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Aviation emissions and New Zealand's *Aviation Action Plan*

Working Paper

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Aviation emissions and New Zealand's *Aviation Action Plan*

1. Introduction

Post the pandemic, aviation is back in a growth phase. Globally, the International Air Transport Association projects a compound annual growth rate of 3.8% in passenger traffic over the next 20 years. Some of the strongest growth is projected to take place in the Asia Pacific area.

The optimism about growth can be seen in recent media statements from airlines and airports in New Zealand, two examples coming from Jetstar and Auckland Airport:

> *Jetstar has announced its biggest expansion plans for its New Zealand and trans-Tasman services, adding a total of 660,000 seats a year and promising lower prices.*[1]
>
> *Auckland Airport opens largest airfield expansion since its construction.*[2]

Rarely do these media stories mention the climate impact of flying.

In contrast, many scientists are giving pessimistic warnings about the world overshooting the 1.5 degree Paris Agreement goal, with all the consequences of a warming planet.[3] All sectors need to play their part in rapidly and significantly reducing emissions. In previous papers we have set out our ideas for reducing aviation emissions in New Zealand within the 'avoid, shift, improve' transportation planning framework[4].

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[1] https://www.thepost.co.nz/business/360819175/jetstar-and-qantas-add-660k-extra-seats-two-new-routes

[2] https://www.1news.co.nz/2025/09/24/auckland-airport-opens-largest-airfield-expansion-since-its-construction/

[3] https://www.cmcc.it/lectures_conferences/overshoot-challenges-and-choices-after-we-exceed-1-5c

[4] Callister, P., & McLachlan, R. I. (2024). Managing Aotearoa New Zealand's greenhouse gas emissions from aviation. *Journal of the Royal Society of New Zealand*, *54*(4), 412-432. https://www.tandfonline.com/doi/abs/10.1080/03036758.2023.2212174

Callister, P., McLachlan, R. I., Wild, K., & Woodward, A. (2023). An aviation emissions reduction plan for Aotearoa. https://www.researchgate.net/profile/Paul-Callister/publication/376717279_An_aviation_emissions_reduction_plan_for_Aotearoa/links/6584bb3d2468df72d3c3a73a/An-aviation-emissions-reduction-plan-for-Aotearoa.pdf

In this report we review the climate change components of the Action Plan with regard to New Zealand's existing commitments, the current international context, and how the sector can reduce emissions.

2. Aviation emissions policy in New Zealand

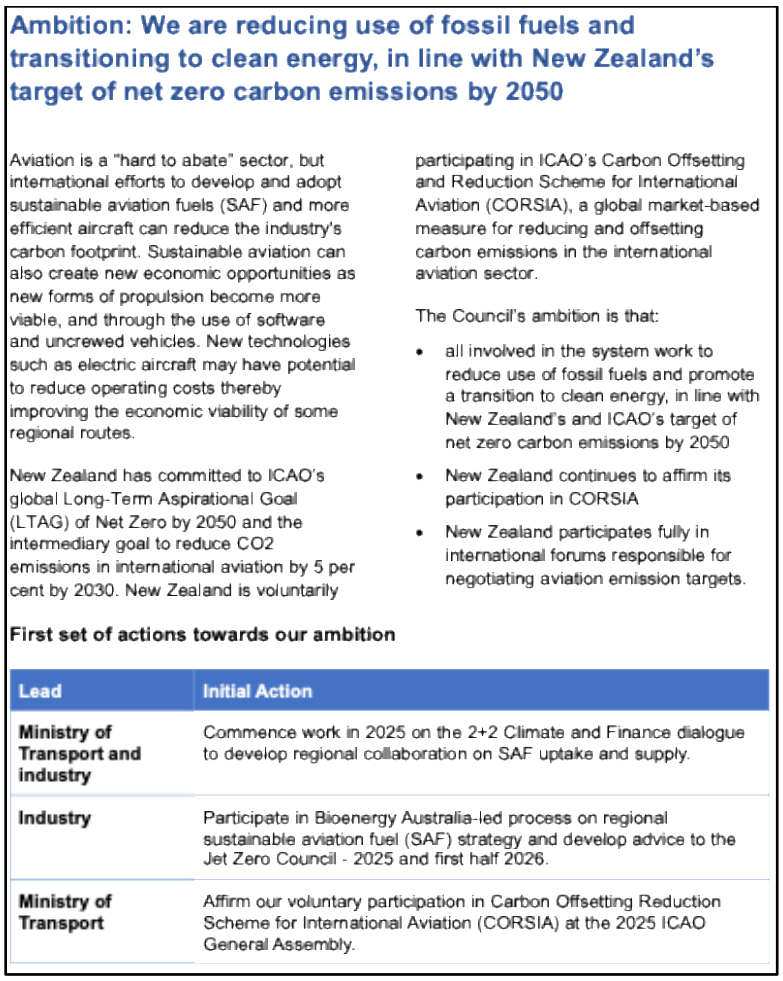
An Interim Aviation Council was established by the New Zealand Government in March 2024 following a recommendation of an independent review of the Air Navigation System. In September 2025 it released an 'Aviation Action Plan' for New Zealand, with the intention that the permanent Aviation Council will be established and will update the Plan every three years[5].

The Plan includes six 'Ambitions', four of which are 'priority areas':

1. *Our world-class aviation regulatory environment is robust, internationally credible, and nimble, allowing businesses and New Zealanders to thrive (priority area)*
2. *Aviation is a desirable career path; we have the talented and skilled people we need for the sector to grow (priority area)*
3. *The aviation system has grown and is thriving, connected, resilient and productive, and it adopts innovations readily (priority area)*
4. *Aviation infrastructure is well-planned and integrated, supports efficient and sustainable movement of people and goods and enables economic growth (priority area)*
5. *New Zealanders and visitors experience consistently accessible and efficient aviation services and are treated fairly*
6. *We are reducing use of fossil fuels and transitioning to clean energy, in line with New Zealand's target of net zero carbon emissions by 2050*

Callister, P., & McLachlan, R. (2023). Decarbonising Aotearoa New Zealand's aviation sector: hard to abate, but even harder to govern. *Policy Quarterly*, *19*(2), 9-18. https://ojs.victoria.ac.nz/pq/article/view/8232

[5] Interim Aviation Council, Aviation Action Plan. September 2025. https://www.transport.govt.nz/assets/Uploads/Aviation-Action-Plan-2025.pdf



Ambition: We are reducing use of fossil fuels and transitioning to clean energy, in line with New Zealand's target of net zero carbon emissions by 2050

Aviation is a "hard to abate" sector, but international efforts to develop and adopt sustainable aviation fuels (SAF) and more efficient aircraft can reduce the industry's carbon footprint. Sustainable aviation can also create new economic opportunities as new forms of propulsion become more viable, and through the use of software and uncrewed vehicles. New technologies such as electric aircraft may have potential to reduce operating costs thereby improving the economic viability of some regional routes.

New Zealand has committed to ICAO's global Long-Term Aspirational Goal (LTAG) of Net Zero by 2050 and the intermediary goal to reduce CO2 emissions in international aviation by 5 per cent by 2030. New Zealand is voluntarily participating in ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), a global market-based measure for reducing and offsetting carbon emissions in the international aviation sector.

The Council's ambition is that:

- all involved in the system work to reduce use of fossil fuels and promote a transition to clean energy, in line with New Zealand's and ICAO's target of net zero carbon emissions by 2050
- New Zealand continues to affirm its participation in CORSIA
- New Zealand participates fully in international forums responsible for negotiating aviation emission targets.

First set of actions towards our ambition

Lead	Initial Action
Ministry of Transport and industry	Commence work in 2025 on the 2+2 Climate and Finance dialogue to develop regional collaboration on SAF uptake and supply.
Industry	Participate in Bioenergy Australia-led process on regional sustainable aviation fuel (SAF) strategy and develop advice to the Jet Zero Council - 2025 and first half 2026.
Ministry of Transport	Affirm our voluntary participation in Carbon Offsetting Reduction Scheme for International Aviation (CORSIA) at the 2025 ICAO General Assembly.

Figure 1. Page 19 of the *Aviation Action Plan* containing the 6th ambition.

Action 10.3.3: Work to decarbonise aviation.

Air travel has a role in moving both people and freight to domestic and international destinations. In many cases, air travel is a core mode for inter-city and interregional travel. This means improving its sustainability is critical, alongside improving alternatives to interregional air travel in some places.

Key initiatives

► Develop and set specific targets for decarbonizing domestic aviation in line with our 2050 targets.

► Establish a public-private leadership body focused on decarbonising aviation, including operational efficiencies, infrastructure improvements and frameworks to encourage research, development and innovation in sustainable aviation.

► Implement a sustainable aviation fuel mandate.

Figure 2. Action 10.3.3 from the first Emissions Reduction Plan.

3. The International Civil Aviation Organisation and its members' State Action Plans

The goal of net zero aviation emissions by 2050 is significant and has been adopted by a succession of bodies, including all major airlines operating in New Zealand, the global airline body IATA, and (in 2022) the International Civil Aviation Organisation (ICAO) in its 'Long Term Aspirational Goal', or LTAG.

Prior to the adoption of the LTAG, New Zealand became one of nine founding members of the International Aviation Climate Ambition Coalition (IACAC), which was formed at COP26 held in Glasgow in 2021. Declarations from such groups, and states' decisions to endorse them, represent non-binding political commitments by the states. The IACAC initially endorsed a 1.5 ºC global temperature goal ('Working together… to advance ambitious actions to reduce aviation CO2 emissions at a rate consistent with efforts to limit the global average temperature increase to 1.5 ºC') and signatories agreed to submit their plans to ICAO by 2022[6]. However, once the LTAG had been approved, IACAC dropped the mention of 1.5 ºC ('in line with the goal for international aviation of net-zero carbon emissions by 2050, in support of the Paris Agreement's temperature goal.'[7]) The IACAC still exists and has grown to include 64 signatories; it presented a working paper to ICAO's 42nd Assembly in October 2025[8]. However, New Zealand did not join the other signatories in the presentation of that paper, and the New Zealand statement to ICAO did not mention the LTAG or how New Zealand intended to contribute to its achievement[9].

State Action Plans are the main mechanism by which ICAO supports and monitors progress in the reduction of aviation emissions and implementation of the LTAG. New Zealand's current Plan was submitted in 2016 and was not updated by the IACAC's target date of 2022 or subsequently. It is not known if an updated Plan is in preparation and this is not mentioned in the AAP. However, many other states have updated their Plans subsequent to the 2022 adoption of the LTAG and these form a useful reference point. We discuss the UK's recently submitted State Action Plan in section 4 below.

It has been found that compared to other UN bodies, ICAO has less transparency and is subject to control by industry, which has led to the development of policies that reflect industry rather than

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[6] https://www.gov.uk/government/publications/cop-26-declaration-international-aviation-climate-ambition-coalition/cop-26-declaration-international-aviation-climate-ambition-coalition

[7] https://www.gov.uk/government/publications/declaration-international-aviation-climate-ambition-coalition/declaration-international-aviation-climate-ambition-coalition

[8] Views of the International Aviation Climate Ambition Coalition (IACAC) on progress towards achieving the LTAG, ICAO A42-WP/249, https://www.icao.int/sites/default/files/Meetings/a42/Documents/WP/wp_249_en.pdf

[9] Statement by Ms Siobhan Routledge, Acting Deputy Chief Executive – Policy, Ministry of Transport, and Head of the New Zealand Delegation, ICAO A42-WP/546, https://www.icao.int/sites/default/files/Meetings/a42/Documents/WP/wp_546_en.pdf

environmental needs[10]. For example, ICAO's environmental working group had 72 delegates from the aviation industry compared to just five from the International Coalition for Sustainable Aviation.

4. Sustainable Aviation Aotearoa

New Zealand's first Emission Reduction Plan (ERP) included work to decarbonise aviation (see Figure 2.) During the preparation of the second ERP, some items from ERP1 were removed following consultation, but not this one. Of the three specific actions, only one has been completed at the time of writing – a public-private leadership body was established, Sustainable Aviation Aotearoa, in 2022.

It originally contained representatives from the public service and SOEs (Ministry of Transport, Ministry for the Environment, Ministry of Business, Innovation, and Employment, Civil Aviation Authority, New Southern Skies, Airways Corporation, Transpower), the aviation industry (Board of Airline Representatives New Zealand, Air New Zealand, Qantas, the New Zealand Pilots Association, Nelson, Auckland, and Christchurch Airports and the New Zealand Airports Association) as well as Ngai Tahu, and Aerospace Christchurch. Its main task for 2023 was the preparation of New Zealand's State Action Plan.

By August 2024, some groups had been dropped from SAA (Qantas, Chch Airport, Aerospace Christchurch, and New Southern Skies) and some added, including the Aviation Industry Association of New Zealand, the world's two largest aircraft companies (Airbus and Boeing), major oil companies (Exxon Mobil, British Petroleum, Z Energy, and Channel Infrastructure), aerospace companies (Kea, Stralis) and companies either producing or working on alternative fuels (LanzaJet, Neste). Contact Energy, the RNZAF, and the Climate Change Commission were also added. Despite holding meetings and working groups up until at least August 2024, no minutes, work plans, or recommendations have been published. As of October 2024, it was intended that SAA's work plan, including the preparation of the State Action Plan, would follow the adoption of ERP2.[11]

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[10] InfluenceMap, 2025. Corporate Capture and the UN International Civil Aviation Organization. Continued Corporate Influence at the United Nations' Aviation Agency: An Update of InfluenceMap's 2022 Report https://influencemap.org/report/ICAO-Corporate-Capture-2025

[11] "I can confirm that Sustainable Aviation Aotearoa is continuing to meet, and work is ongoing. The SAA's milestones will be confirmed following final ERP 2 decisions later this year, to align with the expectations contained in ERP 2. The SAA is currently focusing on three work areas: strategy for aviation decarbonisation, sustainable aviation fuels, and wider steps to achieve zero emissions (for example, infrastructure changes required to enable electric or hydrogen aircraft). Regarding the ICAO State Action Plan, the plan will need to align with final decisions taken on ERP 2, the work programme with Australia following the 2+2 announcements earlier this year, and the work of the Interim Aviation Council. Work on the next version of the ICAO State Action Plan will follow those decisions and work programmes being confirmed." Ruth Fairhall, Deputy Chief Executive, Policy Group, Ministry of Transport, Email to Robert McLachlan, 16 October 2024. Ministry confirmed on 9 September 2025 that there have been no further

However, the Ministry confirmed on 9 September 2025 that there have been no further reports, work plans, or policy recommendations since a reply to an OIA request on 11 September 2024[12]. We know of no work on the other two key initiatives from ERP1, the setting of specific emission targets for domestic aviation or the implementation of a sustainable aviation fuel mandate. A group called the 'Sustainable Aviation Fuel Industry Roundtable' met with the Minister of Climate Change on 30 July 2025, but no information about this group is available.

ERP2 also refers to Sustainable Aviation Aotearoa. However, the limited statement in ERP 2 on aviation emissions, that 'The Government's role is to facilitate industry discussions through existing forums, consider regulatory barriers and ensure New Zealand's interests are represented on the international stage', is not correct. The Climate Change Commission has reviewed the policies of ERP2 against the second carbon budget and found them to be wholly inadequate – virtually all the necessary policy-driven emissions reductions were found to be at risk.[13]

5. Airports

In February 2025 NZ Trade & Enterprise, together with the NZ Airports Association, reviewed the future infrastructure requirements of New Zealand's airports[14]. International trends in Alternative Aviation Fuel and new technology aircraft are surveyed. However, although the prospects of AAF mandates in *other* jurisdictions is mentioned (including Australia), there is no mention of such a mandate for New Zealand. The question of why airlines would choose to include AAF when refueling in NZ, other than voluntarily, is not discussed. The uncertainties surrounding new technology aircraft are underscored by the fact that of the aircraft reviewed in the report, two projects (Eviation's *Alice* and the *Lilium Jet*) had already collapsed just before the report was published, while a third (Heart Aerospace's *ES-30*) underwent a significant redesign in May 2025, eliminating the previously claimed 200 km all-electric range entirely.

While the potential future requirements are real, the report does not integrate them into the status quo of current activity, which is centred around investing for the growth of traditional, high-carbon aviation. Auckland Airport is investing $6.6 billion in a redevelopment of its domestic terminal and the surrounding precinct; many other airports are also hoping or planning to expand.

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reports, work plans, or policy recommendations since 11 September 2024.

[12] https://www.transport.govt.nz/assets/Uploads/EstablishmentofSustainableAviationAotearoa.pdf

[13] Climate Change Commission. 2025. Monitoring report: Emissions reduction – Assessing progress towards meeting Aotearoa New Zealand's emissions budgets and the 2050 target. https://www.climatecommission.govt.nz/our-work/monitoring/emissions-reduction-monitoring/erm-2025

[14] New Zealand Trade and Enterprise/New Zealand Airports Association, New Zealand Airports: Future infrastucture requirements. Challenges and opportunities for New Zealand's aviation industry. February 2025. https://nzairports.co.nz/resources/new-zealand-airports-future-infrastructure-requirements-2025/

For example, the chief executive of the NZ Airports Association (a member of both the Interim Aviation Council and Sustainable Aviation Aotearoa) said in an interview on 25 November 2024[15],

> *Australian carriers are growing hugely, and my concern is that we've locked ourselves out of that growth. There's no incentive for Virgin to consider putting any of its new capacity that might come from [Qatar's] investment on any New Zealand routes... Airports are incentivised to grow capacity. The way that they develop their infrastructure is about trying to add capacity to our aviation networks, which in turn helps support more options and better prices for consumers. We are falling behind other countries in our recovery in terms of aviation connectivity which has a huge connection to the prosperity of our economy. The fact that Qantas is growing their capacity to NZ and globally is a really positive thing. What we need is more ComCom involvement, but also a bigger perspective on all these codeshares and what the strategy needs to be for NZ's aviation growth.*

A positive step by the airport industry is the advent of "Level 5" industry certification in 2023. Christchurch Airport was one of ten initial airports to achieve this certification, the other nine being in Europe. (Another 15 airports have since achieved Level 5). For the first time, this certification acknowledges airports' responsibility for aircraft emissions during the entirety of their flight; the airport's carbon management plan must include a pathway to full net zero emissions by 2050.[16] On the other hand, Christchurch Airport's Master Plan is based around forecasts of passenger numbers doubling from 6 million to 12 million by 2040, and the airport also launched the 'Central Otago Airport' project to develop what would be New Zealand's third international airport capable of handling wide-body jets, a project with the potential to significantly increase emissions. Thus, the credibility of carbon plans, and their alignment with industry and national targets and regulations, are all critical elements which will be supported by scrutiny of airports' Level 5 pathways.

6. UK State Action Plan 2025

This plan describes a detailed pathway for the UK's plan to reduce aviation emissions and to contribute to ICAO's LTAG. The pathway includes four main components:

1. Efficiency improvements. Part of the Plan is shared with that of the European Civil Aviation Conference (ECAC), common to all European countries. The ECAC is of the view that the goal of 2% annual fuel efficiency improvements, adopted by ICAO and similar to what has been observed in the past few decades, is unlikely to be realized between now and 2050, because a cycle of aircraft improvements (eg Boeing's MAX and Airbus's neo

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[15] https://www.rnz.co.nz/national/programmes/ninetonoon/audio/2018965642/competition-concerns-over-codeshare-deal-between-virgin

[16] Airport Carbon Accreditation Application Manual (Issue 14), 2023, p. 29. https://www.airportcarbonaccreditation.org/technical-documents/

series) has just been completed. The ECAC expect an annual efficiency improvement of 0.4%, or 10% between 2023 and 2050. The UK's plan increases this to 17% by assuming the introduction of zero-emission aircraft – for example, all new aircraft under 150 seats to be zero-emission by 2035.

2. Alternative Aviation Fuels are assumed to offer a 70% reduction in lifecycle emissions, and to achieve a mandated 50% market share by 2050, leading to a 36% fall in emissions overall. Note that existing aircraft are limited to a 50% AAF fuel blend.
3. CORSIA offsetting may reduce emissions 18% by its current expiry year of 2035, noting that this depends on traffic volumes.
4. The baseline model assumes traffic growth of 46% by 2050, or 1.2% per year.

Together these policies and effects are forecast halve emissions by 2050. The Plan recognizes that these measures cannot 'even in aggregate, deliver in time the emissions reductions necessary to meet the ICAO long-term aspirational goal of net-zero carbon emissions by 2050' and that additional 'market-based measures' will be needed. The EU is already adopting such additional measures, with a tax on fossil jet fuel for intra-EU flights being phased in to a level of €0.38/litre over the next 10 years. The ECAC, in its presentation to ICAO in October 2025, also commented on 'residual emissions':[17]

> *Even with ambitious efforts to reduce CO2 emissions from international aviation through in-sector measures (technology, operations and fuels), residual emissions will remain through to 2050 and beyond. The comprehensive LTAG report from 2022, and the subsequent 2025 ICAO Global Trends in CO2 emissions from International Aviation, clearly recognise this fact. It is anticipated that additional measures, such as a possible continuation of CORSIA after 2035, will be needed in order to achieve net zero carbon emissions by 2050. The Assembly is invited to acknowledge the need for the inclusion of carbon removals in the framework of reaching the LTAG, thus aiming to minimise the need for measures outside of the sector.*

Whether these removals include biological or geological sequestration, or out-of-sector climate finance, the conclusion is clear that comprehensive net zero pathways are still required and are expected to be delivered in part through the triennial State Action Plans.

International aviation and shipping are included in the UK's carbon budgets from 2033. To meet those budgets, some action is required now. The UK's Committee for Climate Change has reported to Parliament that "continued emissions growth in this sector could put future targets at risk" and that

> *[t]he Government's 2022 Jet Zero Strategy and [Government and CCC emissions pathways] all require emissions to stay flat and start decreasing slowly over the rest of the decade. Limiting emissions in this way will be difficult if passenger numbers increase without sufficient*

[17] ECAC, Views on ICAO's action to reduce aviation's impact on climate, A42-WP/365, https://www.icao.int/sites/default/files/Meetings/a42/Documents/WP/wp_365_en.pdf

> *counterbalancing uptake of low-carbon solutions [...] The Committee recommends that the UK Government should develop and implement policy that ensures the aviation sector takes responsibility for mitigating its emissions and ultimately achieving Net Zero for the sector by 2050. This includes paying for permanent engineered removals to balance out all remaining emissions. Robust contingencies should also be in place to address any delays in decarbonisation, including through managing the forecasted increase in aviation demand... demand projections need to be consistent with climate change targets and take account of the costs to the sector of getting aviation to Net Zero emissions.* [18]

The UK has a fuel mandate in place from 2025, requiring the use of both biofuel and (from 2028) synthetic-efuel in proportions rising from 2% in 2025 to 15% in 2035, with a buy-out or penalty price of £4.66/l (equivalent to NZ$10.76/l or NZ$4240/tCO2)[19].

7. CORSIA

New Zealand has implemented ICAO's CORSIA offsetting scheme. If the international aviation emissions of particpating countries rise about the baseline (set at 85% of 2019 levels), then airlines must *collectively* must surrender CORSIA units to cover the excess. Due to Covid, no units have been required to be surrendered as of 2023; they may turn out to be required for 2024. Unless there is significant global growth in international aviation, CORSIA is unlikely to have a significant effect. Since CORSIA was first proposed, offsetting (especially biogenic offsetting of fossil emissions) has fallen from favour due to its seemly intractable problems.[20] Eligible CORSIA units include those associated with REDD+, "reducing emissions from deforestation and forest degradation in developing countries"; but

> *After fifteen years of implementation, however, these international carbon financing mechanisms have largely failed to reduce tropical deforestation, and much of the carbon benefit claimed has been inflated... REDD+ has received widespread criticism from Indigenous organizations for its failures to support Indigenous self-determination and territorial defense.* [21]

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[18] Climate Change Committee. Progress in reducing emissions - 2025 report to Parliament. June 2025 https://www.theccc.org.uk/wp-content/uploads/2025/06/Progress-in-reducing-emissions-2025-report-to-Parliament.pdf

[19] UK Department for Transport, Sustainable Aviation Fuel Mandate: Compliance Guidance 2025. https://assets.publishing.service.gov.uk/media/6762717b26a2d1ff182534f7/saf-mandate-compliance-guidance-2025.pdf

[20] J Romm, S Lezak, A Alshamsi. Are Carbon Offsets Fixable? 2025. Annual Review of Environment and Resources 50: 649–680. https://doi.org/10.1146/annurev-environ-112823-064813

[21] Osborne, T., Cifuentes, S., Dev, L., Howard, S., Marchi, E., Withey, L., & Santos Rocha da Silva, M. (2024). Climate justice, forests, and Indigenous Peoples: toward an alternative to REDD+ for the Amazon. *Climatic Change*, *177*(8), 128.

Due to uncertainty over CORSIA's future, and the lack of control of any individual country over its operation, the UK's decision in their Action Plan to separate out potential CORSIA offsetting from other measures is justified.

As the UK's Action Plan notes, "Most options for aviation decarbonisation rely on new technology, the development and uptake of which is extremely uncertain, owing to the uncertain nature of technology readiness and cost of technology over time." It is also uncertain how readiness and cost may respond to levels of investment. Therefore, to achieve emissions goals it will be necessary to respond flexibly to future technological developments *and* to have in place backup actions that are more certain.

8. Tourism

Tourism and aviation, both domestic and international, are very closely linked. The questions of the sustainability of the tourism industry and of the aviation industry, and the possible growth of either, are virtually identical[22]. We highlight two key recent developments of this realization in the New Zealand context.

First, the 2021 report of the Parliamentary Commissioner for the Environment, which recommended that New Zealand

> *Introduce a departure tax that reflects the environmental cost of flying internationally from New Zealand, and use the revenue to support the development of low-emissions aviation technologies and provide a source of climate finance for Pacific Island nations.*[23]

Second, the joint government-industry Tourism Industry Transformation Plan. Its second phase in 2023 focused on tourism and the environment and proposed in its draft Environment Action Plan that 'Tourism Journeys are Decarbonised', an action that

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[22] Gössling, S., Balas, M., Mayer, M., & Sun, Y. Y. (2023). A review of tourism and climate change mitigation: The scales, scopes, stakeholders and strategies of carbon management. *Tourism Management*, *95*, 104681; Sun, Y. Y., & Higham, J. (2021). Overcoming information asymmetry in tourism carbon management: The application of a new reporting architecture to Aotearoa New Zealand. *Tourism Management*, *83*, 104231; Higham, J., Loehr, J., Hopkins, D., Becken, S., & Stovall, W. (2024). Climate science and tourism policy in Australasia: Deficiencies in science-policy translation. *Journal of sustainable tourism*, *32*(9), 1849-1875.

[23] Parliamentary Commissioner for the Environment, Not 100% – but four steps closer to sustainable tourism, 2021. https://pce.parliament.nz/publications/not-100-but-four-steps-closer-to-sustainable-tourism/

Explores how Aotearoa New Zealand can achieve net zero emissions tourism by 2050 and uphold our commitments under the Paris Climate Agreement in efforts to limit global warming to 1.5°C[24].

Although this action plan has not been progressed, some of its impacts persist – for example, the Tourism Industry Association supports the inclusion of international aviation and shipping in national climate targets. On the other hand, the current 'Tourism Growth Plan' proposed to increase state marketing to international visitors, grow visitor numbers, and double export earnings by 2034.[25] The plan has been criticized for its lack of financial, social, and environmental sustainability.[26] The tourism industry's own strategic plan does include a focus on international aviation emissions, and support for net zero by 2050, while the Government's tourism plan does not.[27] [28]

9. National targets

In 2024, New Zealand's Climate Change Commission advised the government that the current target should be strengthened to net negative 20 MtCO2e emissions (excluding biogenic methane)

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[24] Ministry for the Environment, Draft Environment Action Plan, 2023. https://www.mbie.govt.nz/immigration-and-tourism/tourism/tourism-covid-19-recovery/tourism-industry-transformation-plan/phase-2-environment/he-ahurutanga-taiao-draft-environment-action-plan-summary

[25] https://www.mbie.govt.nz/immigration-and-tourism/tourism/tourism-growth-roadmap

[26] R Scheyvens, J Higham and S Becken, NZ's plan to 'welcome anyone, from anywhere, anytime' is not a sustainable tourism policy, The Conversation, June 2025. https://theconversation.com/nzs-plan-to-welcome-anyone-from-anywhere-anytime-is-not-a-sustainable-tourism-policy-259246

[27] https://www.tourismnewzealand.com/assets/about/publications/Strategy-overviews/Tourism-New-Zealand-2024-2028-Strategy-Overview.pdf
https://www.tia.org.nz/assets/Infograph/TIA-Tourism-2050-Blueprint-for-Impact-Report_v10_low-res.pdf

[28] In 2023 the Aotearoa Circle released a Tourism Adaptation Roadmap which also viewed decarbonising tourism (including international aviation and shipping) as an essential part of the industry's future. The most negative of their three scenarios ('Disorderly – Pokanoa') was matched to the global SSP2-4.5 pathway, which leads to +3 ºC by 2100 (matching current projections) and catastrophic global disruption including 1.7 metres of sea level rise per century (7.6m by 2500; see F E Turner et al., Illustrative multi-centennial projections of global mean sea-level rise and their application. Earth's Future, 11, e2023EF003550, 2023. https://doi.org/10.1029/2023EF003550). In this scenario: "Around 2030, a sequence of compound weather events sweeps across New Zealand, causing significant damage to people and property. The most vulnerable parts of the country suffer the greatest losses, leading to political tension and loss of faith in government. Coupled with the costly offshore mitigation to meet NDC1, political parties join forces to tackle climate change, depoliticising the issue. The delay in effective policy implementation results in a transition that is expensive and inequitable, it takes a toll on Iwi/Māori and business. Large-scale forestry a significant contributor to abatement. The tourism sector is struggling. Long-haul travel has become very expensive, so only a small number of wealthy people visit from overseas. Domestic travel has increased, though it is also costly. Aviation has proven hard to decarbonise. Low emissions fuels are available, but costs are high and aviation still contributes to climate change." See https://www.theaotearoacircle.nz/focus-areas/climate/climate-adaptation/tourism-adaptation-roadmap

in each year from 2050 onwards, and that emissions from international shipping and aviation to be included in this net negative 20 MtCO2e target. Commission found that this target would be realistic, feasible, and would align with our trading partners.[29] The government has yet to respond to this advice; a decision is expected this year. The Commission will continue to review the 2050 target every five years.

As international aviation and shipping are covered by the temperature target of the Paris Agreement, and New Zealand's Climate Change Response (Zero Carbon) Amendment Act 2019 has adopted the lower of Paris's two temperature targets (1.5 ºC), our Nationally Determined Contribution under the Paris Agreement should also cover these sectors and be aligned with 1.5 ºC. This would be consistent with the International Court of Justice's Advisory opinion that states must take decisive action to reduce emissions in line with 1.5 ºC.

While action on both domestic and international aviation emissions can take place both privately and publicly outside the framework of the national carbon budgets and emission reduction plans, their almost complete omission from the budgets and plans is a critical obstacle to progress.

10. Alternative Aviation Fuels

Alternative Aviation Fuel (AAF, also known as Sustainable or Low Carbon Aviation Fuel (SAF/LCAF)) forms the largest single share of pathways to net zero emissions. Air New Zealand is expecting to use 1.6% AAF in 2025 and is targeting 10% by 2030. Most international airlines operating in New Zealand must comply with AAF mandates in some of their markets. New Zealand is committed to ICAO's collective goal of a 5% reduction in international aviation emissions by 2030 compared to the baseline of purely fossil fuel use; that would imply a global average of about 7% AAF. This is unlikely to be achieved without significant investment and regulatory support. Michael O'Leary, the chief executive of Ryanair, commented recently that "It is all gradually dying a death, which is what it deserves to do. We have just about met our 2% mandate. There is no possibility of meeting 6% by 2030; 10%, not a hope in hell. We're not going to get to net zero by 2050."[30]

There have been many studies of the potential for the domestic production of AAF via a variety of pathways. We cite only the most recent one, a 2025 report by Cyan Ventures for Boeing which is positive on the value and urgency of New Zealand action on alternative aviation fuels, including

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[29] Climate Change Commission, 2024. Review of the 2050 emissions target including whether emissions from international shipping and aviation should be included, 2024. https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/review-of-the-2050-emissions-target/2024-review-of-the-2050-emissions-target/final-report

[30] Gwyn Topham, 'This is real progress': airlines on sustainable aviation fuels and the chances of net zero flying. The Guardian, 4 October 2025.

https://www.theguardian.com/business/2025/oct/03/net-zero-aviation-sustainable-fuel-mandates-eu-uk

domestic production, where the authors see New Zealand as internationally competitive[31]. The report describes New Zeland falling behind its trading partners and facing risks of declining trade and tourism under the status quo. However, some of the potential feedstocks and technology pathways, such as sawmill residues, are still at the demonstration stage internationally.

11. Conclusions and recommendations

At the time of writing, it appears that Sustainable Aviation Aotearoa has not been effective. Neither it nor the Ministry for the Environment have released a draft State Action Plan, set decarbonization targets, or progressed an aviation fuel mandate. SAA has not been transparent – it has not published any minutes, work plans, or reports since its establishment. It has not called for public input. It may have become subject to corporate capture as many oil company and industry representatives were added. As of August 2024, of its 49 members, only three represented the environment (one from the Climate Change Commission, two from the Ministry for the Environment) and only one (Ngai Tahu) was not in industry or government. There were no representatives from the tourist industry, from passengers, or from the wider public. The Interim Aviation Council has no environmental representation at all and does not mention the existence of the SAA (despite the report that led to its establishment saying that the Council would provide strategic support for the SAA). It does not assign any actions to the Ministry for the Environment, despite MfE's leading role in New Zealand's climate policy.

Aviation forms part of the wider transport system, and part of the economy, and should be considered as such. Domestic aviation is a public transport system along with trains and buses.[32] International tourists arrive by boat as well as plane, while (as was observed during Covid) domestic tourism is a substitute for international tourism. Climate policy should be equitable across modes and across different parts of the economy. The public, passengers, tourism operators, airports, airlines, fuel companies, and the government all share responsibility for the sector which must be subject to the requirement of a safe environment. Lack of positive leadership, greenwashing, or delivery failure can lead to a loss of trust and impede future progress.

The aviation plan's first 'ambition' – a robust, credible, and nimble regulatory environment – does not refer to emissions. But regulation of emissions is essential and is the only way to simultaneously achieve environmental goals and lower uncertainty for investors.

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[31] Cyan Ventures and Boeing, 2025. Ready for take-off? Exploring choices and economic impacts for sustainable aviation. https://www.boeing.com.au/content/dam/boeing/en-au/pdf/nz-safety-study.pdf

[32] P Callister and R I McLachlan. Halving Tāmaki Makaurau's domestic aviation emissions by 2030. 2024. https://www.researchgate.net/publication/382947830_Halving_Tamaki_Makaurau's_Domestic_Aviation_Emissions_by_2030

Recommendation 1. The Aviation Council and Sustainable Aviation Aotearoa should include a balance of government, industry, environmental, and independent representatives and should operate transparently.

Recommendation 2. A 1.5 ºC-compliant State Action Plan and updated Second Emissions Reduction Plan should be prepared along with compatible domestic targets and regulation, including an Alternative Aviation Fuel mandate.

Recommendation 3. Planning for domestic regional mobility of people and freight should consider public and private transport (planes, trains, buses, trucks, and cars) as a system, including (as in ERP1) improving their sustainability and improving alternatives to interregional air travel in some places.