

# CIAL SUBMISSION

He Pou a Rangi  
Climate Change Commission  
'2021 Draft Advice for Consultation'

**Christchurch International Airport Ltd Submission to  
He Pou a Rangi Climate Change Commission  
'2021 Draft Advice for Consultation'**

*Kia hora te marino.*

*Kia whakapapa pounamu te moana.*

*Hei huarahi mā tātou i te rangi nei.*

*Aroha atu, aroha mai*

*Tātou i a tatou katoa.*

*May peace be widespread*

*May the sea be like greenstone*

*A pathway for us all this day*

*Let us show respect for each other.*

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# 1 INTRODUCTION

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Christchurch International Airport Limited [CIAL] wishes to thank the Climate Change Commission [CCC] for the valuable mahi undertaken to create this 2021 Draft Advice for Consultation.

We acknowledge those that have contributed to bringing climate action to the forefront. To now have a capped and reducing emissions budget, and a collective reduction pathway in development, is a historic achievement that we are eager to see progressed.

We urge those across business, government and society to support this work with urgency and raised ambitions. This is about our future, and rightly, the part we all need to play in the betterment of our planet.

Collectively we need to change our behaviours, but we also support market incentives with measured interventions where necessary. An extensive toolkit is required to combat climate change, business as usual is no longer an option.

Our submission will touch on the areas of broad alignment between the CCC's pathway, and our own. We then seek to provide greater detail on sector specific considerations relating to CIAL and aviation.

# 2 AREAS OF ALIGNMENT

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CIAL shares in the determination to contribute meaningfully to global efforts to limit warming to 1.5 degrees above pre-industrial levels. Recognising that Aotearoa is currently not on track to meet our Nationally Determined Contribution is a necessary starting point. We agree that Aotearoa must act with greater urgency to meet our global emission reduction commitments. We ask that the CCC provide a pathway that is ambitious, meets our international legal obligations, and is consistent with keeping global warming within 1.5 degrees.

The CCC Pathway provides useful signalling to business and industry on our collective direction, particularly in relation to transport and energy, though we anticipate more detail to follow in the national Emissions Reduction Plan. We also support the necessary approach to focus on reduction, rather than purchasing offshore carbon credits.

As a matter of principle, we believe that international emissions from aviation and shipping ought to be included in Aotearoa's carbon budgets and subsequent Emissions Reduction Plan. We must understand and take responsibility for our entire global emissions contribution.

At CIAL we measure full flight emissions (domestic and international), through measuring everything, we have greater ability to understand and address. We are grateful to understand the current CCC pathway includes scope for the inclusion of international aviation and shipping emissions.

We recognise the international Carbon Offsetting Reduction Scheme for International Aviation [CORSIA] exists, but equally recognise its limitations. We see value in New Zealand's continuing involvement in the only global agreement that currently covers international aviation emissions but believe we can do more.

We support the wholistic approach taken by the CCC, noting that a siloed sector emissions division would create significant challenges, as our economy is not siloed, with multiple interdependencies across all our supply chains.

We appreciate the pathway approach being based on current technologies, as this allows Aotearoa to get started immediately. However, we also note the need to be dynamic and inclusive of quickly evolving new technologies. Particularly those that could complement the focus on renewable energy generation and the decarbonisation of the transport sector.

CIAL support the shared vision of a thriving, climate-resilient low emissions Aotearoa, that is equitable, inclusive, protects livelihoods and makes economic sense. We see value in a collaborative approach, working alongside tangata whenua, acknowledging rangatiratanga and kaitiakitanga.

### 3 OUR CIAL EMISSIONS REDUCTION PLAN

CIAL accept the role carbon dioxide and other greenhouse gases play in climate change. We believe in the science behind climate change. We support the global target, as established by the United Nations Framework Convention on Climate Change (UNFCCC) in the Paris Agreement 2015, to keep global temperature rise within 1.5 degrees.

We were advocates for the New Zealand Zero Carbon Act, the establishment of an independent Climate Change Commission, and having national emissions reduction targets enshrined in law.

Our commitment to carbon reduction is reflected in our memberships of the Climate Leaders Coalition and the Sustainable Business Council. We're proud to be an early signatory of the Climate Leaders' High Ambition Pledge to reduce emissions.

CIAL have been measuring our emissions since 2007 and were the first airport in the world to do so with independent scrutiny.

We have mapped out our own emissions reduction plan, with science-based targets and absolute reduction goals, in line with limiting temperature rise to 1.5 degrees. This includes an 84% reduction in Scope 1 and 2 emissions against 2015 levels by 2035, and a goal of absolute zero Scope 1 and 2 emissions by 2050. This is achieved through emissions reduction projects including;

- decommissioning of diesel generators and replacing them with ground source heating;
- conversion of our commercial vehicle fleet to electric vehicles, with the intention of regular turn-over to contribute to the local second-hand electric vehicle stock;
- replacement of lighting with LED equivalents;
- replacement of HVAC systems with refrigerants that have lower emissions factors;
- introduction of gate ground power to replace airline auxiliary fuel use with grid electricity;
- waste minimisation initiatives to decrease waste sent to landfill;

- implementation of sustainable procurement guidelines to impact our own operations and our supply chain;
- implementation of design build guidelines to encourage best practice with airport campus property development;
- investigation of future aviation technology and how best to support the decoupling of aviation from fossil fuel.

In addition to this, there have been many more small and medium sized projects, as well as behavioural change pieces that seek to further influence emissions reductions across our operations, and those in our supply chain.

To this effect, CIAL was recently recognised as the first airport in the world to reach the highest level of Airport Carbon Accreditation. As an airport we should be doing all we can to transition now, as one of the few component parts of the aviation sector that currently have the available technology to do so.

We recognise the greatest burden of decarbonising aviation remains with airline operators – and the decoupling of aircraft technology from the use of fossil fuel. CIAL seek to encourage and support this decoupling of aviation from fossil fuel, and make sure we have the appropriate infrastructure capabilities to support future zero emission aviation.

## 4 AVIATION'S UNIQUE POSITION IN NEW ZEALAND

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Aviation overall is a force for good – it underpins the global economy, broadens the mind, and connects people. It is the resulting carbon emissions that are problematic. Aviation currently contributes around 5% of global carbon emissions<sup>1</sup>, but pre-COVID, the aviation sector was the fastest-rising source of carbon emissions over the past decade.

Our challenge is to protect the benefits of aviation while recognising that future viability of the aviation industry depends upon its ability to decarbonise. It is imperative that effective measures are taken at a global and national-level to decouple aviation from fossil fuel, and this cannot be overstated in the case of geographically isolated Aotearoa.

Airports are critical infrastructure which allow Kiwis connectivity to the rest of the world, but also provides benefits across the entire economy. Aviation is often described as solely the movement of passengers, but critically it also enables 13% of the value of New Zealand's total freight.<sup>2</sup> For example, a daily 787 passenger flight, over the course of a year, contributes \$157million of tourist spend and \$509million of freight value.

In 2019 international air cargo represented only 0.3% of total freight, however this is high value time-sensitive freight – with exports including respiratory equipment, pharmaceuticals, and high value fresh and chilled perishable food.

New Zealand is typically a technology taker from global industry, importing a large variety of high value manufactured industrial and consumer goods by air to support time sensitive needs of industries including manufacturing, farming, retail and e-commerce.

New Zealand typically trades over 220,000 tonnes of goods internationally by air, worth \$26 billion to the New Zealand economy.<sup>3</sup> So emissions from aviation sit across the entire economy, with multiple interdependencies along the supply chains of almost all sectors. We appreciate the CCC's wholistic approach to emission allocation at a national level, rather than sector emission allocations.

When compared to many of our trading partners, and comparable developed nations, New Zealand has a unique dependency on aviation, with no ability to develop international low emission land transport routes. Given this, to maintain any trade advantage, New Zealand needs to prioritise the decoupling of aviation from fossil fuel.

We encourage the CCC to extend the ambit from focussing on decarbonising New Zealand, to New Zealand's contribution to global emissions reductions. We must be conscious of how our policies impact on global investment decisions and international trade.

Aotearoa is in a unique position to show the world how to decarbonise in a relatively short timeframe. If we are ambitious enough. There is an opportunity to export our knowledge to the rest of the world and become world leaders in cross-border decarbonisation. We could do more, and with the right policies and incentives, we could be a testbed for zero carbon manufacturing and future zero emissions aviation. We ask that the Commission consider what it could recommend to the Government in this area.

## 5 ENCOURAGING OF AVIATION FUTURE TRANSITION

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We recognise that aviation as an industry may be one of the latter sectors to transition due to commercially available technology, however significant progress is being made with low emissions domestic aviation technology, particularly electric aircraft, hydrogen fuel, and sustainable aviation fuel.

Aotearoa is well placed to be early adopters, and if there were ambition, even the first nation to have our domestic aviation fully transitioned to a low emissions fleet. Our geography and the distance of most domestic flights is particularly favourable for new technologies to reduce and replace fossil fuel equivalents.

Biofuel is the most mature and proven technology available however it emits carbon and other particulates and faces feedstock and land use competition with other sectors.

Electric aviation technology is progressing with Sounds Air announcing commercially available flights from 2026. Alongside developments in green liquid hydrogen (LH2), there may be better alternatives for domestic aviation that abate all CO2 emissions from flying sooner than anticipated, if we are able to support them.

Hydrogen fuel can reduce a significant share of non-CO<sub>2</sub> emissions like NO<sub>x</sub> and SO<sub>x</sub>, leading to an overall reduction of 50-90% in climate impact, which exceeds the reduction potential of all other alternative fuels. However, contrary to other sustainable aviation fuels, LH<sub>2</sub> requires an overhaul of existing fuel infrastructure.

Hydrogen at scale can cost-effectively decarbonize flights up to the short and medium range categories, which account for 70% of global aviation CO<sub>2</sub>e emissions. Beyond the 10,000km range, the storage space requirements make hydrogen unfeasible in terms of cost. For long-range flights, which account for 30% of global aviation CO<sub>2</sub>e emissions, synfuel and advanced biofuels are the most cost competitive decarbonisation options, both requiring significant volumes of hydrogen.<sup>4</sup>

The leading development pathway for domestic fleet (e.g. turbo prop Q300 aircraft) to low emission fuels is the conversion/retrofit of existing aircraft with hydrogen-electric powertrains. The current estimation for commercial availability of this technology is circa 2024.

Light electric aircraft (6 to 18-seater) powered by hydrogen fuel cells have been conducting successful test flights since 2016, with commercially available models converted to fuel cell-power and electric engines flying since 2019. Light fuel cell-powered electric aircraft could be entering service in New Zealand before 2025. There is also potential for fuel cell technology to decarbonise New Zealand's 'narrow body' fleet, enabling Trans-Tasman carbon free travel/freight. Beginning with the decarbonisation of our Q300 fleet immediately would enable the infrastructure and regulations to adjust and paves the way for 'narrow body' decarbonisation in the medium term. There is growing interest in using hydrogen for aviation within Aotearoa.

CIAL is committed to providing the infrastructure to support future low emissions aviation decoupled from fossil fuels. We recognise Airports are often well suited to the hydrogen hub model, where production and multiple use consumption (air travel and freight distribution) are clustered together.

To encourage speed in technology development, deployment and commercialisation of this new technology, we note the UK/Norwegian example of establishing a public-private aviation working group to develop a coordinated approach towards a more sustainable aviation industry. A similar body set up in Aotearoa could identify and enable the policies and investment settings, regulatory/ certification requirements, needed to support the development and commercial deployment of zero emission aviation with ambition.

In addition to this, the proceeds from the ETS could be utilised for research and development targeted at emissions reductions, including support for decarbonisation of aviation. Noting the advantage of government as the majority shareholder in our national airline carrier.

## 6 INTEGRATED TRANSPORT SYSTEM

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In addition to low emissions aviation, we support the CCC pathway to address land transport emissions. CIAL support the CCC vision for transport and industry to be powered by electricity and low emissions fuels, and an integrated transport system designed to support low emissions technology.

Our CIAL vehicles policy requires all CIAL vehicles to be electric, where an electric alternative exists. Where no alternative is commercially available to us, we actively encourage manufacturers to work on zero emission alternatives to meet our future needs.

We also seek to advocate for a wholistic transport solution – that looks at the connectivity of different modes, for example, working towards supporting accessible zero emissions public transport and active transport connections, that connect to our low or zero emissions flights.

## 7 MOVING TOWARDS CIRCULAR WASTE ECONOMY

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The CCC pathway waste advice focuses on reducing methane emissions from organics that end up in landfill. However, long-lived GHG emissions are also generated from the extraction, production, transport and consumption of packaging and goods, which is intrinsic to our current, unsustainable 'take-make-throw' linear economy.

To meet the 2050 emissions targets, the CCC could expand its advice to consider all waste streams, and build consumption-based measurements into its analysis, ultimately transforming how we think about waste to create a circular, self-sustaining economy.

## 8 CONCLUSION

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The latest climate science is suggesting globally we are tracking towards the IPCC's worst-case scenario. We need bold urgent action to address our climate emergency and expedite our transition as quickly as possible. Aotearoa's carbon budgets and pathway must reflect this. This is more than just playing our part but understanding that the rest of the world is looking at what New Zealand is doing. We must get the level of ambition right.

CIAL look forward to playing our part, to working collaboratively across the sector, with the Climate Change Commission and Government, to acceleration the decarbonisation of the aviation sector. We want ambitious climate action, decoupling of aviation from fossil fuel, the realisation of a just transition for Aotearoa, and to ultimately contribute to a climate action plan that speaks to our global commitments and responsibility.

