

6 April 2023

landuse.inquiry@mfe.govt.nz

Dear Hon Hekia Parata, Matthew McCloy, and Dave Brash

Ministerial Inquiry into land uses associated with the mobilisation of woody debris (including forestry slash) and sediment in Tairāwhiti/Gisborne District and Wairoa District

Thank you for the opportunity to submit on this inquiry.

Air New Zealand acknowledges the significant impact recent weather events have had on people and communities in the Te Tairāwhiti, Tūranganui-a-Kiwa, and Te Wairoa regions. We support this inquiry to investigate the storm damage and its causes, review current practices and regulatory and policy settings, and to make recommendations to avoid a repeat of the devastation experienced.

Air New Zealand limits its submission to one aspect of this inquiry - the treatment of post-harvest forestry waste and its potential to facilitate decarbonisation through bioenergy production in New Zealand.

Post-harvest forestry waste and decarbonisation

As demonstrated during recent severe weather events in the Tairāwhiti/Gisborne and Wairoa Districts, the current practice of leaving post-harvest forestry waste on the land where it falls risks catastrophic damage to natural and built environments, including homes, farms, orchards, and infrastructure, and even the loss of human life. It can also lead to extensive and expensive clean-ups.

In our view, this waste product could play an important role in helping decarbonise New Zealand's economy through use in the production of bioenergy. This includes the domestic production of sustainable aviation fuel (**SAF**), a form of biofuel that is critical to reducing aviation carbon emissions.

SAF is the cornerstone of Air New Zealand's decarbonisation strategy, planned to account for at least 50% of our emissions reductions out to 2050. It is the only current option for decarbonising long-haul flights. SAF is not only central to the decarbonisation of air travel in, out and around New Zealand, but also underpins the decarbonisation of the tourism sector and the high value perishable export sector. It is also required to support low-carbon national and international connectivity for New Zealanders and is key to New Zealand meeting its commitment to net-zero carbon emissions in international aviation by 2050, as adopted in 2022 at the International Civil Aviation Organisation's 41st Assembly.

However, significant barriers to SAF adoption exist. There is no SAF currently available in New Zealand, and globally there is very limited supply, with SAF production currently less than 1% of all jet fuel supplied. In addition, SAF is very expensive, costing three to five times the cost of traditional jet fuel.

In 2020, Air New Zealand, in partnership with the New Zealand SAF Consortium (Air New Zealand, LanzaTech, LanzaJet, Scion, and Z Energy), identified a pathway to establishing domestic SAF production using woody biomass, including the post-harvest forestry waste, slash, as the key feedstock. It was determined that domestic production was likely more cost effective than imported product.

In 2021, Air New Zealand and the Ministry of Business, Innovation and Employment (**MBIE**), launched a study to verify these findings and determine the viability of domestic SAF production. The study is still underway, and one of the two front-runner technology providers has identified woody biomass, including forestry slash, as a key feedstock for production.

Moving forestry slash offsite for use in the production of SAF could assist to mitigate the existing risks this waste currently present to human health, infrastructure, land, and waterways, while at the same time contributing to the decarbonisation of aviation in New Zealand for the benefit of the greater economy.

As well as reducing aviation carbon emissions, local SAF production would have broad social and economic benefits. These include new regional clean energy jobs,¹ regional development opportunities, the decarbonisation and safeguarding of New Zealand's tourism proposition, the decarbonisation of trade links and regional connectivity, opportunities for repurposing waste products, domestic fuel security and resilience, and improved air quality.

Air New Zealand submit that the Inquiry Panel consider recommending the removal of slash be considered for use in domestic bioenergy production, to support decarbonisation of hard-to-abate industries and associated social and economic benefits.

Environmental impacts of removing slash for bioenergy

Forest-based energy generation can have negative impacts on biodiversity and carbon emissions. However, the impact on the environment of removing forestry waste from the land depends on a variety of factors including location, forestry-type (for example, permanent or rotation), and tree species. A study conducted in the European Union has concluded that the collection and use of slash (defined as fine woody debris including tops, branches, twigs, leaves and needles) below locally defined removal thresholds could present a "win-win" solution for climate and ecosystems through facilitating the generation of bioenergy without deteriorating forest ecosystems, while at the same time potentially contributing to reducing greenhouse gas emissions.²

In New Zealand, we understand that Te Uru Rākau has work underway to assess the environmental impacts of using local woody biomass for bioenergy. This will also be a component of the next stage of the MBIE- Air New Zealand domestic SAF production feasibility study mentioned above. Ensuring that the collection of forestry waste to generate energy does not have negative environmental and social impacts is paramount to Air New Zealand.

We welcome further discussion on these issues, and the work we are doing with MBIE to investigate the utilisation of forestry waste/slash for SAF production in New Zealand. Please don't hesitate to follow up at my email below.



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¹ The SAF Consortium (Air New Zealand, LanzaTech, LanzaJet, Scion, Z Energy) 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).

² Giuntoli, J. et al, *The quest for sustainable forest bioenergy: win-win solutions for climate and biodiversity*, Renewable and Sustainable Energy Reviews 159 (2022) 112180