

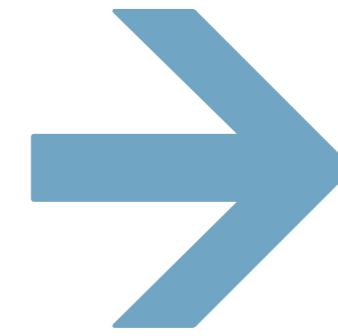
WELLINGTON
AIRPORT



WELLINGTON AIRPORT
CLIMATE-RELATED DISCLOSURES FY24

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Climate change is here now, and the impacts on people and businesses are expected to intensify.



At Wellington Airport, we are preparing for these impacts and for our supporting role in the decarbonisation of the wider aviation sector.

This mission is vital given the importance of aviation to Wellington and New Zealand. Unlike many other countries, New Zealand has no easy alternatives to flying which is vital in connecting people and freight.

This is a driving force behind our work to reduce emissions within our direct control, planning to meet our goal of net zero emissions for our own direct operations (Scope 1 and 2) by 2030.

Of course, reducing our own emissions is just the starting point given that the vast majority of aviation emissions come from fuel used in the operation of aircraft. This is why we are taking an ‘active enabler’ approach, providing infrastructure and support for our airline partners on their decarbonisation journey.

This has been highlighted most visibly over the last year through our hosting of a hydrogen fuel cell charging trial, and our partnership with Air New Zealand to host the electric demonstrator aircraft service from 2026. We have shown we are nimble, innovative and working closely with airlines and other partners on this vital transition.

As well as reducing emissions, we are also adapting as we recognise the impacts climate change could have on our business. We have a comprehensive maintenance and review programme in place to address the impacts of climate change and safeguard the airport’s operations.

Our analysis shows our infrastructure is resilient to a wide range of climate hazards in the short and medium term, and we are well equipped to respond to these in the future. We will continue to engage closely with airlines, other airports and government; renew our marine defences to protect airport assets from climate change and sea level rise and ensure our passenger forecasts are fit for purpose and sensitive to changing information. We will also support more direct travel options and ground transport mode shift.

Our FY24 climate-related disclosures are compliant with Aotearoa New Zealand Climate Standards issued by the New Zealand External Reporting Board (XRB), this being our first mandatory year of reporting. Adoption provisions we have chosen to utilise are detailed on page 4.

This report refers to activities within Wellington Airport’s 2024 financial year (FY) which is 1 April 2023 through to 31 March 2024.

These disclosures should be read in tandem with our 2024 [Kaitiakitanga Report](#), which further outlines our actions to promote sustainable outcomes that benefit our environment, people and community.

Matt Clarke 
CEO

Rachel Drew 
Chair

Matthew Ross 
Director



From 2024 a number of New Zealand businesses are required to produce climate-related disclosures following the Financial Sector (Climate-Related Disclosures and Other Matters) Amendment Act which came into force in 2021.

This report is the first mandatory year for Wellington Airport following standards set by the XRB, which are consistent with the recommendations of the Taskforce for Climate-Related Financial Disclosures (TCFD).

Last year we **reported** voluntarily, which set us up well to comply with the mandatory requirements. This has allowed us to focus on some of the more challenging aspects of climate-related

disclosures such as collating our transition plan (Section 2.3) and progress towards quantifying financial impacts (Section 2.4).

While we are working to keep in line with the Paris Agreement goal of limiting global warming to 1.5°C, we have tested our strategy in three different climate scenarios. By necessity, we will be regularly reviewing and adjusting our approach to managing emissions and mitigating the impacts of climate change.

[New Zealand Climate Standard 2](#) outlines adoption provisions from some disclosure requirements.

The table below outlines which adoption provisions have been used in this report.

#	Adoption provision description	Wellington Airport comment
2	Anticipated financial impacts	Preparation underway for FY25 report
5	Comparatives for Scope 3 GHG emissions	FY24 is the first year Wellington Airport has reported Scope 3 emissions. Comparatives for Scope 3 emissions will be available for FY26 onwards.
6	Comparatives for metrics	
7	Analysis of trends	



This report sets out Wellington Airport's understanding of and response to climate-related risks and opportunities, the Airport's approach to scenario analysis, current and anticipated impacts of climate change and the Airport's strategy to respond to these risks and opportunities. This reflects current understanding as of June 2024 in respect of the financial year ending 31 March 2024.

These Climate Statements contain forward looking disclosures including climate-related scenarios, targets, assumptions, projections, forecasts, statements of Wellington Airport's future intentions, estimates and judgements. Forward looking statements are based on assumptions, forecasts and projections of the environment in which Wellington Airport will operate over time, and may or may not accurately predict the future. Wellington Airport has sought to provide a reasonable basis for all forward looking statements in this report, by basing assumptions on our current factual understanding and analysis while still allowing for ambition and aspiration but these assumptions are necessarily constrained by the novel and developing nature of this subject matter.

This report is based on current expectations, estimates and assumptions and is therefore subject to significant uncertainties. The risks and opportunities described here may

not eventuate or may be more or less significant than anticipated. There are many factors that could cause Wellington Airport's actual results, performance or achievement of climate-related metrics (including targets) to differ materially from those described, including economic and technological viability, as well as climatic, government, consumer, supplier, and market factors outside of Wellington Airport's control.

Climate change is a challenge that is evolving over time. Wellington Airport has set up the processes, aligned with the four pillars of climate reporting represented in the Aotearoa New Zealand Climate Standards, to continue gathering information and updating how the Airport manages its response to the climate challenge. In this continually evolving process, forward looking statements may change, and will be updated in equivalent reports in subsequent reporting years. Wellington Airport does not represent that it will otherwise update this report.

To the maximum extent permitted by law, Wellington Airport and its directors, officers, employees and contractors shall not be liable for any loss or damage arising in any way from or in connection with any information provided or omitted as part of this report. Nothing in this report should be interpreted as capital growth, earnings or any other legal, financial tax or other advice or guidance.



These climate-related disclosures relate to Wellington Airport Group, which includes its subsidiaries.

Wellington Airport has three wholly owned subsidiary companies it has considered when preparing these climate-related disclosures:

- Whare Manaakitanga Limited is the holding company for Wellington Airport’s hotel, which is independently operated and managed by Noahs Hotels (NZ) Limited under the Rydges brand. Noahs Hotels is wholly owned by EVT limited group. [EVT reports climate-related risk and Scope 1 and Scope 2 emissions](#) for its New Zealand operations and is assessing and expanding its Scope 3 emissions. As such, the hotel operations are excluded from Wellington Airport’s FY24 climate-related disclosures. The hotel infrastructure has been included in the physical climate risk assessment under the category of ‘terminal buildings’ (refer to Figure 10 on page 41).
- Wellington Airport Noise Treatment Limited (WANT Limited) provides noise mitigation activities to manage the impact of noise generated from the airport on the surrounding community, part of the [Quieter Homes Programme](#). The Quieter Homes Programme is an initiative by Wellington Airport to carry out acoustic mitigation treatment work on homes within its Air Noise Boundary. The activities of this subsidiary are not deemed material for inclusion in Wellington Airport’s FY24 climate-related disclosures.
- Meitaki Limited is a captive insurance company incorporated in the Cook Islands. This subsidiary has a very small footprint, consisting largely of a few business travel flights per year. The activities of this subsidiary are not deemed material for inclusion in Wellington Airport’s FY24 climate-related disclosures.

SELECTED AS THE HOME BASE FOR AIR NEW ZEALAND’S FIRST ALL-ELECTRIC AIRCRAFT SERVICE FROM 2026, OPERATING A CARGO SERVICE BETWEEN WELLINGTON AND BLENHEIM

[Click here to read more](#)

HOSTED THE FIRST EVER TRIAL OF HYDROGEN AT A NEW ZEALAND AIRPORT AIRSIDE ENVIRONMENT IN FEBRUARY 2024

[Click here to read more](#)

A 38% DECREASE IN GROSS OPERATIONAL EMISSIONS (SCOPE 1, 2 AND LIMITED SCOPE 3 (BUSINESS TRAVEL) EMISSIONS) COMPARED TO A FY17 BASELINE. THIS MEANS WE HAVE MET OUR 2030 GROSS EMISSIONS TARGET

ON TRACK TO ACHIEVE NET ZERO BY 2030 SCOPE 1 AND 2 EMISSIONS (BEING EMISSIONS FROM DIRECT OPERATIONS)

[Click here to read more](#)

ACHIEVING LEVEL 2 (REDUCTION) FROM THE AIRPORT CARBON ACCREDITATION (ACA) PROGRAMME FOR 2023

[Click here to read more](#)

RATED FIFTH BEST PARTICIPATING AIRPORT IN THE WORLD FOR PERFORMANCE AND MANAGEMENT OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) EFFORTS BY GRESB

[Click here to read more](#)



1.1 Governance body oversight

Wellington Airport’s Board has ultimate accountability for the management of business risks, including those related to climate change. The Board has endorsed:

- a TCFD-aligned approach in 2020;
- Wellington Airport’s first climate-related disclosures report in 2023;
- in 2024, a formal and robust procedure for preparation and verification of mandatory climate-related disclosure reports (comparable to the approval of financial statements).

The Board receives regular reporting from management on climate-related risks, opportunities and actions. They also receive dashboard reporting including updates on climate-related risks and opportunities and metrics and targets.

The Board has two sub-committees: the Audit and Risk Committee, and Remuneration Committee. The Board delegates oversight of risk management to the Audit and Risk Committee which considers all material business risks (including climate-related risks) and makes reports and recommendations to the Board. This Committee meets at least four times per year.

The climate-related disclosures report is reviewed by the Audit and Risk Committee prior to approval by the Board.

Climate-related risks are managed, categorised, and assessed against standardised criteria alongside other business risks in the Airport’s Quantate risk register. These risks are reported to the Board through the Enterprise Risk Management Committee (ERMC) and the Audit and Risk Committee (ARC) who oversee risks and associated management actions. The ERMC meets at least three times per year to review and consider the business risks in the Quantate register and the controls in place to manage those risks. Board members are invited to observe the ERMC meetings. Minutes from the ERMC meetings are included in the ARC meeting papers. The ARC also annually receives a report from management on the status of key business risks.

The Remuneration Committee sets the Executive Team’s remuneration, including incorporation of ESG performance metrics into incentive schemes.

1.2 Management’s role

Climate-related work programmes and actions are the responsibility of the Executive Team and the Sustainability Manager.

The Kaitiakitanga Committee considers risks and opportunities and is responsible for practical implementation of all carbon reduction initiatives alongside other sustainability goals. This committee is comprised of the Executive Team, alongside the Financial Controller and is chaired by the Sustainability Manager. It meets monthly to facilitate and drive initiatives in their respective areas that stem from these meetings. Each Executive Team member is tasked with implementing defined initiatives to reduce the airport’s environmental impact and adapt to the effects of climate change.

Management is also supported by externally led workshops and reports to identify and prioritise climate-related risks and resilience strategies. In the last year, this has included workshops with WSP New Zealand Ltd to further refine the Airport’s scenario analysis and develop its first transition plan.

CONFIGURATION OF COMMITTEES

Audit and Risk Committee

Three Board members. In attendance: CEO, CFO, Financial Controller, Business Performance Manager and external auditors as required

Remuneration Committee

Three Board members. In attendance: CEO, GM People and Culture as required

Enterprise Risk Management Committee

CEO, CFO, GM Corporate Affairs, GM Aeronautical Operations, GM Infrastructure and Development, GM People and Culture, GM Commercial, Financial Controller

Kaitiakitanga Committee

CEO, CFO, GM Aeronautical Operations, GM Corporate Affairs, Financial Controller, Head of Operations, GM Commercial, GM Infrastructure and Development, GM People and Culture, Sustainability Manager, Head of Aviation

Waste Committee

Sustainability Manager, Retail Manager, Head of Operations, Manager Ambassador Programme (Operations)

Energy Committee

Sustainability Manager, Facilities Manager, Wellington Airport Energy Management Consultants (Lumen), Asset Manager

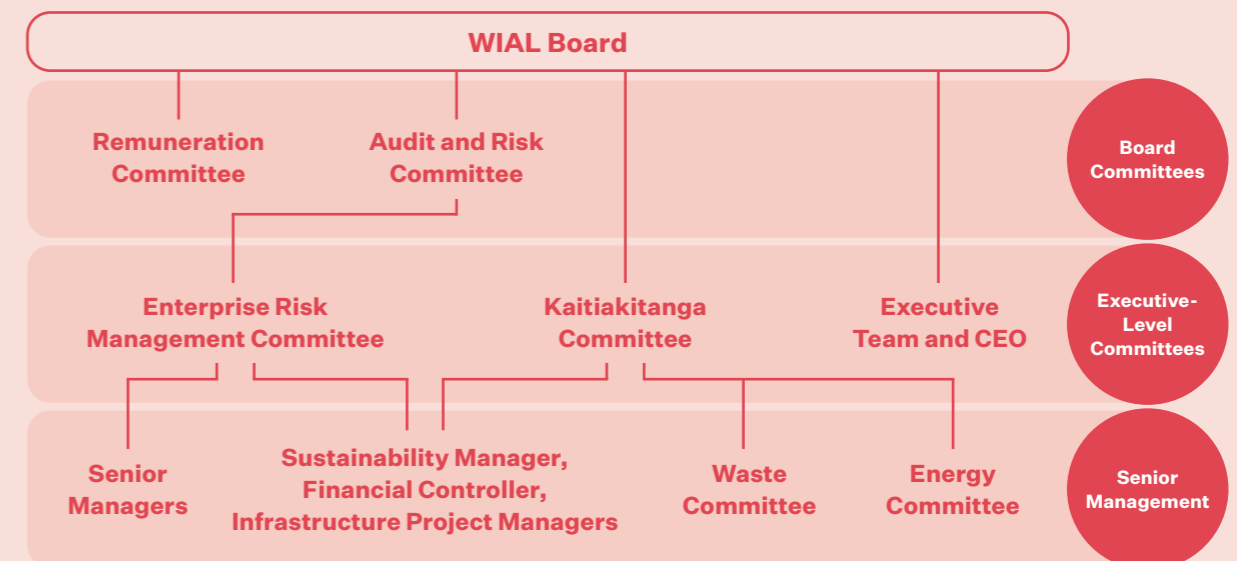


Figure 1. Governance of climate-related risks and opportunities at Wellington Airport

In developing these climate disclosures and testing the resilience of the Airport’s strategy using climate scenario analysis, the Executive Team have met many times, including through monthly Kaitiakitanga Committee meetings, and participated in facilitated workshops to determine the Airport’s strategic position.

Wellington Airport is focused on innovation when it comes to sustainability. The Airport’s sustainability partnership with Air New Zealand, hosting the airline’s first electric aircraft and undertaking a hydrogen ground service equipment charging trial demonstrate the Airport’s efforts to trial new technology as an early adopter. This helps to abate the risk of slow change in aviation technology.

The Kaitiakitanga Committee discusses the Airport’s sustainability strategy and how it relates to its business model. Implementation of this strategy is guided by the Airport’s transition plan and progress is discussed monthly at Kaitiakitanga Committee meetings.

Wellington Airport’s strategy acknowledges that the Airport operates within a wider transport ecosystem of tourism, aviation, freight, land transport, council, regional government and national government. The strategic priorities in its transition plan include changes that can be made under the Airport’s direct control, and actions requiring a collective approach through collaboration and partnership within this ecosystem.

A focus of transition plan efforts for the next year is to invite airline partners to test new sustainability policies or ideas at the Airport.



2.1 Wellington Airport’s business model

Wellington Airport provides integrated aeronautical and commercial facilities and services to airlines and other aviation-related stakeholders.

Emissions from fuel burned by aircraft is the largest contributor to Wellington Airport’s emissions profile. Efforts to influence the reduction of airline emissions are a focus of this report as Wellington Airport is reliant on the aviation sector decarbonising to operate sustainably in the transition to a low-emissions economy.

The Airport’s aeronautical business includes the provision of terminal, runway, apron and ancillary facilities to support the movement of aircraft, passengers and freight. This operates under a regulatory regime where the Airport consults on its airport charges with substantial airline customers at least every five years. The aeronautical charges are based on a building block methodology where aeronautical revenue is recovered over passenger and aircraft movements.

The Airport’s commercial business includes transport, retail, property and hotel accommodation. It also holds investment properties, including a large-format retail park adjacent to the airport site.

FLEXIBLE GROWTH STRATEGY

Wellington Airport’s growth and investment strategy is centred on its **2040 Masterplan** which maps out the most efficient pathway to cater to increasing passenger numbers.

The Airport’s 130 hectare site is constrained by residential housing to the east and west, Evans Bay to the north, and Cook Strait to the south. It is therefore essential to manage this small footprint as efficiently as possible in order to cater to a growing population, passenger demand, and changing mix of aircraft types. This includes the flexibility to adapt plans as aircraft types change in order to achieve sustainability goals. For example, airlines may upgauge to larger, more fuel-efficient aircraft types; conversely, they may move to smaller, more numerous electric aircraft.

In 2019, the Airport acquired the southern half of the Miramar Golf Course to the east, providing much-needed space for flexibility to adapt to future requirements as they arise. The Airport takes full possession of this area from 1 January 2025. (See Figure 3 on the following page.)



Figure 2. Wellington Airport’s vision



Figure 3. Wellington Airport 2040 Masterplan (green indicates buffer area)

2.2 Climate scenario analysis

Climate scenario analysis is a key strategic component of the climate-related disclosures process. The process is shown in Figure 4 on the following page, and methodology described in this section.

MATERIALITY

The XRB defines information as material if omitting, misstating, or obscuring it could reasonably be expected to influence decisions that primary users make based on an entity's climate-related disclosures (NZ CS 3). The XRB's definition has been applied to this report in its entirety.

Wellington Airport has used the XRB definition of materiality and the requirements in NZ CS 1 to shape its own definition of materiality for climate-related risks and opportunities. This materiality rating definition captured:

1. the likelihood of a risk and other quantitative information,
2. the impacts guided by risk consequence scoring, and
3. how we expect the information to influence strategic decisions.

Wellington Airport's business risk consequence scoring considers financial, shareholder value, environmental and social governance (including reputation and stakeholder impact), and health and safety.

Wellington Airport's materiality rating definitions are below. The materiality ratings were applied to all climate-related risks and opportunities to determine the highest priorities, of which there are six. The materiality ratings were then applied for the six priority risks and opportunities in three climate scenarios in each time frame expected to be most relevant to that issue. This scoring is shown in Table 2 on page 16.

ENVIRONMENTAL STRATEGY

Environmental strategy is guided by the concept of Kaitiakitanga, the process and practice of protecting and looking after the land and its people over the long term. Wellington Airport's financial strategy incorporates climate-related outcomes, supported by a Sustainability Linked Loan (SLL) facilities structure.

The work undertaken for these climate-related disclosures, namely scenario analysis and risk assessment, has informed the latest transition planning work (Section 2.3) to identify strategic priorities that will guide Wellington Airport in the transition to a low emissions economy.

SUSTAINABILITY LINKED LOAN FACILITIES STRUCTURE

In 2023, Wellington Airport converted \$100 million of existing bank facilities into an SLL structure, creating direct financial incentives by aligning lower interest rates with meeting agreed sustainability targets.

The conversion to sustainability-linked lending means that Wellington Airport's lending will be charged a lower interest cost and line fee for

achieving the sustainability goals, and a higher rate if those goals are not achieved.

The SLL has been executed with Wellington Airport's entire banking group – ANZ, BNZ, MUFG and China Construction Bank, with ANZ acting as Sustainability Coordinator.

The four main sustainability target areas for Wellington Airport are:

- Addressing greenhouse gas emissions that the Airport is directly responsible for (Scope 1 and 2 emissions), obtaining validation by the Science Based Target Initiative (SBTi) of emissions reduction targets and public reporting of Scope 3 emissions.
- Supporting and enabling low-emission commercial flights at Wellington Airport in future through electric, hybrid and/or sustainable aviation fuelled aircraft.
- Progressing through the internationally recognised Airport Carbon Accreditation (ACA) programme, which runs independent assessments of airports around the world.
- Reducing the amount of waste ending up in landfills from Airport operations.

Table 1. Materiality ratings and definitions

Rating	Definition
● Extreme	These risks and opportunities present very significant impacts and/or have an extremely high likelihood of occurring under a given scenario. They should be a key focus of our strategic planning efforts.
● High	These risks and opportunities present significant impacts and/or have a high likelihood of occurring under a given scenario. They should be given due consideration as part of our strategic planning efforts.
● Moderate	These risks and opportunities present moderate impacts and/or have a moderate likelihood of occurring under a given scenario. They should be considered as part of our strategic planning efforts but are of lower priority compared to 'high' risks and opportunities.
● Low	These risks and opportunities present limited or no impacts and/or have a low likelihood of occurring under a given scenario. They should be documented as part of our risk management processes but are not a priority for strategic planning.

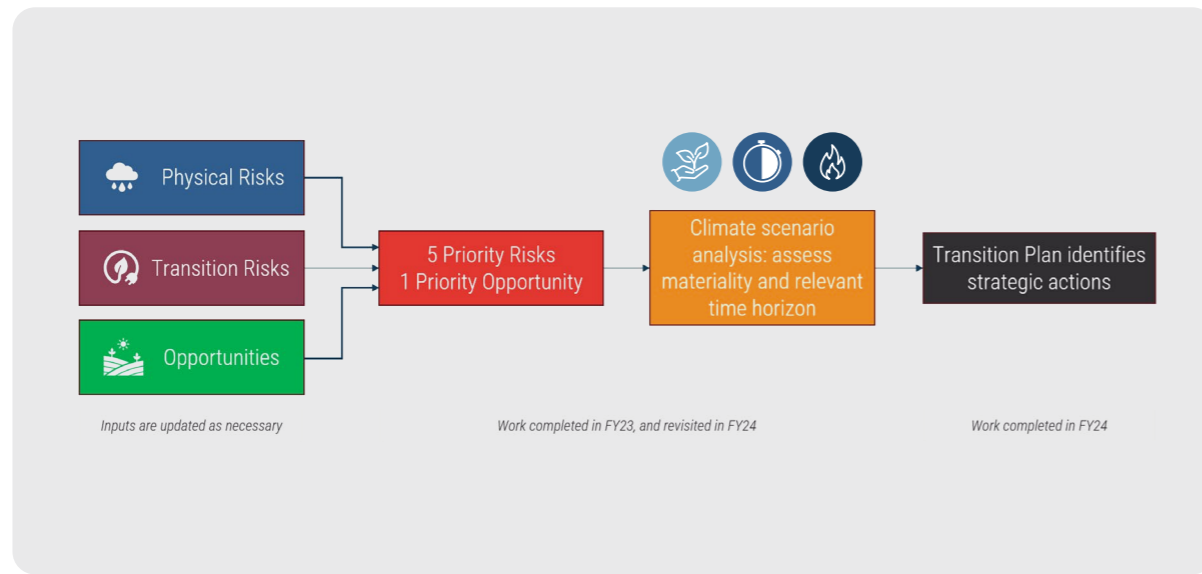


Figure 4. Climate scenario analysis process




CLIMATE SCENARIOS

Wellington Airport has developed climate scenarios to test the resilience of its strategy and assign materiality ratings to prioritised climate-related risks and opportunities. The three climate scenarios developed are intended to be plausible and challenging descriptions of how the future might look, not predictive or probabilistic. In the absence of sector-wide scenarios, Wellington Airport drew from other scenarios and sources, using those drivers and assumptions in the climate scenarios. They are based on a set of assumptions from key drivers to understand how physical and transition risks could evolve in different futures and describe a story with a series of causes and effects.

The climate scenarios used for scenario analysis are included in detail in Appendix B. Wellington Airport developed a set of climate-related scenarios with input from an independent consultant. Wellington Airport then commissioned WSP to undertake a peer review of the scenarios and recommend further developments for use.

Synopsis of climate scenarios

(see Appendix B for full climate scenarios)

-  **Orderly:** Aotearoa New Zealand achieves net zero emissions by 2050. Carbon emissions and the impact of climate change are lowered due to rapid and effective policy transition and stimuli. *1.5°C climate-related scenario.¹*
-  **Disorderly:** Rapid policy, technology, and behaviour change is delayed. Sudden implementation of climate policy and other stimuli post-2030 causes a disorderly transition. *A third climate-related scenario.¹*
-  **Hot house world:** CO₂ emissions continue to rise unabated. No new policies or other stimuli are introduced to curb emissions. Severe climate impacts experienced, which causes supply chain disruptions and issues for transport systems. *3°C or greater climate-related scenario.¹*



ANALYSIS

To adequately focus Wellington Airport’s strategy and business plan to thrive in a low-emissions, climate-resilient future, six priority risks and opportunities were selected by the Executive Team. By applying the climate scenario analysis to the six priority risks and opportunities, the Airport’s management delved into the potential consequences and considered the circumstances of Airport operations and the characteristics of Airport customers under each climate scenario.

To indicate the significance of the six priority risks and opportunities, Wellington Airport scored each with a materiality rating in each of three climate scenarios and assigned the timeframes expected to be relevant. Each risk and opportunity is scored as having an ‘Extreme,’ ‘High,’ ‘Moderate,’ or ‘Low’ rating under each scenario.

Wellington Airport considers climate-related risks and opportunities across three time horizons aligned with business planning, capital allocation, and risk management timeframes.

Table 2 on the following page recaps the six priority risks and opportunities identified as material, consistent with those disclosed in last year’s report, to show the scoring under each of the three climate scenarios and what time frame is expected to be relevant. These six risks and opportunities are strategic priorities and are central to the transition plan.

Climate scenario analysis workshops were facilitated by WSP New Zealand Ltd with Airport Executive Team members and key senior managers in attendance.

This is not an exhaustive list of climate-related risks and opportunities considered by Wellington Airport. The Airport’s full climate-related risk register contains 27 physical climate risks, 15 transition risks, and six opportunities. These risks and opportunities are still being managed by Wellington Airport across the relevant timeframes. See Table 3 on page 25.

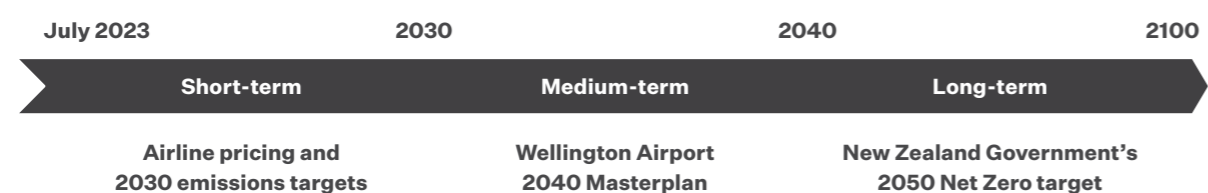
1. New Zealand Climate Standard 1 (NZ CS 1) reporting entities are required to describe and analyse three climate-related scenarios.

Table 2. Materiality rating of priority climate-related risks and opportunities and relevant time horizons

Risk rating key: ● Extreme ● High ● Moderate ● Low

	Time horizon	Orderly	Disorderly	Hot House
Physical risks				
Storm surge causes road flooding (access issues) and/or damage to airport infrastructure.	Long-term	●	●	●
Increasing severity and frequency of extreme weather events impacts key destination airports (both freight and passenger).	Long-term	●	●	●
Transition risks				
Government regulations result in increased costs and/or reduced passenger numbers (e.g. passenger caps, increased carbon price, Capex/Opex costs to comply with regulations).	Short-term	●	●	●
	Medium-term	●	●	●
Public scrutiny and/or reputational risks associated with failure to meet net zero and/or ESG targets.	Short-term	●	●	●
	Medium-term	●	●	●
Technology advancement (e.g., electric, hydrogen aircraft, SAFs) does not move quickly enough to enable aviation sector to meet New Zealand's net zero 2050 decarbonisation goals.	Medium-term	●	●	●
Opportunity				
Improved market share against carbon-dependent transport modes (e.g., electric plane Cook Strait crossing as alternative to ferries).	Medium-term	●	●	●
	Long-term	●	●	●

Time horizons for climate-related risks and opportunities



2.3 Transition plan – priority strategic pivots

To help ensure its business model is resilient and responsive to an uncertain and changing climate, Wellington Airport is considering how to adjust its strategy in the transition to a low emissions economy. The Airport's transition planning work builds upon its climate scenario analysis by assigning tangible actions and responsibility to each priority risk or opportunity. Planned actions or potential strategic pivots in response to our priority climate-related risks and opportunities are described below. These actions align to the priority risks and opportunities in Table 2.

Wellington Airport links decisions around capital deployment and funding to its transition plan. The sustainability workstreams are a priority at Wellington Airport, and internal capital deployment is allocated accordingly to actions that support this, with more detail on capex in Appendix A. Currently, all capital expenditure decisions are assessed against sustainability criteria as part of the business case and capex approval.

What is a transition plan?

The purpose of transition planning is to build resilience to critical uncertainties by planning actions Wellington Airport must take to maintain its ability to operate, generate sustainable revenue, protect its assets, and finance itself in a rapidly changing world. The outcome is a set of strategic actions and targets to set the direction for fundamental transformation of Wellington Airport's business and finance towards a low carbon, resilient economy.



Figure 5. Decarbonisation efforts at Wellington Airport



Physical risk transition planning

- CDEM membership
- Continued engagement for upgrades
- Information gathering
- Apron redevelopment overland flow modelling
- Marine defences renewal
- Destination airport risk management
- Route risk management with airlines

AIRPORT ACCESS

Wellington Airport’s climate risk modelling shows there is a potential risk of inundation of access roads to the airport in a storm surge event. This may restrict passenger access to the airport for a period and the climate risk assessment deemed this likely to happen from 2040 onward under the ‘worst case’ modelled scenario.

Wellington Airport is already monitoring this risk through proactive engagement with Wellington City Council and NZ Transport Agency Waka Kotahi. The Airport plans to continue engagement with central and local government partners to advocate for climate resilience upgrades and share information through its membership of Lifeline Utilities and the Wellington Region Emergency Management with organisations such as the National Emergency Management Agency. Wellington Airport will also monitor and record any breaches to the existing roading infrastructure that cause airport access issues and the impact on the Airport.

AIRPORT INFRASTRUCTURE

Wellington Airport’s climate risk modelling shows that there is potential risk of inundation of airport infrastructure by storm surge at the southern end of the airport from 2040 onwards, exacerbated by predicted sea level rise. If a significant breach of marine defences occurred, infrastructure at the southern end of the Airport may be at risk of damage, affecting operations.

Investment in upgrading marine defences is therefore intended to reduce these risks. The marine defences renewal project is currently in the consenting process. Wellington Airport has consulted with airline customers on the upgrades and it is included in airline pricing and capital expenditure plans for FY25 – 29.

Marine defences capital expenditure in Appendix A.

DISRUPTION FROM WEATHER EVENTS AT KEY DESTINATION AIRPORTS

Wellington Airport’s business model relies on the resilience of other airports in the aviation network as origins and destinations of air services. Wellington Airport provides services that allow passengers to connect between Wellington and locations across New Zealand and the world, with the airport also providing an important central location for connecting land-based transport.

Wellington Airport intends to collaborate with other airports to discuss cross-sector priority climate risks and opportunities, through the New Zealand Airports Association (NZ Airports) and directly with key connection airports. Airports in New Zealand have different risk factors and are at different levels of maturity of understanding and responding to their climate-related risks. Wellington Airport has already collaborated with other airports on a list of shared transition risks.

Working with NZ Airports to collate relevant information on climate risks for airports around New Zealand will also help to identify gaps, and identify where airports can share resilience planning information to find efficiencies in transition planning for the aviation sector. Relevant information we would recommend for NZ Airports to collate would be potential impacts from significant events at key connecting airports.

Wellington Airport also provides services suitable for low emissions alternatives in case of a significant event, for example by providing alternative low-emission land transport connections. In FY24 the Airport installed electrical backbone infrastructure to enable rental car operators to install up to 75 EV chargers, to support the transition of the fleet essential for land transport connections to low emission and electric vehicles.

Transition risk planning

- Government consultation and influencing
- Low emissions land-based connectivity
- Explore offsetting select routes
- Staff and Team WLG training
- Update demand forecasts regularly
- ESG progress and increase public awareness
- Meet net zero operational emissions 2030 target in 2028
- Explore carbon farming
- Sustainability partnership with Air NZ
- Prioritise operational efficiencies
- Plan for infrastructure required
- Airport collaborative decision-making
- Host Air NZ commercial demonstrator
- Share information with airlines
- Incentivise efficient and low emission aircraft

GOVERNMENT REGULATION

Wellington Airport acknowledges there may be shocks to its business and the wider aviation sector as New Zealand moves towards its national target of net zero by 2050. There is a risk that government regulations become more aggressive over time in order to meet national targets. This risk has the highest materiality rating (an Extreme rating in the medium term in the delayed transition scenario). Regulation changes could result in:

- Increased costs. For example, complying with a change in planning rules could significantly increase capital or operational expenditure.
- A reduction in passenger numbers or flights. For example, governments could enforce carbon budgets, introduce a cap on passenger numbers or flights, or increase the price of carbon, affecting demand for air travel.

Wellington Airport’s actions to address this include:

1) Regularly assessing the accuracy of passenger forecasts

Forecasts of passenger throughput are an important input to airport pricing. Under the regulatory model, airports consult on aeronautical charges based on a building block model of costs and recovery. This recovery includes a targeted rate of return on the Airport’s asset base with charges recovered on a per-passenger basis.

As long as passenger numbers are accurately forecast, aeronautical returns should be resilient to changes in passenger numbers over time. Airports are required to consult with airlines and reset prices at least every five years, which provides a regular opportunity to ensure forecasts are up to date and to adjust for any changes in consumer preferences or demand.

Wellington Airport regularly seeks input from external industry experts to provide accurate and up-to-date forecasts, including assumptions around government interventions and regulation, carbon pricing, and other factors that influence demand for air travel. These inputs are consulted with airline customers to ensure our forecasts are accurate and in line with airline expectations.

In the next year, Wellington Airport is undertaking further work to test its passenger forecasts against its climate scenarios, with particular focus on worst-case outcomes. This may reveal more information about potential demand shocks due to climate change impacts, which can be incorporated into future financial decisions.

2) Contributing to and understanding government policy decisions

Wellington Airport regularly contributes to government consultations on relevant policy. Recently this has included submissions to the Climate Change Commission on their draft advice on the second emissions reduction plan and their latest three projects related to New Zealand’s emissions reduction target and emissions budgets.

Wellington Airport is an active participant in Sustainable Aviation Aotearoa, a joint government/industry body tasked with tackling aviation sector transition. The Airport has employed two public policy experts and seeks input from external consultants to inform its understanding of government policy, and Airport representatives meet regularly with relevant Ministers and government agencies.

3) Minimising exposure to emissions-related levies

Internal planning (the emissions reduction plan, for example) will help to minimise exposure to emissions-related levies. Wellington Airport keeps up to date with proposed regulatory changes. Wellington Airport is not directly subject to the Emissions Trading Scheme.

DEVELOPING MORE SUSTAINABLE TRAVEL PATTERNS

The Wellington Region generated more than 1.3 million international passengers in 2019, and by FY24 this has recovered to 85% of pre-Covid levels. Currently 40% of the international market travels via Auckland Airport and this proportion increases to 60% for long-haul travel (travel to destinations outside of New Zealand, Australia and the Pacific Islands).

Passengers travelling indirectly to large global hubs generally have a larger climate travel footprint, with the additional flight sector containing an additional aircraft take-off which is the most carbon-intensive part of the flight. Wellington Airport is working with aircraft manufacturers and airlines to monitor developments in aircraft technology and assess the viability of opportunities for new, direct international routes. Implementing more direct routes will help Wellington Airport to be more efficiently connected with the world in the future, which in turn will reduce CO₂ emissions for the existing travel market.

Wellington Airport is also working closely with the tourism industry to support and enhance ‘open-jaw’ tourist itineraries throughout the country. Currently around 90% of long-haul air capacity is located at Auckland Airport. A redistribution of international air capacity to other international airports allows visitors to return home from the city where their tour ends rather than completing an additional domestic flight to Auckland.

Wellington Airport completed the Annual Declaration for the New Zealand Tourism Sustainability Commitment, which helps Tourism Industry Aotearoa (TIA) in its planning and advocacy work. TIA leads the Tourism Sustainability Commitment to support tourism businesses to operate on a sustainable basis.

What is open-jaw tourism?

Open-jaw tourism means a tourist would leave the country from a different port to which they entered the country. Currently, most tourists enter and leave the country from Auckland, but the majority of tourist spending is in the southern part of Aotearoa. Facilitating more efficient tourist trip throughout the country will reduce overall emissions.

ENCOURAGING MODE SHIFT

Wellington Airport aims to reduce congestion and emissions from travel to and from the airport by making low-carbon travel modes available and working to enable lower-emission connections from and through the city. The Airport provides the necessary infrastructure to enable low emission travel (for example, the fully electric airport bus service), and has commenced passenger surveys to analyse transport modes used to and from the airport and highlight opportunities for mode shift.

Providing information to passengers for efficient route planning and offering different modes of transport from/to the airport will remain the focus, as is continued advocacy for better public transport routes to and from the CBD.

A large number of employees work for organisations on the wider Wellington Airport campus (approximately 3000 total). Wellington Airport is exploring ways to incentivise sustainable practices around staff travel to work. This could be done through advertising active and public transport routes to work, a carpooling scheme, e-bike purchase programme, or hybrid/flexible working models where possible. Wellington Airport has facilitated a discount for all staff on the fully electric bus service and installed Locky Docks to provide secure bike parking.

EV capital expenditure for rental cars in Appendix A.

DIVERSIFICATION AND OFFSETS

Wellington Airport is investigating opportunities to further diversify its business to reduce the financial impacts of the changing climate, such as shocks to carbon prices. Work to trial solar energy generation could help to reduce the impacts of shocks to electricity prices. The Airport is continuing to develop its commercial business, including the offsite retail park, as important mitigants to aeronautical income shocks.

This includes exploring renewable energy generation opportunities both onsite and offsite, and carbon offset opportunities. Wellington Airport continues to stay close to blue carbon (i.e. kelp-based) opportunities, which are still in the research phase in New Zealand; and is exploring the potential for carbon farming as an offset opportunity to reduce reliance on purchased offsets.

Renewable energy capital expenditure in Appendix A.

Renewable energy generation at Wellington Airport

Wellington Airport’s solar feasibility study is now complete, with a plan to move forward with trials of solar panels at the airport to determine what additional maintenance requirements are needed. The Airport’s coastal environment is unique and harsh on equipment. This trial will inform a business case for solar.

Wellington Airport is a city airport with operations constrained to 130 hectares. The space constraints prove difficult for operational planning, and do not allow for much space for renewable generation. Utilising a sleeved power purchase agreement (PPA) arrangement means a solar farm could be established offsite (by Wellington Airport directly, or a third-party) and the generation of renewable energy directly accredited to Wellington Airport (managed by an electricity retailer). A site local to Wellington Airport will also be explored for solar generation opportunities. Any renewable energy generated could be used for our own operations, airline operations or future low emissions technology.

PUBLIC PERCEPTION AND REPUTATION

Wellington Airport’s reputation social licence to operate is scrutinised by investors and the public. This scrutiny could lead to reputational damage if Wellington Airport fails to deliver on its sustainability targets.

Wellington Airport is the most visible infrastructure in Wellington related to the aviation sector, which puts the Airport’s business at risk of being perceived to have a larger influence on the aviation sector than it realistically does. Wellington Airport has an important role in supporting decarbonisation of the sector, but recognises the need for airline partners to take significant steps to decarbonise.

Wellington Airport is currently on track to achieve its Net Zero by 2030 Scope 1 and 2 emissions target by 2030. Wellington Airport has committed to aligning its sustainability targets to the Science-Based Target initiative which will provide further credibility.

Transparent disclosure to investors and the public on progress is important to address this risk. Wellington Airport will continue to report on sustainability efforts through its Kaitiakitanga strategy to the public with a high level of transparency in the Airport’s climate disclosures, Kaitiakitanga report, and through press releases, social media and on the Airport website.

Wellington Airport will continue to monitor the perception of the Airport’s sustainability efforts through media reports and surveys. A quarterly customer survey has three questions related to sustainability to assist with monitoring progress. The Airport will also continue to engage with the community to understand public and passenger sentiment on the air travel industry. This will also help with understanding of changes to future travel behaviours and may be a trigger for adjusting the Airport’s strategy to suit.

Wellington Airport is also able to play a role in decarbonising the land transport sector. The Airport can advocate to reduce congestion and reduce emissions of passengers transiting to and from the airport by encouraging the use of low-carbon travel modes; and encourage more sustainable staff travel, as described above.



AIRCRAFT TECHNOLOGY

The entire aviation sector acknowledges that technology advancement and uptake is critical for decarbonisation of air travel. While widespread application is still a long way off, sustainable aviation fuel (SAF), hydrogen and electric/hybrid aircraft technology advancement will likely have a big impact on enabling the aviation sector to meet New Zealand’s net zero emissions goal by 2050. Wellington Airport has an important role as an infrastructure provider for the aviation sector to encourage and facilitate change. The Airport’s aims in relation to encouraging this transition are set out in the Metrics and Targets section of this report.

In Wellington Airport’s latest pricing consultation with airlines, the Airport proposed a 100% rebate of landing fees for sustainable aircraft types, which are electric, hybrid and hydrogen aircraft. The Airport received support for this proposal through its consultation with airlines and it is now included in the Schedule of Charges for FY25 – 29. Currently, there are no applicable aircraft, however, the rebate will apply to any sustainable aircraft types in use at Wellington Airport until at least FY29. This includes the trials of Air New Zealand’s electric aircraft expected in 2026. Wellington Airport intends to continue exploring incentives for sustainable aircraft in future pricing periods.

In addition, Wellington Airport intends to continue to:

- Trial new technology, for example the use of Wellington Airport as a home base for the trial of Air New Zealand’s all-electric ALIA model aircraft;
- Be abreast of development of new technology and refine the Airport’s 2040 Masterplan accordingly, helping to ensure that the Airport is able to respond to the evolving landscape;
- Work collaboratively with other airports to share information and accelerate progress to decarbonise the sector. Airports can work collaboratively to be ready for fuel source changes and share learnings on the provision of infrastructure required for it;
- Engage government and suppliers to help ensure sufficient electricity, hydrogen and SAF supply is available for decarbonising aviation in the future as there is a risk capacity is taken up by land-based transport;

- Have an active role on the joint government/ industry working group, Sustainable Aviation Aotearoa;
- Work with Wellington Electricity to secure capacity and resilience in the electrical network by providing regular updates to our demand forecasts, including information on future aircraft electrical demand;
- Be an active member of Heart Aerospace’s Industry Advisory Board.

Collaboration with airline partners is important to decarbonise aspects of air travel. Wellington Airport is exploring the possibility of more sustainable procedures for aircraft on the ground, which builds on collaborative work with airlines and Airways to introduce Airport Collaborative Decision Making and Performance-Based Navigation. In future pricing periods Wellington Airport may also explore ways to encourage airline partners to phase out older, less efficient aircraft by offering differential pricing for landing fees based on engine efficiency.

Air NZ Next Gen Aircraft

Wellington Airport has been selected as a base airport for Air New Zealand’s next generation commercial demonstrator aircraft. The aircraft will be BETA’s all-electric ALIA model and will operate a regular cargo service between Blenheim and Wellington. NZ Post is the freight partner for this service which will be used as a test case for carrying post and packages between the North and South Islands.

The lessons learned from this partnership will help both Air New Zealand and airports around the country prepare for the future of flying.

Wellington Airport is looking forward to working with Air New Zealand and Marlborough Airport to establish the necessary infrastructure for the electric aircraft. The learnings will be shared with other airports.

Opportunity transition planning

- Emissions monitoring and reporting
- Low emissions land-based connectivity
- Explore freight partnerships
- Plan for infrastructure required
- Market leaders in sustainable aviation
- Host Air NZ commercial demonstrator

OPPORTUNITY TO IMPROVE MARKET SHARE AGAINST CARBON DEPENDENT ALTERNATIVE TRANSPORT MODES

Due to the unique geography of New Zealand, aviation plays a crucial role in connecting people both domestically and internationally. As recognised by the Climate Change Commission, aviation connects people and freight across regions faster than road travel.² As such, it is not practical to implement a plan that addresses aviation-related emissions primarily through the reduction of air travel alone. New Zealand cannot reduce its international aviation emissions by transitioning to electric trucks, cars, or rail in the same way as other countries can.

There is an opportunity to improve Wellington Airport’s market share for passenger and freight transport if the Airport can provide a low emissions alternative.

Providing the infrastructure necessary for low emissions freight and passenger services is important to have a self-sustaining service to continue a viable business. Wellington Airport can identify connections and promote these with airline and freight partners.

Wellington Airport plans to focus on freight connections as an opportunity first by connecting with local partners and enabling trials. The Airport is already actively investigating opportunities for zero emissions planes and accompanying services. This includes hosting the Air New Zealand commercial demonstrator service with NZ Post.

Wellington Airport plans to increase carbon emissions monitoring airside to quantify and then promote low emissions practices.

COMMUNICATION OF SUSTAINABILITY STRATEGY INTERNALLY AT WELLINGTON AIRPORT

Wellington Airport’s induction covers sustainability targets so that incoming staff are educated on their part in achieving the company’s goals. The Airport also communicates sustainability goals and targets externally through its website, social media, and other marketing so future employees can easily see the Airport’s values and goals to ensure the company keeps attracting talent with a passion for sustainability in all areas of the business.

In future, this could be assessed with a regular survey to see if every team member understands their role in the goals and what tangible steps are required to achieve them.

The Sustainability Manager prioritises education through workshops and staff presentations. In the last year this included a sustainability in infrastructure presentation to the Infrastructure and Development and Facilities teams, an all-staff presentation on the FY23 climate disclosures process and results, and a sustainability presentation to TEAM WLG (communicating targets and ambitions to stakeholders working on Wellington Airport Campus).

Sustainability Inductions



“I found the Sustainability Induction to be super valuable and informative with lots of information around the Airport’s environmental goals, and how we can all make a difference no matter what area of the business we are in.”

Tom Mugglestone, Integrated Operations Controller (started March 2024)

2. Climate Change Commission (2023), [2023 Advice on the direction of policy for the Government’s second emissions reduction plan](#)



2.4 Other risks that may be deemed material by primary users

Table 2 sets out priority climate-related risks and opportunities identified through our scenario analysis process. These risks and opportunities have been the strategic focus for transition planning work. For completeness, we set out a list of further risks that primary users of this report may consider to be material, including Wellington Airport's response to these risks. See Table 3 on the following page.

Table 3. Other risks deemed to be material for primary users

Physical Risk Description	Management Response
<p>Chronic sea level rise inundates the Airport infrastructure</p> <p><i>Time horizon: Long-term</i></p>	<p>Wellington Airport's runway is between 4 and 12 metres above sea level which is similar to the CBD of Wellington and low-lying suburbs such as Lyall Bay and Kilbirnie. The Airport's analysis shows that the resilience of airport infrastructure to this risk is improved by the height of infrastructure and planned sea wall upgrades. Flood modelling has shown that access roads may be at risk from sea level rise, particularly when this risk is compounded with the risk from storm surge.</p> <p>Work is underway to renew the Southern Seawall to ensure marine defences remain resilient and are adaptable to sea level and storm surge changes into the future. This has been informed by climate projections and wave data.</p>
<p>Extreme rainfall causes overflow of current stormwater systems. This could cause surface flooding which restricts airport access and causes damage to the terminal and other critical buildings</p> <p><i>Time horizon: Short to medium-term</i></p>	<p>Wellington Airport's planned apron development will require additional (and in places upgrades to existing) stormwater infrastructure. Stormwater modelling will be carried out during the detailed apron design process, including a master grading study which will consider the flood resilience of the site, including mitigation measures. Wellington Airport also plans to continue monitoring of weather events and recording the severity and any operational disruptions. This helps to paint a picture over time to determine if there is an actual increase in disruption from weather events to report.</p>
<p>Extreme wind affects operations or damages NavAid equipment, requiring repair and impacting operations</p> <p><i>Time horizon: Short to long-term</i></p>	<p>The apron expansion project as part of the Airport's 2040 Masterplan allows more aircraft stands providing operational resilience during high wind conditions.</p> <p>There is a high consequence for operations (and efficiency of operations) if NavAid or runway lighting systems are damaged. Wellington Airport will work with Airways on climate resilience considerations in the next infrastructure upgrades.</p>
Transition Risk Description	Management Response
<p>Public and investor scrutiny arising from airlines or other airports failing to meet carbon emission reduction targets</p> <p><i>Time horizon: Medium-term</i></p>	<p>Wellington Airport is proactively working with airlines to enable the early adoption of new technology necessary for them to meet their targets.</p> <p>The Airport will continue to share information with other airports through NZ Airports, and through its work on providing infrastructure for the Air New Zealand commercial demonstrator service.</p>
<p>Competition from lower carbon transport alternatives</p> <p><i>Time horizon: Medium-term</i></p>	<p>New Zealand's unique geography and highly limited availability of viable alternative transport options mean that robust air links will remain critical. Wellington Airport will proactively adopt infrastructure required to service low or zero emissions aircraft, to allow aviation to serve as a link to other low emission transport options.</p>

2.5 Financial impacts

CURRENT PHYSICAL AND TRANSITION IMPACT

Currently, impacts from physical climate risks on the Airport are rare, as is disruption relating to weather events at origin/destination airports. Occasionally, Wellington Airport is disrupted by fog or other weather events for typically only part of a day. While these events are not necessarily climate change-related, Wellington Airport is able to calculate the financial impact of disruption of airport operations for a day or part day. Wellington Airport currently considers this impact to be immaterial overall.

Transition impacts relating to changing government policy or consumer preferences would be seen in changing demand patterns for air travel. Wellington Airport has not observed any trend in passenger numbers to date; however, the ongoing pandemic recovery may mask any impact of climate-related risk on usual demand patterns.

Current financial impacts relate mostly to capital expenditure to support:

- The renewal of Wellington Airport’s seawall defences, to protect from sea level rise and storm surge;
- Decarbonisation projects, in particular the replacement of Wellington Airport’s gas boilers;
- Wellington Airport’s wider sustainability work programme, including work to support airline and ground transport transition.

A quantitative description is included in Appendix A.

Overall impact of climate-related risks

Based on recent experience, existing data sets and understanding of its risks, Wellington Airport anticipates the greatest impacts to its business resulting from climate-related risks are likely to be either:

- An extreme weather event (such a storm surge or sea wall breach) impacting Cobham Drive access or airport infrastructure, causing the airport to cease operating for a period; and/or
- Regulatory action or changes in consumer preferences driving a sudden shift in passenger numbers.

Financial impacts of climate-related physical risks

Wellington Airport is working to fully quantify the financial impact of these risks as outlined below. For FY24, Wellington Airport has applied the adoption provision in Aotearoa New Zealand Climate Standard 2 paragraphs 12 – 14. Quantitative information will be disclosed in our FY25 report.

Wellington Airport’s financial impact calculations therefore currently consider the impact of a full day of Airport closure (e.g. a significant event that cancelled all arriving and departing flights). Key assumptions around how many days may be impacted due to climate change are still being developed, will be included in our FY25 report. The report will also factor in some mitigation, as typically when flights are disrupted, many passengers’ travel is caught up over subsequent days.

Wellington Airport’s financial impact calculations do not include the cost of unexpected seawall repairs in the event of a major breach. Any costs related to such repairs are currently included in airline pricing documents and are recoverable via a specific project charge adjustment to airline charges.

Financial impacts of climate-related transition risks

Wellington Airport is currently working with external consultants to model scenarios for the impact of transition risks (government policy, government-imposed costs and changing consumer preferences) on demand for air travel.

Wellington Airport has calculated the financial impact of each 1% drop in passenger numbers, based on current baselines. This information will be combined with demand sensitivity analysis to calculate the anticipated medium- and long-term financial impact of this risk.

FY25 work programme

Throughout FY25, Wellington Airport intends to work with external consultants to implement a work programme for full disclosure of anticipated financial impacts of physical and transition risks. This will seek to integrate with related workstreams including:

- Updated physical climate risk assessment, including the latest climate projections.
- Apron redevelopment overland flow modelling for key infrastructure.
- Passenger demand forecasts updated by InterVistas.
- Wellington Airport’s sustainability strategy refresh.

Anticipated financial impacts that will be considered for the FY25 report are:

- Impact on future earnings or profitability.
- Exposure (or lack of exposure) to carbon shocks.
- Changes in demand patterns.
- Potential impacts on asset valuations.

- Changes to financing costs, insurability, or insurance affordability.
- Value chain impacts, e.g. climate-related disruptions associated with key suppliers, key inputs or connecting airports.
- Benefits from climate-related opportunities, e.g. energy efficiency, value creation.
- Costs associated with stormwater capacity improvements; opex associated with Wellington Airport’s net zero transition and support for airline decarbonisation.
- Cash flow impacts resulting from a mismatch between financial impacts occurring in one period; and pricing offsets occurring in another period.
- Historic days per annum Wellington Airport has been disrupted by weather events; expected future increase in disruption frequency; impact of consecutive days disrupted.
- Any unexpected, emergency capex required to repair assets damaged in extreme weather events and not recoverable via airline pricing.

MANAGING THE IMPACTS OF PHYSICAL CLIMATE RISKS TO WELLINGTON AIRPORT

Climate hazards are managed by Wellington Airport as part of business-as-usual operations. Rainfall has not impacted operations, as the runway has been designed to maximise wet-weather performance with a fully grooved porous surface, transverse slope and excellent drainage. Strong winds do limit operations to a certain extent because not all stands can be used during >30 knot winds. Wind has not caused any physical damage to Wellington Airport assets.

Responsibility for adaptation of infrastructure to the physical impacts of climate change primarily sits with the Airport’s Infrastructure and Development team. Airport infrastructure is inspected regularly, in line with regulatory requirements and its resilience against the impacts of climate change is regularly assessed. Future climate scenarios are frequently considered when planning new developments or upgrades to existing infrastructure, and where appropriate, the design of infrastructure accounts for future conditions, including sea level rise and increased storm events.

Risk management framework

Wellington Airport’s Management team has day-to-day responsibility for identifying and managing climate-related risks and opportunities. A system called Quantate, which functions as a central enterprise risk register, allows Management to configure reporting across the business, assign risk owners and a risk management approach.

Risks are reported to the Board through the ERM and the Audit and Risk Committee (ARC) who oversee risks and associated management actions. All ERM and ARC papers and minutes are made available to all directors after every meeting. Monthly Kaitiakitanga Committee meetings detail specific workstreams, progress, future actions, deadlines and stakeholders involved in the execution of actions associated with addressing climate-related risk.

The Quantate register is managed by the Financial Controller.

The transition risks assessment is updated annually by the Sustainability Manager. Transition risks relating to the commercial business were excluded for FY23 and are now included for FY24.

Wellington Airport also appreciates the concern and interests raised by the airport’s users, local community and stakeholders. Consultation is frequently undertaken with the local community as an essential part of development and decision-making processes, with a notable recent example being public consultation over options for the southern seawall redevelopment project.

Physical climate risks have been assessed for Wellington Airport by Beca, working in collaboration with the Airport’s internal team.³ Assessments are updated annually by the Sustainability Manager, with external input where required, and will be updated again later this year.

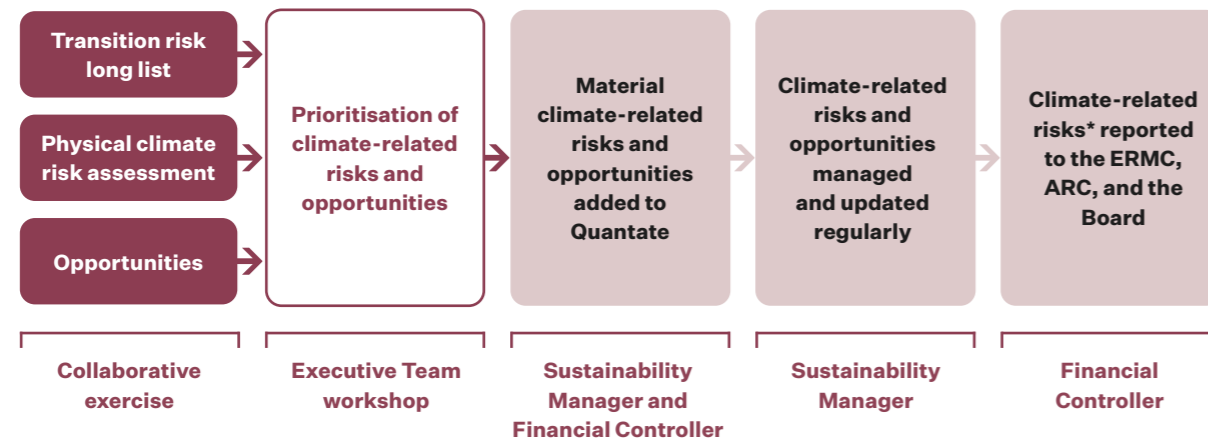


Figure 6. Climate-related risk management at Wellington Airport

*Climate-related opportunities are managed at the Kaitiakitanga Committee meetings and reported to the Board when appropriate.



3. Methodology derived from: Ministry for the Environment’s Guide to Local Climate Change Risk Assessments, and 2022 ICAO report: Climate Change: Climate Risk Assessment, Adaptation and Resilience- Key Climate Change Vulnerabilities for Aviation Organisations

4.1 Summary of FY24 Scope 1, 2 and 3 emissions

Wellington Airport's gross emissions for FY24 were 253,152 tonnes of carbon dioxide equivalent (tCO₂-e). Scope 1 and Scope 2 emissions (those which are a direct result of Wellington Airport operations) accounted for 1,016 tCO₂-e.

With purchase of renewable energy certificates (NZRECs), net Scope 2 emissions are zero.

FY24 carbon emissions have been prepared in accordance with the Greenhouse Gas Protocol,

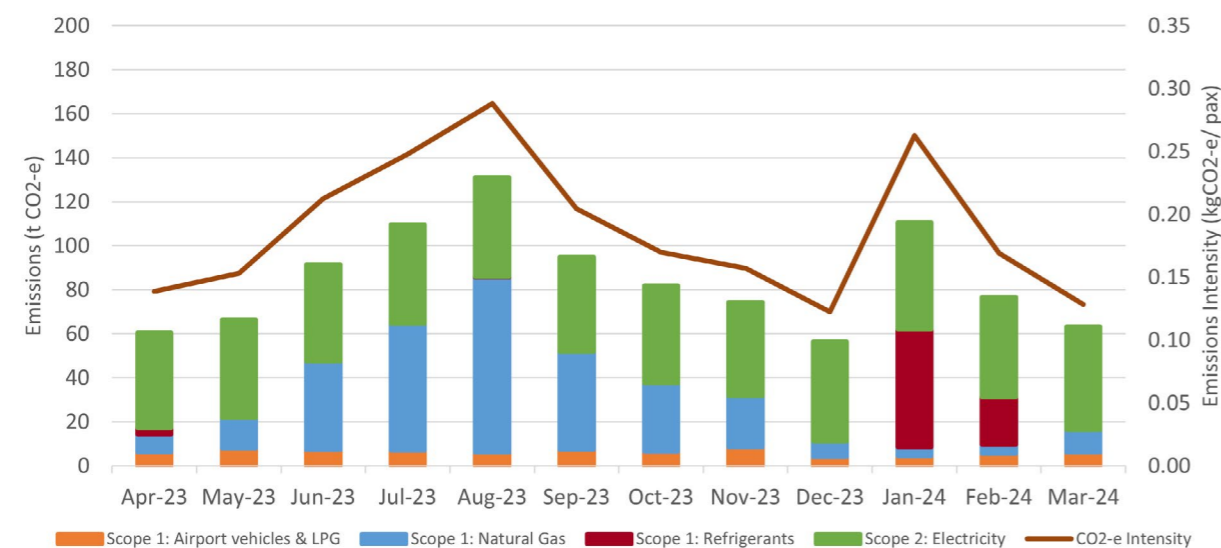
ISO 14064-1:2018 and are aligned with the requirements for ACA accreditation Level 4+. See the [GHG inventory report](#) for more detail on the full inventory, the consolidation approach used, the source of emissions factors and global warming potential (GWP) rates and list of exclusions.

Wellington Airport's GHG emissions were verified to reasonable assurance for scope Scope 1 and 2 emissions and limited assurance for scope Scope 3 emissions by Beyond Sustainable.

Table 4. Wellington Airport Scope 1, 2 and 3 GHG Emissions

	Gross FY24 emissions (tCO ₂ -e)	Net FY24 emissions (tCO ₂ -e)
Scope 1	478	478
Scope 2	538	0
Total Scope 1 and 2	1,016	478
Scope 3	252,136	252,136
Total	253,152	252,614
<i>Scope 1 and 2 emissions intensity (kgCO₂-e / pax)</i>	<i>0.19</i>	<i>0.09</i>

Figure 7. Annual Scope 1 and Scope 2 CO₂e emissions FY24 (reported monthly to the Kaitiakitanga Committee)



Wellington Airport uses the "top-up" method, reporting emissions from refrigerants as systems are topped up. Measurements are accurate; however, the actual emissions will take place over time, between top ups, which can be several reporting periods apart. As such, the emissions reporting doesn't accurately reflect when the emissions activity occurred. Nevertheless, all emissions are still ultimately accounted for.



4.2 FY24 Scope 3 emissions profile

Wellington Airport has expanded its Scope 3 emissions profile. As can be seen from Table 5 below, this is a substantial piece of work that involves the gathering of data across a large number of sources.

For FY24, all material value-chain emission sources have been included within Wellington Airport's GHG inventory, with only very minor emission sources being excluded, such as emissions from rental cars used for business travel, and accommodation for business travel. See the [GHG inventory report](#) for more detail on our full inventory, and list of exclusions.

The largest emission sources were emissions from fuel burned by aircraft. Aircraft full flight emissions have been calculated based on fuel volume uplifted at Wellington Airport, and these emissions make up around 89% of Wellington Airport's total emissions profile. There are inherent uncertainties with using fuel uplift to estimate full flight emissions as fuel onboarded at Wellington Airport will not always correlate to the full route flown by the aircraft. However, it is recognised by ACA to avoid double counting with other airports.

Table 5. Wellington Airport Scope 3 GHG Emissions

Scope 3 Emission Source	Gross FY24 emissions (tCO ₂ -e)
Category 1: Purchased Goods and Services	2,459
Category 2: Capital Goods – fuel and materials used in construction projects	868
Category 3: Fuel and Energy Related Activities	92
Category 5: Waste Generated in Operations	151
Category 6: Business Travel	161
Category 7: Employee Commuting, and Working from Home	246
Category 11: Use of Sold Products – full flight emissions	221,369
Category 11: Use of Sold Products – surface access	25,368
Category 11: Use of Sold Products – tenant fuel/refrigerant use	1,028
Category 13: Downstream Leased Assets	394
Total	252,136

4.3 Wellington Airport's climate-related metrics and targets, and comparatives

Wellington Airport has three emissions reduction targets:

- **Net Zero by 2030:** Reduction of Scope 1 and 2 GHG emissions to net zero by 2030.
- **Gross Operational Emissions reductions by 2030:** Reduction of Operational Emissions⁴ by 30% from the FY17 baseline by 2030.
- **Net Zero Emissions by 2050:** Reduction of Scope 1, 2 and 3 emissions (including emissions from aviation) to net zero by 2050.

Wellington Airport has committed to set near-term and long-term emission reductions in line with the Science Based Targets initiative (SBTi). This will provide independent validation that the current pathway for emissions reduction is in line with what the latest climate science requires.



4. For the purpose of this report, Wellington Airport has used the term Operational Emissions to refer to emissions within its control. This means Scope 1 and 2 emissions (i.e. emissions from direct operations) and limited Scope 3 (business travel) emissions.

✔ Achieved for FY24 ✔ On track to achieve longer term target
 ✔ Expected to be achieved for FY24, results are not yet received ✔ Target not yet set

- ✔ **Net Zero by 2030 for scope 1 and 2 emissions**
Expected to achieve net zero by 2030
- ✔ **30% waste to landfill reduction by 2030 compared to FY17**
Achieved a 18.5% reduction by FY24
- ✔ **30% terminal energy use reduction by 2030 compared to FY17**
Achieved a 19.4% reduction by FY24
- ✔ **30% water use reduction by 2030 compared to 2017**
Water sub-metering project to kick off FY25 to gather information on water uses
- ✔ **Gross zero emissions by 2050**
Report Scope 3 emissions annually
- ✔ **Gross Operational Emissions reductions by 2030**
Achieved a 36% reduction by FY24
- ✔ **Have science-based target validated in FY25**
Submission made to SBTi in March 2024. Aiming to have target validated in FY25
- ✔ **Increase ACA accreditation levels each year**
ACA level 2 renewal achieved for FY23. Submitted for ACA level 4+ accreditation for FY24
- ✔ **Finance – SLL targets FY27 – 27**
Wellington Airport is working with Ernst and Young on year one target validation
- ✔ **Staff training – sustainability induction for every new staff member**
Every new full-time employee at Wellington Airport receives a sustainability induction, delivered by the sustainability manager
- ✔ **Achieve GRESB rating over 90/100 each year**
Achieved 96/100 and a five-star rating, achieving 'sector leader' status in FY23. 2024 results are due later this year
- ✔ **Executive remuneration – ESG modifier**
The executive remuneration scheme includes an ESG modifier of between 0x and 1x for Long Term Incentive payments. Maintenance of current ESG performance results in a multiplier of 1x, while major avoidable risk incidents could result in a downward adjustment. This is determined at the discretion of the Board and based on Wellington Airport's achievement of ESG targets
- ✔ **Biodiversity – no current metric/target**
Partnering with Trees that Count, Te Motu Kairangi and Predator Free Wellington to support the regeneration of the Miramar Peninsula. Purchased Carbon Crop Unit offsets that encourage native forest restoration and preservation

4.4 Wellington Airport's operational emission reduction efforts

Wellington Airport has set clear carbon emission reduction targets for its own operations. These targets are published annually. The targets intend to provide carbon emission reductions to ensure Wellington Airport is making meaningful contributions necessary to meet the goals of the Paris Agreement – limiting global warming to 1.5°C above pre-industrial levels.

At this stage Wellington Airport is on track to achieve its Net Zero by 2030 target for our Scope 1 and 2 emissions.

Wellington Airport regularly monitors the emissions generated by the operations of the airport campus and this is reported monthly at the Kaitiakitanga Committee meeting. Emission reductions in FY24 are attributable to the following actions:

- **Optimising heating and cooling systems:** This provided benefits in FY23 and those same optimisations have continued to yield benefits in FY24, with 18.2% of energy consumption avoided. Wellington Airport is looking to restart the programme in FY25 to achieve further benefits.
- **Rollout of LED lighting across terminal and airfield lighting:** To date, Wellington Airport has replaced around 60% of its internal lighting with LED alternatives.

Wellington Airport has already met its Gross Operational Emissions⁴ by 2030 target by reducing Operational Emissions by 43% from the FY17 baseline, achieving the target six years ahead of schedule.

The gross Operational Emissions⁴ by 2030 target helps Wellington Airport to prioritise initiatives that will reduce absolute emissions and reduce reliance on offsets to meet the Net Zero by 2030 target. Short term and long-term initiatives are in Appendix A with the capex committed reported against each initiative.

In FY25, Wellington Airport will be reviewing its targets to ensure they are appropriately ambitious, given the early achievement of some targets.

SCOPE 1 AND 2 EMISSIONS COMPARISONS

FY24 saw a slight increase in Wellington Airport's Scope 1 emissions due to the inclusion of refrigerants because of a change in methodology.

Scope 2 emissions were down, primarily due to more renewable generation available in the national grid. With purchase of renewable energy certificates (NZRECs), net Scope 2 emissions are zero.

Looking at total Scope 1 and 2 emissions (combined), we can report a reduction of 39% in FY22, 26% in FY23, and 43% in FY24 compared to a FY17 baseline.

Scope 3 emissions will be included in this comparison from FY26 onward.

Table 6. Wellington Airport Scope 1 and 2 GHG Emissions

	FY17	FY18	FY19	FY20	FY22	FY23	FY24
Scope 1 (tCO ₂ -e)	857	577	827	690	375	473	478
Scope 2 (tCO ₂ -e)	916	624	715	818	705	841	538
Total (tCO₂-e)	1,773	1,201	1,542	1,508	1,080	1,314	1,016
<i>Change from previous year</i>		-23%	+28%	-2%	-28%	+22%	-23%
<i>Emissions intensity (kgCO₂-e/pax)</i>	0.28	0.20	0.24	0.25	0.31	0.25	0.19

Note: Emissions were not verified for FY21, so this year has been excluded from year on year comparisons for now.



WELLINGTON AIRPORT'S JOURNEY TOWARDS NET ZERO BY 2030 SCOPE 1 AND 2 EMISSIONS TARGET

Looking ahead, Wellington Airport anticipates several key projects to further drive and keep emissions down. Wellington Airport expects its decarbonisation trajectory to be non-linear in nature, with several key projects expected to manifest varying levels of decrease in emissions over the next eight years. See next page for the Airport's expected journey to Net Zero by 2030.

Wellington Airport's reduction efforts and current offsets have neutralised its carbon output from Operational Emissions⁵ in FY24. This can be seen as shaded out colour in the graph from FY24 onward.

Wellington Airport currently offsets Operational Emissions⁵ as follows:

- Staff travel has been offset through Air New Zealand's Voluntary Emissions Contribution Programme, which are certified for use under ISO14064-1:2006 through the organisation CHOOSE.
- Purchase of [New Zealand renewable energy certificates](#) through Mercury.
- Procurement of local offsets to cover all Scope 1 emissions. Offsets procured are [Carbon Crop Units](#), which derive offsets from native regenerating forest and whose methodology follows the Guidance for [Voluntary Carbon Offsetting documentation](#) provided by the Ministry for the Environment. They have not yet been verified by an international registry but are approved for use by the ACA programme.

Why is Wellington Airport not net zero now?

A credible net zero target recognises the importance of reducing total carbon output instead of relying on carbon offsets to achieve net zero. A credible net zero target usually requires emission reductions by at least 90%, by 2050.

Additionally, efforts should be made to not only reduce absolute emissions, but also to reduce emissions beyond the value chain (Scope 3 emissions) to recognise contribution towards global efforts.

Wellington Airport has submitted targets to Science Based Target Initiative (SBTi) and is waiting on validation. In the meantime, to avoid misrepresentation of targets, the Airport has worked to align the wording of targets to the [SBTi corporate net zero standard](#). The SBTi developed this framework to enable companies to set robust and credible net-zero targets in line with a 1.5°C future.

Wellington Airport can only use certain market mechanisms to count towards its Net Zero by 2030 target. As such, Renewable Energy Certificates (RECs) are counted towards absolute reductions of Scope 2 emissions, as these confirm that electricity consumed at the airport has an emissions factor of zero. However, offsets that are sourced from outside of the Airport's value chain, i.e. Scope 1 offsets (Carbon Crop Units), are not counted towards this target. This approach is aligned with the SBTi.

This is why Wellington Airport is projected to achieve Net Zero by 2030.



Wellington Airport's journey towards net zero by 2030

SCOPE 1 AND 2 EMISSIONS TARGET

- Gas boiler replacement converted in FY28**
- Electricity emissions are credibly offset using NZRECs**
- Most airport fossil fuel uses are replaced by FY28**
- Emissions intensity spike in FY21 and FY22 due to Covid-19 effects**
- Carbon emissions intensity decreasing demonstrates that GHG emissions and growth are to be decoupled**
- Carbon output is neutralised in FY24 and expected to be neutralised for subsequent financial years**



5. For the purpose of this report, we have used the term Operational Emissions to refer to emissions within our control. This means our Scope 1 and 2 emissions (i.e. emissions from our direct operations) and limited Scope 3 (business travel) emissions.



NET ZERO TARGET EXPECTED TO BE ACHIEVED BY 2030

See comment on refrigerants on page 30.

CARBON PRICING

Setting a price on carbon emissions output from activities can help focus decarbonisation efforts. Wellington Airport has determined that this is not suitable for its operations, as:

- Wellington Airport is already well on track to achieve its Net Zero by 2030 target. Beyond that, around 90% of Wellington Airport’s Scope 3 emissions are from aviation and an internal carbon price won’t provide any more influence over these emissions than Wellington Airport is already eliciting through discussions with airlines. Wellington Airport also plans to investigate setting reduction targets for aviation emissions on the ground, which it expects to be as effective as setting an internal carbon price.
- Wellington Airport’s organisational structure isn’t suited for an internal carbon price. It’s a relatively small and lean team, with a flat hierarchy, meaning executives in the Kaitiakitanga Committee can hear directly from teams on projects. This allows for direct influence over parts of the business directly without having to rely on an internal carbon price to act as a justification.
- Wellington Airport has, in a way, already created an internal carbon price via the cost of offsetting all Scope 1 emissions with Carbon Crop Unit (CCU) offsets and limited Scope 3 emissions (business travel) through Air New Zealand’s Voluntary Emissions Contribution Programme. The Kaitiakitanga Committee is able to mandate offsets for certain activities, rather than applying an internal carbon price.

WASTE COMPARISONS

Wellington Airport is committed to reducing waste going to landfill. The Airport is exploring and expanding the options to reduce waste in its current system and beyond.

In partnership with Edible Earth, the Airport established a community garden and has worked hard to compost food waste and trial composting of coffee cups. Going forward, the Airport is focused on composting food waste to enable a truly circular economy with produce grown from the garden recycled back into Airport food and beverage outlets and the community. This also diverts waste from landfill which helps to achieve waste reduction targets.

Wellington Airport is also actively exploring how to reduce waste to landfill from its dining precinct. The Airport plans to roll out a compostable packaging station that will remove this waste stream from landfill and educate customers on compostable products. The compostable packaging products will go to Organic Waste Management to be commercially compostable and are not ‘home compostable’.

As can be seen in Figure 8, waste to landfill is, overall, trending downwards. Though there was a slight uptick in waste to landfill from FY23 to FY24, this is largely due to passenger numbers returning to pre-Covid levels and overall waste intensity was down from FY23, in FY24.

ENERGY CONSUMPTION COMPARISONS

Total energy consumption has trended downwards since FY17. Most of this reduction has come down to less natural gas use overall and the optimisation of building management systems. Wellington Airport has improved its heating and cooling system, and optimisations have continued to yield benefits in FY24, with 18.2% of energy consumption avoided. See Figure 9.

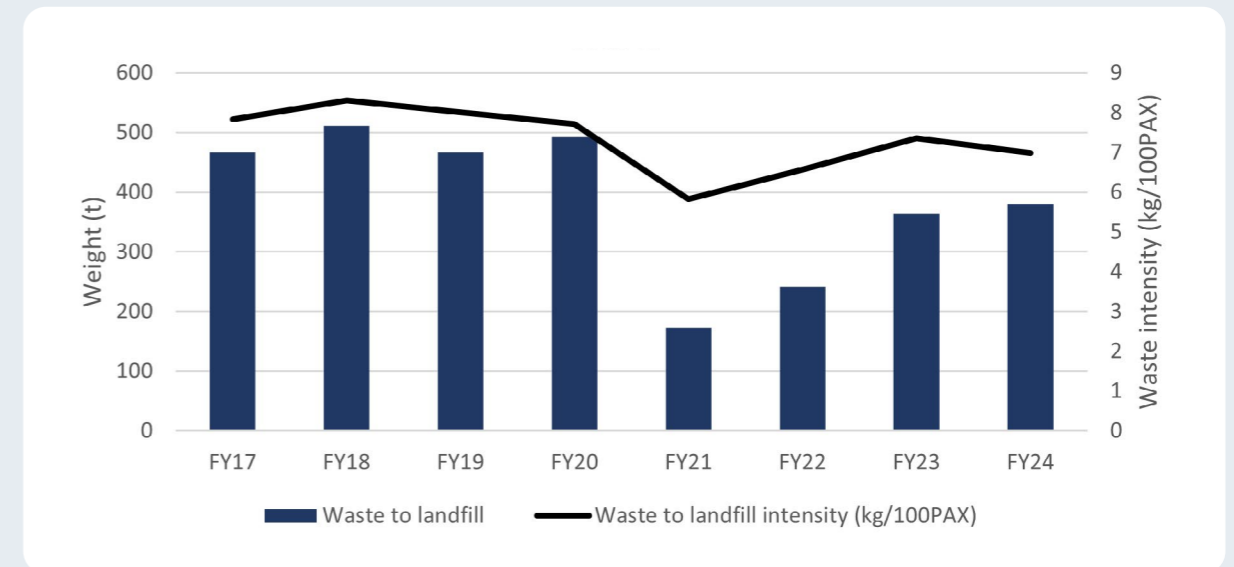


Figure 8. Waste

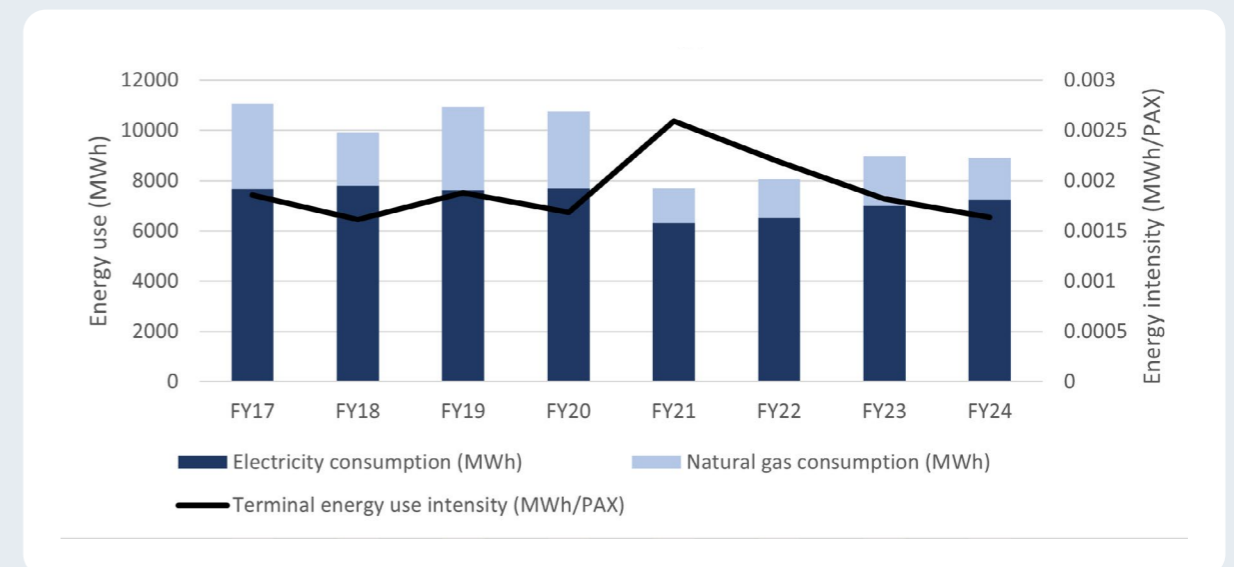


Figure 9. Terminal energy use



4.5 Wellington Airport's Scope 3 emission reduction efforts

QUANTIFYING EMBODIED EMISSIONS

Measuring the embodied carbon emissions from construction activity is a priority for Wellington Airport. This is reported under Scope 3, category 2 for FY24 as 611 tCO₂-e.

Embodied emissions are the emissions released throughout the life cycle of a product or service. It includes the emissions created during the manufacturing and transport stages of construction projects, and during the extraction and processing of the raw materials in the associated supply chains.

This is important for the Airport to consider because of the pipeline of essential construction work underway to meet the increasing demand from travellers. We are working with our contractors and design partners on a methodology to quantify embodied emissions and reduce them throughout the projects. As part of this, all new projects must include an embodied carbon estimate in the contract.

As well as the Airport Fire Station project (see right), embodied carbon emissions are being quantified by Fulton Hogan and HEB for their work on airfield maintenance and relocated car parks respectively.

With better visibility on material use across the airport campus Wellington Airport can also work to optimise materials on site.

Airport Fire Station case study

Wellington Airport and Naylor Love are working closely together on this project to measure waste and recycling, managing site office food waste and recycling, and coordinate the donation of excess materials.

Wellington Airport has worked closely with the onsite team to develop the data and methodology for an accurate embodied carbon emissions assessment.

This is the first project in the Wellington Region where Naylor Love have implemented this level of assessment. According to site manager Jarrod Collins, *“working with the Wellington Airport team has greatly increased our knowledge and it’s great to see a client put into action their sustainability goals. We look forward to applying the learnings to other projects.”*



AVIATION EMISSIONS

Wellington Airport appreciates that it does not operate in isolation within the aviation industry.

Wellington Airport provides a key connection point for air and land travel. While the Airport is not directly responsible for aviation emissions, it has an important part to play in enabling and influencing emission reductions. Efforts to decarbonise aviation are described in detail in Section 2.3.

Moving forward, Wellington Airport is eager to support the transition of not only airport but also aircraft technology towards a zero-carbon future. As part of this, the Airport will be looking to progress through ACA levels which will mean further progressing workstreams to reduce emissions from Scope 3 activities. These are emissions not directly produced by the Airport, but from an extended range of activities associated with the airport (such as air travel).

As part of its commitment to set near term and long-term emissions reductions, the Airport is intending to set an SBTi validated engagement target, requiring it to engage with a defined set of suppliers, including airline partners, to set their own science-based emissions targets. Wellington Airport is working through what its long-term target will look like as part of its FY25 work programme.

Wellington Airport will continue its approach of encouraging and enabling change required to decarbonise first as opposed to penalising airline partners. Wellington Airport recognises the change requires investment from airlines, and will support airline partners on their transition journey.

Air NZ operate 71% of all flights out of Wellington Airport and Qantas operate 48% of all international flights. Wellington Airport will continue to work with both airlines to assist them in achieving their existing, ambitious emission reduction targets.

Air New Zealand:

- Reduce carbon intensity by 28.9% by 2030.
- Begin replacing turboprop fleet with next generation aircraft from 2030.
- Net zero emissions by 2050.

Qantas Airways Limited:

- Improve fuel efficiency by an average of 1.5% per annum to 2030.
- 10% of Sustainable Aviation Fuel (SAF) in fuel mix by 2030.
- Reduce net emissions by 25% by 2030 from 2019 levels.
- Net zero emissions by 2050.



4.6 Vulnerability to transition and physical risks

Wellington Airport’s physical climate assessment looked at the vulnerability, exposure, and risk to each element at Wellington Airport across different timeframes and scenarios (see Figure 10 for elements considered). Elements primarily comprised of the built environment that is crucial to airport operations, and one element was broadly defined as aircraft operations. The assessment was carried out for Wellington Airport by Beca. This is updated annually by the Sustainability Manager and will be updated again later this year.

VULNERABILITY TO PHYSICAL CLIMATE HAZARDS

Wellington Airport developed criteria to assess both the vulnerability and exposure of elements to climate hazards to then determine the **physical climate risk**⁶. The criteria combined both qualitative and quantitative rating measures. Vulnerability and exposure of each element was assessed against this criteria as 0 to 3 (or not applicable) for each relevant climate hazard.

Considering elements in scope (see Figure 10) that are Wellington Airport owned assets – it was found that 17% of assets scored as 2 or 3 in the combined vulnerability and exposure criteria to at least one physical climate hazard.

In this same assessment, Wellington Airport looked at ‘aircraft operations’ as a category, and found that 60% of the aircraft operations category was scored as 2 or 3 in the combined vulnerability and exposure criteria to at least one physical climate hazard. Physical climate impacts are managed as part of daily operations (see explanation on page 26). The Airport is partially hedged against physical risk impacts such as flight disruptions and delays, due to its rental car, in-terminal retail and accommodation businesses.

Business activities: Based on revenue, Wellington Airport has assessed that 57% of the Airport’s revenue was from aeronautical activities in FY24, which are assessed as only having a minimal vulnerability to **transition risks**. 43% of the Airport’s total revenue was from its commercial business, of which up to 80% is assessed as being vulnerable to transition risks. This assumption predominantly reflects the expected impact of a reduction in passenger numbers, which is expected to impact aeronautical revenue only if unanticipated and only until the next pricing consultation period.

6. Methodology derived from: Ministry for the Environment’s Guide to Local Climate Change Risk Assessments, and National Climate Change Risk Assessment for New Zealand – Method report.

If there is a substantial impact, Wellington Airport could consider reconsulting with airlines before the next pricing period. Most commercial revenue streams generally track in line with passenger numbers, but the regulatory framework for aeronautical revenue means pricing is reset periodically to reflect changes in passenger forecasts. Approximately 20% of commercial revenue is unrelated to passenger numbers (i.e. Airport Retail Park and other commercial leases unrelated to the terminal or aeronautical business). In FY25, Wellington Airport will undertake further analysis to stress-test its assumptions on the resilience of the aeronautical business,

against worst-case outcomes where passenger numbers fall so significantly that revenues are unable to be fully recouped.

The most significant business activity aligned with climate-related opportunities is the Air New Zealand Next Generation Aircraft project. See page 22 for more detail.

Capital deployment: Wellington Airport is aware of how transition risks impact the aviation sector and the level of capital deployment towards managing this transition reflects this. In FY24 capital expenditure related to sustainability was \$2.7 million. Estimated for FY25, budgeted capital expenditure related to sustainability is \$10 million.

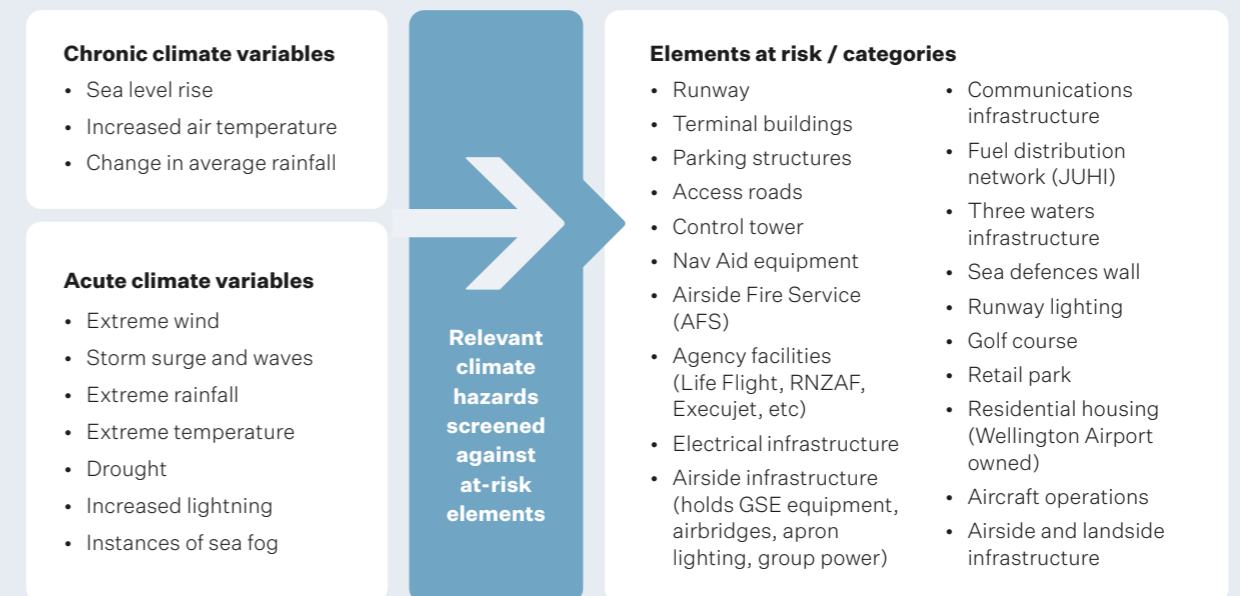


Figure 10. Wellington Airport’s physical climate risk assessment scope



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ACA: Airport Carbon Accreditation is the only institutionally-endorsed, global carbon management certification programme for airports. It independently assesses and recognises the efforts of airports to manage and reduce their carbon emissions through six levels of certification: 'Mapping', 'Reduction', 'Optimisation', 'Neutrality', 'Transformation' and 'Transition'.

Acute risk: Physical risks emanating from climate change that are event-driven such as increased severity of extreme weather events.

Aotearoa New Zealand Climate

Standards: Standards issued by the External Reporting Board that comprise the climate-related disclosure framework.

Base year: An historical datum (a specific year or an average over multiple years) against which an entity's metric is tracked over time.

Carbon dioxide equivalent (CO₂e):

The universal unit of measurement to indicate the global warming potential of each of the seven GHGs, expressed in terms of the global warming potential of one unit of carbon dioxide for 100 years. It is used to evaluate releasing (or avoiding releasing) any GHGs against a common basis.

Certified renewable energy (NZECs):

Certified Renewable Energy enables Meridian's business customers to match the amount of electricity they use on an annual basis, with an

equivalent amount of electricity put into the national grid from one of Meridian's hydro stations or wind farms – which have been independently verified as producing 100% renewable electricity.

Chronic risk: Physical risks emanating from climate change that relate to longer-term shifts in precipitation and temperature and increased variability in weather patterns, such as sea level rise.

Climate-related disclosure framework:

Climate-related disclosure framework has the same meaning set out in section 9AA of the Financial Reporting Act 2013.

Climate-related opportunities:

The potentially positive climate-related outcomes for an entity. Efforts to mitigate and adapt to climate change can produce opportunities for entities, such as through resource efficiency and cost savings, the adoption and utilisation of low-emissions energy sources, the development of new products and services, and building resilience along the value chain.

Climate-related risks: The potential negative impacts of climate change on an entity. See also the definitions of physical risks and transition risks.

Climate-related scenario: A plausible, challenging description of how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces and relationships covering both physical

and transition risks in an integrated manner. Climate-related scenarios are not intended to be probabilistic or predictive, or to identify the 'most likely' outcome(s) of climate change. They are intended to provide an opportunity for entities to develop their internal capacity to better understand and prepare for the uncertain future impacts of climate change.

Emissions intensity: Intensity ratios express GHG emissions impact per unit of physical activity or unit of economic output. A physical intensity ratio is suitable when aggregating or comparing across entities that have similar products. An economic intensity ratio is suitable when aggregating or comparing across entities that produce different products. A declining intensity ratio reflects a positive performance improvement. Intensity ratios are also often called normalised environmental impact data.

ESG: Environmental, social and governance (ESG) refers to a collection of corporate performance evaluation criteria that assess the robustness of a company's governance mechanisms and its ability to effectively manage its environmental and social impacts.

Financial impacts: The translation of impacts into current or anticipated impacts on financial performance, financial position and cash flows.

FMA: The Financial Markets Authority (FMA) regulates financial markets in New Zealand. They also regulate the New Zealand Climate Standards.

Governing body: The Wellington International Airport Limited Board.

Greenhouse gas (GHG): The greenhouse gases listed in the Kyoto Protocol: carbon dioxide (CO₂); methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), nitrogen trifluoride (NF₃), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆).

Materiality: The XRB defines information as material if omitting, misstating, or obscuring it could reasonably be expected to influence decisions that primary users make based on an entity's climate-related disclosures.

Physical risk: Risks related to the physical impacts of climate change.

Reporting period / financial year:

1 April to 31 March.

RCP: Representative Concentration Pathway (RCP) is a greenhouse gas concentration trajectory adopted by the IPCC.

SAF: Sustainable Aviation Fuels (SAF) are defined as renewable or waste-derived aviation fuels that meets sustainability criteria.

SBT: Science-based targets (SBT) provide a clearly-defined pathway for companies to reduce greenhouse gas (GHG) emissions, helping prevent the worst impacts of climate change and future-proof business growth. Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to 1.5°C above pre-industrial levels.

Scope 1 emissions: Direct GHG emissions from sources owned or controlled by the entity.

Scope 2 emissions: Indirect GHG emissions from consumption of purchased electricity, heat, or steam.

Scope 3 emissions: Scope 3 encompasses emissions that are not produced by the airport itself and are not the result of activities from assets owned or controlled by them, but by those that it's indirectly responsible for up and down its value chain.

Transition risk: Risks related to the transition to a low-emissions, climate-resilient global and domestic economy, such as policy, legal, technology, market and reputation changes associated with the mitigation and adaptation requirements relating to climate change.

XRB: The External Reporting Board (XRB) develops and issues reporting standards on accounting, audit and assurance, and climate, for entities across the private, public, and not-for profit sectors. They developed and issues the New Zealand Climate Standards.



APPENDIX A

Capital deployment towards initiatives related to climate-related risks and opportunities



Note: The spend detailed is mostly capex, and is not an exhaustive list of spend on sustainability related projects at Wellington Airport (such as the community garden). This also does not include sustainability related spend tied to a project (eg: solar for new AFS).

Note: Estimated spend is based on projected figures and is subject to airline pricing consultation.

Key Short-Term Initiative Description	FY24 spend
Reduction of ground transport fuel use through replacement of the vehicleour fleet with low emissions alternatives.	\$0.3 million
Sustainability projects:	\$0.9 million
<ul style="list-style-type: none"> Hydrogen trial: Wellington Airport spend on supporting the installation and running of this trial. Decarbonisation project: Initial feasibility work was undertaken for replacing gas boilers. Solar feasibility study. Sustainability reporting: Accreditation fees, consultants help with reporting, verification for GHG emissions. Purchasing of carbon offsets and NZECS certificates to eliminate Scope 2 electricity emissions. Rental car electrical backbone infrastructure: Wellington Airport provided the infrastructure necessary to support the installation of up to 80 load managed EV chargers for rental cars in the car parking area on Airport land. Continued rollout of LED lighting: Wellington Airport is progressing with the replacement of conventional lighting with LED alternatives across the terminal, car parks, and wider property portfolio. While our progression of the NZECS initiative will eliminate our Scope 2 emissions, the increased energy efficiency through adoption of LEDs is critical to reducing our absolute emissions. 	
The ongoing maintenance and strengthening of all marine protection structures to ensure the integrity of the airfield platform and instrument landing systems are preserved. This includes increasing resilience against seismic events, climate change, sea level rise, and the increasing frequency and intensity of storms. This also includes work to progress the replacement.	\$1.5 million

Key Short-Term Initiative Description **FY25 forecast spend**

Sustainability projects:	\$5.4 million
<ul style="list-style-type: none"> Boiler replacement project: Elimination of natural gas usage, through replacing the boiler system with an energy efficient alternative, based on heat pump technology. This system is anticipated to have high efficiency, reduce operational costs, and eliminate reliance on natural gas to reduce Scope 1 emissions. Consultants spend to implement sustainability guidelines for projects across Wellington Airport. Terminal bin redesign. Apron redevelopment overland flow modelling for key infrastructure including planned apron expansion. Solar/energy generation: Wellington Airport plans to move forward with trials of solar panels at the airport. BMS Analytics Programme. Sustainability reporting: Accreditation fees, consultant spend, verification for GHG emissions. Purchasing of carbon offsets. Continued rollout of LED lighting: Progressing with the replacement of conventional lighting with more efficient alternatives across the terminal, carparks, and wider property portfolio. Replacement of exterior lighting with LED: Commencing in FY24, the transitioning of external lighting towers from sodium-based lights to LED systems. Includes replacing some external lighting poles. 	
Reduction of ground transport fuel use through replacement of the vehicle fleet with low emissions alternatives.	\$0.1 million
The ongoing maintenance and strengthening of all marine protection structures to ensure the integrity of the airfield platform and instrument landing systems are preserved. This includes increasing resilience against seismic events, climate change, sea level rise, and the increasing frequency and intensity of storms. This also includes work to progress the replacement.	\$3 million
Fixed Electrical Ground Power and Pre-Conditioned Air (FEGPs and PCA) can significantly minimise reliance on APU usage, by using electricity to supply aircraft systems and air to the aircraft cabin when their engines are shut down. This ensures that critical onboard systems can operated without relying on APU usage and associated jet fuel consumption.	\$1.5 million






Key Medium-Term Initiative Description **Estimated spend FY26 – 29**

Boiler replacement project: Elimination of natural gas usage, through replacing the boiler system with an energy efficient alternative, based on heat pump technology. This system is anticipated to have high efficiency, reduce operational costs, and eliminate reliance on natural gas to reduce Scope 1 emissions.	\$12 million
Chiller upgrade: The key solution for mitigating emissions associated with chiller refrigerant leakage is replacing existing high GWP refrigerants, such as R22, R134A and R410A, with charging agents that yield lower GWPs.	
Fixed Electrical Ground Power and Pre-Conditioned Air (FEGPs and PCA) can significantly minimise reliance on APU usage, by using electricity to supply aircraft systems and air to the aircraft cabin when their engines are shut down. This ensures that critical onboard systems can operated without relying on APU usage and associated jet fuel consumption.	\$6 million
The ongoing maintenance and strengthening of all marine protection structures to ensure the integrity of the airfield platform and instrument landing systems are preserved. This includes increasing resilience against seismic events, climate change, sea level rise, and the increasing frequency and intensity of storms. This also includes work to progress the replacement.	\$32 million







APPENDIX B

Wellington Airport climate scenarios³

Note: Wellington Airport Climate Scenarios were developed in 2023, so data reflects this time

	 Orderly scenario	 Disorderly scenario	 Hot house world
Global narrative	In this scenario, strong and immediate climate change action is taken in the mid-2020s resulting in lowered emissions, lowered physical impacts, rapid policy intervention, and effective industry stimulus. A large-scale transition away from fossil fuel energy sources, moderate deployment of carbon dioxide removal and rapid advances in technology enables countries to reach the net zero goal. Action taken is within the carbon budgets estimated to provide a strong probability of limiting global warming to 1.5 degrees by 2050.	A disorderly transition with little policy action until post 2032 after which strong, rapid action is needed to limit warming to 2°C by 2050. This scenario assumes countries or territories recover from Covid-19 using fossil-fuel heavy policies, so emissions increase, and carbon budgets are not met. Only after 2032 are new climate change policies introduced.	Emissions continue to rise unabated as no additional climate change policies are introduced. Fossil fuel use continues to increase, and global CO ₂ emissions continue to rise, and global warming is expected to reach higher than 3°C by 2080. Physical impacts from climate change are severe. Global tensions by 2050 are high as physical impacts from climate change force mass migrations.
NZ aviation sector	All aviation is mostly decarbonised through the uptake of sustainable fuels by 2050. The residual emissions are credibly removed through permanent carbon sinks. Air traffic management efficiencies are prioritised.	Aviation proves hard to decarbonise. Low emissions fuels are available by 2040, but costs are high, and aviation still contributes to climate change by 2050. Other modes of transport rapidly decarbonise. Domestic tourism makes up the majority of visitor expenditure as long-haul travel has dramatically declined. The cost of flying increases so much by 2050 that land travel is more common.	Global tensions are high by 2050 as the physical impacts of climate change force mass migration. Supply chain disruptions are common. Tourism remains a viable industry by 2050, and New Zealand is judged to be a destination of choice as climate change impacts are less severe here than in other parts of the world. Severe storms, including lightning incidents, flooding, sea level rise near airports, economic shocks, disruptions and geopolitical tensions limit numbers of international visitors, reduce tourism offerings, restrict areas open to visitors, and increase the costs of flying both domestically and internationally.
Aircraft technology	Electric aircraft introduced on <200km sectors from 2028. Electric aircraft on <400km sectors from 2030. Hydrogen technology for long haul flights from 2040. SAF produced domestically, being available for use for aviation from 2030. SAF to represent 80 – 90% of aviation fuel use in 2050, reducing non-electric/non-hydrogen aviation emissions by 62%.	Historical fuel efficiency improvements continue. Technology transition significantly delayed. No significant commercial electric aircraft until 2035. No hydrogen until 2040. SAF produced domestically, being available for use for aviation from 2040, but costs are very high.	Historical fuel efficiency improvements continue. Technology transition is significantly delayed. No significant commercial electric aircraft until 2040. No hydrogen until 2050. SAF are produced domestically and available for aviation from 2050, but costs are high and the SAFs industry competes with food production.
NZ tourism sector	The tourism sector is thriving by 2050. Visitors choose New Zealand for the unique experience. Domestic tourism is popular. It makes up a greater proportion of tourism expenditure than historical levels because the costs of long-haul travel increased with the introduction of sustainable aviation fuels (SAFs) globally in the 2030s. Strong private and public sector investment helps to strengthen critical infrastructure, including airports.	The tourism sector is struggling by 2050. 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.	Desire for long haul air travel remains high, but disruptions are common due to climate change increasing the price of travel and causing regular disruptions. The shift to electric and hydrogen vehicles is slower than in other scenarios. Impacts of climate change are more severe overseas than in New Zealand, which prompts more visitors to come to here. Rising costs of long-haul travel due to climate-related disruptions means those that travel here stay longer. Despite the disruption, the sector has opportunities to leverage longer term visitors and longer tourism seasons.

3. Wellington Airport climate scenarios are based on sources including independent academic input, tourism scenarios, IATA Roadmaps, ATAG Waypoint 2050, NIWA and the NZ SeaRise Programme.

	 Orderly scenario	 Disorderly scenario	 Hot house world									
Social attitudes to travel	Social consciousness of climate impact but widespread recognition of action taken by aviation industry. No demand impact from 2040, when low emission technology is available. The tourism sector has become a world leader for championing regenerative tourism with a low environmental footprint by 2050.	10% of travellers decide to travel less often due to concern not enough action is being taken to address climate change. Social pressure to limit travel and 'flygskam' (flight-shaming) is a strong motivator for some people to avoid high emissions travel. People still holiday, but travel tends to be closer to home and involve less frequent, long-haul trips. International and domestic visitor expenditure has declined, and domestic travel dominates the market.	Hot house world indicates behaviour has not changed. Climate impacts devastate communities, tourism operators and supply chains. The toll on physical and mental health is high.									
Government policy	Assume policy signalled (but not enacted) so far is sufficient to achieve 1.5 degrees. Continued update of carbon budgets. International aviation brought into carbon budgets from Budget 3. Existing Emissions Reduction Plans form basis of govt policy with focus on technology development rather than restriction of movements or excessive passenger levies.	Policy remains similar to pre-Covid times throughout the 2020s, with little focus on emissions reductions. From 2035, the rush to create policies to rapidly reduce emissions results in a lack of cohesion and connection across policy settings. Post-2035 there is a sudden increase in carbon price, and restrictions on air travel (frequent flyer levy and/ or cap on aircraft movements).	Policy remains similar to the present. New policy focuses on adaptation, not mitigation. Globally, there is no climate policy ambition. New Zealand has made a small effort to reduce emissions by 2050.									
	 Orderly scenario	 Disorderly scenario	 Hot house world									
	No. hot days >25°C per year	Average air temperature Wellington	Sea level rise	Carbon price	No. hot days >25°C per year	Average air temperature Wellington	Sea level rise	Carbon price	No. hot days >25°C per year	Average air temperature Wellington	Sea level rise	Carbon price
2050 physical climate hazard indicators	11 days <i>(currently 7 days)</i>	13.6°C <i>(currently 13.3°C)</i>	0.15m <i>(currently 0.06m)</i>	\$277 NZD/t <i>(currently \$35 NZD/t)</i>	12 days <i>(currently 7 days)</i>	13.8°C <i>(currently 13.3°C)</i>	0.22m <i>(currently 0.06m)</i>	\$369 NZD/t <i>(currently \$35 NZD/t)</i>	13 days <i>(currently 7 days)</i>	13.9°C <i>(currently 13.3°C)</i>	0.26m <i>(currently 0.06m)</i>	\$35 NZD/t <i>(currently \$35 NZD/t)</i>

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