AIR NEW ZEALAND

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Ministry of Business, Innovation and Employment
15 Stout Street
Wellington 6011

AIR NEW ZEALAND SUBMISSION ON INCREASING THE USE OF BIOFUELS IN TRANSPORT: CONSULTATION PAPER ON THE SUSTAINABLE BIOFUELS MANDATE

Air New Zealand welcomes the opportunity to submit on *Increasing the use of biofuels in transport: Consultation paper on the Sustainable Biofuels Mandate* (the **consultation paper**).

Air transport is critical to New Zealand's export, investment, and tourism industries, and plays an essential role connecting our people and products to the world, and the world to us.

COVID-19 has highlighted the significant economic benefit tourism provides to New Zealand and has demonstrated the criticality of local connectivity to New Zealand's primary production sector. However, flying creates carbon emissions.

Air New Zealand is committed to decarbonising its operations. The airline is striving to reach our goal of net zero carbon emissions by 2050 by reducing actual emissions as far as possible, using offsetting as a last resort.

Our decarbonisation roadmap to 2050 identifies three main levers for decarbonisation, with the most significant being the deployment of Sustainable Aviation Fuel (**SAF**). It should be noted that critically, SAF is the only current option for decarbonising long-haul flights. However, there is currently no SAF supply in Aotearoa.

As per the Government's Letter of Expectations of April 2021, Air New Zealand is mandated *"To demonstrate its commitment to environmental sustainability, including engaging with the development of new aviation fuels for New Zealand"*. Air New Zealand supports a biofuels mandate extending to aviation fuel in Aotearoa. A mandate is a key foundational policy tool for establishing a SAF industry and supply.

However, we do not support the current proposal for one mandate covering all transport fuels except for "exported" fuels. As it is proposed, the Sustainable Biofuels Mandate would not facilitate SAF supply in Aotearoa.

To make SAF a reality in Aotearoa and facilitate the decarbonisation of aviation:

- **A SAF-specific mandate** is required to provide the certainty of demand and economies of scale required for investment in domestic SAF production and imported SAF supply.

- Any mandate must **apply to all aviation fuel uplifted in Aotearoa** regardless of destination. Without this, New Zealand's trade and tourism sectors cannot decarbonise. This is also required to achieve the economies of scale for domestic production and imported supply, and to prevent competitive distortions.

- Alongside a SAF-specific mandate, **additional policies and investment are essential** to support the establishment of a SAF industry in Aotearoa and to close the commercial gap with fossil fuel. This includes policies to prioritise feedstock for SAF production. **A SAF mandate alone will not make SAF commercially viable.**

- **Investment and research into local feedstock** supply and cost is needed. This includes research and development of future fuels, such as power-to-liquid SAF.

Sustainability must be paramount to the eligibility of biofuels under any mandate. Air New Zealand strongly supports the Sustainable Biofuels Mandate encompassing strict sustainability criteria for biofuel feedstocks and supply chains. Lifecycle emissions as well as broader environmental and social impacts must conform to the highest international standards. For SAF, any standards must (at a minimum) be compatible with existing international sustainability standards and reporting requirements for aviation.

In addition to the issues addressed in the consultation paper, Air New Zealand requests the Government collaborate to develop guidance on emissions accounting for SAF under the New Zealand Emissions Trading Scheme, considering the requisite comingling of SAF within existing fuel supply chains.

For the past five years Air New Zealand has been working on solving the issue of SAF supply in Aotearoa, including in collaboration with others in the private sector. We are committed to purchasing SAF when it is available and commercially viable. However, the private sector cannot overcome the cost and investment barriers on its own. International experience and local studies have demonstrated that a SAF-specific mandate and other supporting government policies and investment are required in the short to medium term until SAF production and supply is commercially viable on its own.

Summary

Decarbonising aviation is critical to Aotearoa's high-value highly perishable exports, tourism sector, and social connectivity. Given aviation's limited abatement options and economic and social criticality, it is essential that the importance of aviation decarbonisation is recognised and prioritised in Aotearoa. **A SAF-specific mandate is the essential first step.**

Air New Zealand seeks to work proactively with the Government and others in the private sector to address the challenges posed by aviation carbon emissions. We welcome further discussion on this document and look forward to working constructively with the Government as it devises and implements policies to decarbonise Aotearoa.

Further detail in response to the specific consultation questions is outlined in **Annex One**. Should you require additional information on this submission, please be in contact with Meagan Schloeffel, Head of Sustainability, at Meagan.Schloeffel@airnz.co.nz.

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ANNEX ONE: INCREASING THE USE OF BIOFUELS IN TRANSPORT: CONSULTATION PAPER ON THE SUSTAINABLE BIOFUELS MANDATE

CONSULTATION QUESTIONS

Consultation question 1
Do you support having a GHG emissions reduction mandate? If not, why?

1 Air New Zealand supports having a greenhouse gas emissions reduction mandate in Aotearoa. However, a separate greenhouse gas emissions reduction mandate, specific to Sustainable Aviation Fuel (**SAF**), is required to enable aviation decarbonisation. Further information on this is provided in response to consultation question 5.

2 As acknowledged in *Increasing the use of biofuels in transport: Consultation paper on the Sustainable Biofuels Mandate* (the **consultation paper**), a greenhouse gas emissions reduction mandate is important to encourage the supply of biofuels with low lifecycle greenhouse gas emissions.

3 Air New Zealand strongly supports the proposal to consider expansion of the mandate to other low-carbon fuels, such as synfuels, green hydrogen, and electricity, in 2024. We view power-to-liquid SAF as a key future energy pathway for long-haul aviation, and green hydrogen and electricity have the potential to decarbonise Aotearoa's domestic network from 2030.

4 Given the unique challenges associated with SAF production, supply, and affordability, further analysis is required to design the most effective SAF-specific mandate percentages for Aotearoa. It is critical that any SAF mandate is pegged to emerging supply realities. This issue is discussed further at our response to consultation question 4.

5 It is essential that any mandate applying to SAF is accompanied by supporting policies and investment to reduce the cost of SAF. A mandate alone will not make SAF commercially viable in Aotearoa. This issue is discussed further at our response to consultation question 5.

Consultation question 2
Do you support the proposal to require certification of lifecycle emissions of biofuels sold in New Zealand using international standards? If not, why?

6 The sustainability of eligible biofuels must be central to any biofuels mandate in Aotearoa. Air New Zealand strongly supports the proposal to require certification of lifecycle emissions of biofuels sold in Aotearoa using international standards, and for these to be set out clearly in associated regulation.

7 The standards enshrined must at a minimum reflect best practice internationally. This is essential for the environment, climate change, and to maintain a social license for the use of biofuels in Aotearoa.

8 For SAF, it is also essential that any criteria are (at a minimum) compatible with requisite lifecycle emissions criteria and reporting standards under the Carbon Offsetting and Reduction Scheme for International Aviation (**CORSIA**). It could be prohibitive to SAF deployment if aviation in Aotearoa is required to comply with non-complementary sustainability standards domestically and internationally.

9 The transparency and clarity of the Sustainable Biofuels Mandate sustainability criteria will be critical to facilitating investment in domestic SAF production, and for securing imported supply from other jurisdictions. The long-term acceptance of feedstock types is central to the viability of SAF production and importation supply chains. A key consideration for SAF producers and suppliers when assessing production in and supply to Aotearoa will be the feedstock sustainability criteria in our jurisdiction.

Consultation question 3
Do you support applying the Sustainable Biofuels Mandate to all liquid transport fuel? If not, why?

A SAF specific mandate is required

10 Air New Zealand strongly supports a biofuels mandate applying to aviation fuel. As the consultation paper acknowledges, SAF is critical to decarbonising aviation and is the only current option for decarbonising long-haul flights.

11 However, it is essential that SAF has its own, specific, mandate. Further information is provided at our response to consultation question 5.

Any mandate must apply to "exported" aviation fuel

12 Critically, any mandate applying to aviation fuel in Aotearoa must cover all fuels uplifted regardless of destination. This includes fuel used by aircraft on international trips. This is important for the following key reasons:

- **To provide requisite economies of scale for domestic SAF production,** to support the significant investment and production costs. The volume of fuel consumed for domestic flights in Aotearoa is too small to enable domestic production. Domestic production is critical for long term fuel supply chain security. From our investigations, it is also likely to be cheaper than imported SAF.

  Domestic supply is particularly important given the current shortage of global SAF supply. This issue is particularly acute in the Asia-Pacific region, where there are very few SAF production facilities. Although SAF production is expected to grow, so is aviation's SAF demand, as more airlines look to reduce their emissions. To date 42 airlines have set net zero 2050 targets, and SAF is the key decarbonisation lever to get there.[1]

  Our view is that domestic SAF production should eventually provide 70-80% of Aotearoa's aviation fuel volume (for domestic flights and flights leaving Aotearoa).

  Domestic production also has the potential to provide numerous other benefits to Aotearoa, many of which would support a just transition. In addition to new clean energy jobs as recognised in the consultation paper, [2] benefits of domestic SAF production include:
  - Regional development opportunities from SAF plant construction and operation
  - Opportunities for repurposing waste products, including residue from Aotearoa's forestry sector, and landfill waste
  - The decarbonisation and safeguarding of Aotearoa's tourism proposition
  - The decarbonisation of trade links, particularly for high-value perishable products
  - Improved local air quality through the reduction in sulphur (100%) and particulate matter (up to 90%) emitted from aircraft, compared to conventional jet fuel

- **To incentivise imported SAF supply.** In addition to domestic production, Aotearoa will need imported SAF. Imported supply is essential to improve supply chain security in the initial years as domestic production and import supply chains are established. Imports have an important role to play in kick starting SAF mandates by providing initial SAF volumes, and in helping

[1] For example, the world's largest aircraft manufacturer, Airbus, has advised the EU that most of its aircraft will continue to operate with conventional jet engines until at least 2050, requiring SAF to decarbonise.
[2] The SAF Consortium estimates domestic SAF production in accordance with its roadmap could result in around 6,400 temporary infrastructure development jobs, 1,800 new permanent jobs and 5,000 additional indirect jobs (such as tradespeople, caterers and security).

domestic production get off the ground by creating a market that encourages investment. Imports are also important to improve the ability to manage peaks and troughs of fuel demand driven by externalities such as seasonal travel or global economic shocks.

As with domestic production, economies of scale are also critical to securing imported SAF supply. Without a SAF-specific mandate covering all aviation fuel uplifted in Aotearoa, we will struggle to present a compelling market size for fuel suppliers looking to provide imported SAF. This is particularly the case in the context of a global SAF supply shortage, where suppliers have choice as to what jurisdiction they send their product to.

13 If a mandate applying to SAF does not extend to cover all aviation fuel uplifted in Aotearoa regardless of destination, it will not facilitate SAF supply in Aotearoa.

14 Given the criticality of SAF to international aviation decarbonisation, including aviation fuel uplifted for flights leaving Aotearoa will be even more vital if international aviation emissions are brought under Aotearoa's net zero 2050 goal.

Consultation question 4
Are the proposed initial emission reduction percentages for 2023–2025 appropriate for New Zealand? If not, what should they be?

15 Aotearoa needs a SAF-specific mandate with its own bespoke greenhouse gas emission reduction percentages. Further consideration is required as to the appropriate percentages for a SAF mandate. Given the lack of domestic production in Aotearoa, the cost of standing up SAF production, the cost of purchasing SAF, the global SAF shortage, and the uncertainties of import supply opportunities, emissions reduction percentages for a SAF mandate must be pegged to emerging SAF supply realities. Fuel suppliers must not be penalised if they cannot access SAF due to dynamics outside of their control.

16 Internationally, SAF mandates have been set low to allow time for the industry to establish and scale production. We are seeing initial SAF blend mandates set between 0.5% and 2%,[3] ratcheting up over the next 30 years to the current approved maximum SAF blend rate of 50%.[4] In Sweden, the initial emission reduction percentage has been set at 0.8% for 2021, increasing to 30% in 2030.

17 Similarly, in the context of Aotearoa a SAF mandate that started low and incrementally increased over time to reflect supply realities would be appropriate, to allow for the establishment of production and to provide a manageable transition period for producers, suppliers, and distributors.

18 The SAF Consortium[5] has created a roadmap for what SAF production in New Zealand could look like, with the view to enabling a net-zero carbon future. This starts with a 2.5% blend mandate in 2025, ratcheting to a 50% blend mandate in 2050 (see Appendix One).[6] The roadmap was premised on the basis that there was a five-year lead in to allow for the construction of an initial plant, and policy and investment settings in place to make SAF commercially viable.

19 On Air New Zealand's assessment, it is estimated that a greenhouse gas emission reduction percentage of approximately 2.1% by 2025 (equating to a 2.5% blend) would be appropriate. Practically, given significant SAF import supply constraints and a lack of domestic production, we do not believe

[3] In Norway, from 1 Jan 2020 a 0.5% blend mandate is in effect, planning for a 30% mandate in 2030. Spain is considering a blend mandate starting at 2%. The EU has proposed a 2% blend mandate starting in 2025.
[4] A fuel blend of 50% SAF and 50% fossil fuel. We anticipate that flying with 100% SAF will be approved before 2050. Boeing recently announced that it is working on producing aircraft capable of flying on 100% SAF by 2030.
[5] Air New Zealand, Z Energy, Scion, LanzaTech, and LanzaJet.
[6] The ambition of the ratcheting SAF mandate in the SAF Consortium's roadmap is consistent with the ambitions of other leading countries, like France. Others, like Finland and Sweden, are bringing forward the scaleup of SAF.

that we would be able to source SAF at this volume any earlier. However further analysis is required to confirm our estimates.

20 Regardless of the percentages set for a SAF mandate, additional policies and investment are essential to facilitate commercially viable SAF supply. A mandate on its own will not address the affordability of SAF. Further information is provided in response to consultation question 5.

Consultation question 5
Do you support having single GHG emissions reduction percentages across all fuel types, or do you favour separate reduction percentages? Why and how many separate percentages would you suggest we have?

A SAF-specific mandate for Aotearoa

21 The Sustainable Biofuels Mandate in its current form would not facilitate SAF supply in Aotearoa, whether produced domestically or imported.

22 As SAF is more expensive than other biofuels (with imported SAF at the higher end of the cost range), with one mandate applying to all fuel types there would be no incentive for suppliers to meet their obligation through the supply of SAF. In effect, the proposed mandate would not provide the incentive, market certainty or demand required to attract investment in SAF production or import supply chains.

23 Instead, a SAF-specific mandate is critical to provide the certainty of demand and economies of scale required to attract investment in SAF production and imported supply.

24 As acknowledged in the consultation paper, separate mandates "better support the deployment of biofuels in the hard to abate sectors and better support advanced biofuels". A SAF-specific mandate is essential to facilitate aviation decarbonisation, which is critical to Aotearoa's high-value perishable exports, tourism sector, and social connectivity.

International experience supports a SAF- specific mandate

25 Internationally, it has been acknowledged that the unique challenges and costs of SAF production and supply make SAF distinctive and requiring of bespoke policy support. SAF-specific mandates have been identified as key foundational policy tools for facilitating the establishment of SAF industries. To date they have been implemented in **Sweden**,[7] **France**,[8] and **Norway**,[9] and are proposed for the **Netherlands**,[10] **Finland**,[11] and **Spain**.[12] **Germany** is proposing a specific power-to-liquid fuels blending mandate from 2026.[13]

26 On 14 July 2021, the **European Commission** announced a suite of proposed policies under ReFuelEU Aviation, an initiative that aims to boost the supply and demand for SAF in the European Union (**EU**). This includes a SAF-specific blend mandate, with a sub-mandate for power-to-liquid fuel, applying to all fuel uplifted in the EU including for flights exiting the EU.[14]

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[7] Sweden: Greenhouse gas reduction obligation on jet fuel suppliers, starting 0.8% in 2021 and ratcheting to 27% in 2030.
[8] France: SAF mandate requiring airlines to use at least 1% SAF by 2022, ratcheting to 50% in 2050.
[9] Norway: 0.5% blend mandate in 2020 proposed to ratchet to 30% by 2030.
[10] The Netherlands: Jet fuel is not currently subject to the biofuel mandate, but producers can opt in and be eligible for renewable credits (indicative value approximately USD$620/Mt). A SAF roadmap is under development with a blending mandate at the national or EU level, and a focus on advanced feedstocks.
[11] Finland: Considering an increasing SAF obligation to reach 30% SAF in 2030.
[12] Spain: Proposed 2% SAF supply objective in 2025.
[13] Germany: National legislation for greenhouse gas reduction of fuels and the German National Hydrogen Strategy foresee an SAF energetic sub-quota of 2% in 2030 for Power-to-Liquid SAF only.
[14] European Commission: A proposed SAF blending mandate for fuel suppliers starting at 2% in 2025 and ratcheting to 63% in 2050, accompanied by a minimum share of synthetic fuel, starting in 2030 at 0.7%, ratcheting to 28% in 2050.

27 The **United States of America** (**US**) federal government is also considering bespoke policy treatment and investment support to incentivise the production and uplift of SAF in the US. In February 2021, a bill was introduced to Congress proposing: the establishment of an aviation-only Low Carbon Fuel Standard (SAF-specific blender tax credits linked to greenhouse gas reductions); energy investment tax credits applicable to SAF production facilities and infrastructure; US$175 million towards research to improve SAF technologies to lower emissions further; a SAF feedstock research program; and a US$1 billion grant program to support projects in the US to produce, transport, blend, or store SAF.

Additional policies and investment required

28 The high initial capital cost of establishing SAF production and the ongoing cost and price volatility of suitable feedstocks mean that SAF commands a price premium compared to traditional fossil fuel derived jet fuel (currently three to five times, with imported SAF at the higher end of the range).

29 Alongside a SAF-specific mandate, other policies and investment are essential in the short to medium term to establish a market and capabilities, and to close the commercial gap between SAF and fossil fuels. This includes policy settings to drive feedstock supply and biofuel production towards SAF rather than cheaper-to-produce ground transport fuels.[15] In addition to facilitating the decarbonisation Aotearoa's export and tourism sectors, access to commercially viable SAF is significant to maintaining competitiveness against other airlines. Internationally, Air New Zealand will increasingly find itself competing against airlines flying on cheaper, subsidised or otherwise supported, SAF.

30 This need for policy and investment support was clearly recognised in the Climate Change Commission's draft advice to Government in January 2021:[16]

> Aviation is particularly challenging to decarbonise. There is currently no commercially viable sustainable aviation fuel supply in Aotearoa. In offshore ports where sustainable aviation fuel is being produced, its use has been supported by public funding and other policies. Aotearoa needs policies to address supply and demand, including measures like grants or tax credits to improve competitiveness with fossil fuels. Measures are also needed to create demand and help build a market for low carbon fuels in the long term.

31 The unique issues associated with establishing SAF production and supply has also been recognised by the **European Commission** in its consideration of the policy, regulatory, and investment settings required for SAF:[17]

> The production cost of SAF is currently at least twice as high as that of conventional jet fuel and higher than that of sustainable alternative fuels used in other transport modes, depending on the pathway. Because of higher production costs, SAF are, in absence of support, not an economically attractive substitute to conventional jet fuel. The price volatility of the feedstock (important cost component of the final fuel price) contributes to the market uncertainty and acts as a disincentive to invest. In the absence of a long-term, stable policy framework with sufficient incentives, the necessary confidence for major investments in SAF production is not provided. Such investments would enable economies of scale in the production and drive production costs down. As a result of a lack of investments, production costs remain high and production levels are negligible. Although SAF currently have a higher cost than conventional kerosene, aviation will need to rely on increased SAF use already in the coming years. A key objective of the initiative is therefore to support the commercial development and rollout of innovative SAF at an early stage, to ensure their large-scale availability at low costs in the medium and long term.

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[15] The European and Californian experiences have confirmed that without policy incentives for SAF production, most biofuel supply will be produced for road transport- a sector with various decarbonisation solutions already available. In response, the EU has developed SAF-specific policies to ensure feedstock is biased to SAF production (see EU Renewable Energy Directive II recast to 2030).

[16] *2021 Draft Advice for Consultation*, He Pou a Rangi the Climate Change Commission, pg 110.

[17] *Sustainable aviation fuels- ReFuelEU Aviation Inception Impact Assessment 2020,* pg 2, found at this link.

32 Governments around the world are grappling with the best way to support the development of SAF industries. At this point, no specific policy or support is recommended or favoured over another. It is likely a portfolio approach would need to be applied. An overview of possible policies is provided in Air New Zealand's SAF White Paper.[18] This includes, for example:

- A SAF production incentive per litre
- Capital grants to help establish SAF production capacity and supply chain infrastructure
- NZETS exemptions for SAF use
- Ring-fenced funds for use for CAPEX relating to establishing SAF production, and/or financial incentives for feedstocks sold for mandated SAF production (for example from the NZETS)
- A levy on individual passenger carbon emissions

33 We note that any policies must be supply agnostic (i.e., apply equally to all SAF supply, regardless of whether it was domestically produced or imported). As outlined, facilitating a dual supply chain will be important for supply chain security, managing supply variables, and managing the cost of SAF in Aotearoa.

34 An aviation-specific public-private governance channel would assist to identify and develop policy and regulatory settings for decarbonising aviation through SAF.[19]

35 We note that government support for Aotearoa's SAF industry is not expected to be long term. It is critical that in the medium to long term, SAF production and supply becomes commercially viable without government support.

Consultation question 6
Do you support provisional emission reduction percentages being set for 2026–2030 and 2031–2035 with the percentages being finalised in 2024 and 2029 respectively? If not, why?

36 For SAF, longer term certainty is required. To justify investment in new SAF plants, producers require certainty of demand out to at least 10 years from the beginning of production. Allowing a five-year lead time for plant construction, this would mean any new SAF producers in Aotearoa would be looking for certainty of demand out to at least 2036.

37 Longer term certainty of demand is also required to support SAF import supply chains. This will be particularly important for encouraging producers to invest in SAF production facilitates in the Asia-Pacific region, which is critical to provide both imported supply and SAF for uplift in the markets Aotearoa flies to.

38 Internationally, SAF mandates have been mapped out to the 2030s, or 2050. Air New Zealand proposes any SAF mandate in Aotearoa is also set out to 2050, or 2036 at the earliest.

[18] Sustainable Aviation Fuel in New Zealand, Air New Zealand, May 2021.
[19] As proposed in Sustainable Aviation Fuel in New Zealand, Air New Zealand, May 2021.

Consultation question 7
Do you support the proposal that biofuel producers must be certified against an established sustainability standard to count towards achievement of the emissions reduction percentage? If not, why?

39 Sustainability must be central to any biofuels mandate in Aotearoa. This is critical for the environment, combatting climate change, and to maintain a social license to deploy biofuels in Aotearoa and globally.

40 We strongly support the consultation paper's proposal that, as well as incorporating a focus on lifecycle emissions, the mandate would require eligible biofuels to meet sustainability criteria. At a minimum, this must include the criteria listed on page 18 of the consultation paper i.e., biofuels and the cultivation of their feedstocks must not:

- Compete with food production and where relevant be grown on land of high value for food production
- Reduce indigenous biodiversity or adversely affect land with high conservation value
- Affect land of high carbon stocks.

41 Internationally, debate as to the sustainability of certain feedstocks is continually evolving. We urge the government to engage on and influence global decision making on the sustainability of feedstocks. This is critical to ensure upmost integrity of the standards, and to ensure the sustainability credentials of Aotearoa's unique feedstocks are recognised (as appropriate).[20]

42 The evolving debate as to which feedstocks are considered sustainable presents a significant risk for SAF producers. Feedstock is the most expensive component of SAF production, and so certainty as to feedstock cost, supply, and acceptability is central to any investment in SAF production. Transparent and clear sustainability criteria will be essential to encourage investment in local SAF production in Aotearoa. This will also be important for assessing and securing the supply of SAF produced in other jurisdictions.

43 As mentioned in our response to consultation question two, for SAF it is also essential that any sustainability criteria are (at a minimum) compatible with the sustainability criteria and reporting standards required under CORSIA. It could be prohibitive to SAF deployment if aviation in Aotearoa is required to comply with non-complementary sustainability standards domestically and internationally.

Consultation question 8
Do you support having a joint fuel industry/government information campaign to inform New Zealanders about biofuels and the Sustainable Biofuels Mandate? If not, why?

44 Air New Zealand supports the proposal for a joint campaign to inform New Zealanders about biofuels and the mandate, with a particular focus on the sustainability credentials of the regime. We would also encourage the Government to consider how this policy can be promoted to the world, to provide value to our export and tourism sectors.

Consultation question 9: N/A

[20] Air New Zealand notes the emerging risk to feedstock supply in Aotearoa from the Roundtable for Sustainable Biomaterials (**RSB**), which is proposing to put strict limits on the use of woody biomass from post-harvest residues. Air New Zealand and Scion are closely engaged on this issue, and welcome further engagement with the Government. Notwithstanding this, Air New Zealand fully supports independent third-party certification of feedstock supply chain sustainability and sees this certification as an important component in underpinning the success of a SAF industry.

Consultation question 10
Should New Zealand try to overcome the challenges that domestic biofuel producers face in maintaining access to affordable supplies of domestically produced feedstocks? Do you have any suggestions for how this challenge could be overcome?

45 Aotearoa must overcome the feedstock challenges that domestic biofuel producers have faced in the past. As outlined in our response to consultation question 3, domestic SAF production is critical to aviation decarbonisation in Aotearoa.

46 Central to overcoming past challenges is the development and deployment of feedstock types other than tallow and vegetable oil. Research undertaken by the SAF Consortium has shown there is a viable pathway to domestic SAF production in Aotearoa based on forest residue (woody biomass), municipal solid waste, fibre logs, and energy forests (see roadmap at Appendix One).

47 In addition, as technology develops and different SAF pathways become viable, it is essential that Aotearoa remains open to considering new feedstock pathways. For example, from ~2045, the SAF Consortium's research concludes that power-to-liquid (**PtL**) SAF could be produced in Aotearoa. PtL is made from green hydrogen and can be provided via any existing bioderived SAF infrastructure. The main technologies involved are already developed, and the decarbonisation potential and Aotearoa's high percentage of renewable electricity means it would make sense to deploy here.

48 Further research and investment is required to identify and develop feedstock capabilities. This includes investment in the development of PtL and other new decarbonisation technologies as they are developed. This would align with the Climate Change Commission's recommendation to the Government to undertake **"…***a detailed study into the use of low-carbon fuels for aviation and shipping in Aotearoa. This should identify options for Aotearoa, their barriers to uptake and actions to address them."* [21]

49 As outlined in our response to consultation question 5, in addition to feedstock research and development, new policies are needed to prioritise feedstock production and sale for use in SAF over other biofuels, given it is more expensive to produce and it is the only technology available for aviation to decarbonise.

Consultation questions 11-14: N/A

Consultation question 15
Will the proposed penalties encourage fuel suppliers to achieve the required emission reductions? If not, would level should they be?

50 Air New Zealand support's Z Energy's position that the penalties for missing reduction targets are too low. This risks companies electing to pay the penalty year-on-year rather than participate at all, because they believe it may be cheaper and easier for them to do so. This could significantly impede the decarbonisation of the transport sector by impacting the supply of biofuels in Aotearoa.

51 We also support Z Energy's questioning as to why the penalties for incorrect reporting are higher than reporting penalties elsewhere, including under the Companies Act.

[21] *Ināia tonu nei: a low emissions future for Aotearoa,* He Pou a Rangi the Climate Change Commission, Recommendation 19.3, page 272.

Consultation questions 16, 17, 18 and 19

- **Do you support the proposal for fuel suppliers to defer achieving their emissions reductions for years 1 and/or 2, in full or in part, to the following year? If not, why?**
- **Do you support fuel suppliers banking any surplus emissions reductions in a year and using it to reduce the percentage needed to be achieved the following year? If not, why?**
- **Do you support fuel suppliers borrowing for shortfalls in emissions reductions in a year, and making the shortfall up the following year? If not, why?**
- **Do you agree with the proposal to allow trading through the use of entitlement agreements? If not, why?**

52 Providing suppliers with the ability to defer achieving their emissions reductions, bank surplus emissions reductions, borrow for shortfalls in emissions reductions and/or trade to meet their mandate obligations would remove certainty as to whether and/or how much SAF would be available for purchase each year. Consistent supply is important to facilitate aviation's ability to reduce emissions as far as possible. It is also important for financial planning, including for Air New Zealand's annual compliance obligation under the New Zealand Emissions Trading Scheme (**NZETS**), and future CORSIA obligations.

53 Uncertainty as to how fuel suppliers would meet their mandate obligations each year would also present significant issues for domestic SAF producers, who need to operate consistently at certain volumes to achieve requisite economies of scale. It could also affect aviation's access to the limited volumes of SAF available for importation. Given the investment needed to establish import supply chains, international producers and suppliers may instead look to markets with greater certainty of demand.

54 Air New Zealand urges the Government to instead ensure that mandates are pegged to emerging supply realities. Fuel suppliers must not be penalised if they cannot access SAF due to dynamics outside of their control.

55 We also propose that the Government consider incentivising more SAF production and supply earlier than required under a SAF mandate. For example, an incentive for suppliers that meet their mandate targets early. This would support aviation to advance the critical task of decarbonising Aotearoa's air transport system on a faster timeframe.

Additional consideration: SAF and the NZETS: Allocation and accounting of SAF volumes and GHG reductions

56 Once SAF is produced it is required to be blended with conventional jet fuel.[22] It is then distributed to the airport for use.

57 Early SAF supply chains were segregated from existing jet fuel supply chains so that specific aircraft could be fueled with the SAF they purchased. However, this was complex and costly. Today the preferred practice is to integrate blended SAF into existing jet fuel supply chains as much as possible, to minimise additional operations and cost. In this case, SAF is delivered straight into an airport's commingled fuel tank, and all aircraft refueling at the airport receive SAF, regardless of whether they purchased it.

58 The result of this is that when Air New Zealand purchases SAF for use in Aotearoa, that SAF will be shared with any other airline operating out of the airport that the SAF is supplied into. This leads to the question of how Air New Zealand's emissions from fuel would be treated in the accounting of its compliance obligation under the NZETS.

[22] Up to the current approved maximum SAF blend rate of 50%.

59 One way to address this is with the **mass balance** approach, which is a process by which SAF is co-mingled with conventional jet fuel for use by all aircraft, but the SAF volume is allocated to the entity holding the SAF supply contract, and that entity may claim the sustainability benefits.

60 Air New Zealand seeks to collaborate with the Government to develop clear guidelines and criteria for traceability and reporting requirements, particularly for aviation emissions reporting under the NZETS. We understand that other governments are currently considering this issue, including the UK Government in collaboration with SAF producer Neste. It would be valuable for the Government to work with others internationally to agree on a globally accepted practice for the attribution of the sustainability credentials of comingled SAF.

APPENDIX ONE

SAF Consortium 2050 Roadmap

CONFIDENTIAL

Sustainable Aviation Fuel growth in New Zealand

NZ SAF production: enabling a 2050 Net Zero Carbon future, a thriving NZ tourism industry, investment and jobs in the regions and enhanced energy independence—underpinned by SAF enabling policy and investment.