R&D Supply chain resilience from an economic/energy security perspective	Demonstration of SAF supply chain and procedures using existing infrastructure Cultivation of awareness of SAF among the aviation and fuel industry	SAF use promotion by alleviating the cost burden on fuel suppliers or airlines	Sends a message on direction of development Objective to promote e.g. domestic airlines' commitment to decarbonization	Promotes private investment in SAF capacity based on transparent and long-term market certainty Relatively simple to monitor compliance of fuel suppliers
Challenges	Lack of long-term prospects due to dependence on annual budgets Regulations on subsidies, such as WTO rules	Additional measures required to promote new capex	Low market predictability due to reliance on annual budgets and taxation Challenge in providing long-term investment horizon for capex	Limited effectiveness without supporting policy measures	Requires appropriate penalties on compliance Risks on tankering, if not combined with additional measures (as e.g. in EU)
Examples:	<ul style="list-style-type: none">  Innovation fund for climate action  Net Zero Strategy 	<ul style="list-style-type: none">  ITAKA (first SAF use in an airport hydrant system)  SAF projects by DOE (U.S. Navy and airlines)  SAF probe test (MLIT)  CAAS SAF pilot 	<ul style="list-style-type: none">    Airport incentives (until mandates)   Opt-in schemes (until mandates)  SAF BTC and Opt-ins (RFS and LCFS) 	<ul style="list-style-type: none">  ICAO's 2050 LTAG  55% emission reduction from 1990 target (Fit for 55)  3 billion gallons/a SAF supply in 2030 and full replacement target in 2050  10% SAF replacement target by 2030 	<ul style="list-style-type: none">  ReFuelEU (2% in 2025, 6% in 2030)  30% in 2030  27% in 2030  10% in 2030   Proposed / under consideration



Thank you for the opportunity to provide this submission on behalf of Neste. With our presence in Australia, via Neste Australia, we remain committed to supporting the country to achieve its climate change ambitions through emissions reduction.

Should you have any question or comment and require further information, please contact: steven.markb@neste.com or +65 8876 6702.