

2023 Report

Compliant with the NZ XRB's Climate-related  
Disclosure Standards and aligned with  
the recommendations of the TCFD

# Climate Change Disclosure





## Introduction

As New Zealand's largest airport, Auckland International Airport Limited (Auckland Airport) is an important economic engine for New Zealand, making a significant contribution to the Auckland community and helping to grow the country's success in travel, trade and tourism.

Our operations deliver high levels of availability, reliability and resilience to the aeronautical community and New Zealand, and we recognise climate change has the potential to affect our business, both through physical impacts and in the transition to a low-carbon economy.

We are committed to reducing our carbon footprint, improving the resilience of our business strategy and adapting to the predicted effects of a changing climate, now and into the future. We are also committed to supporting our partners, particularly in the aviation sector, to reduce carbon emissions.

# Our climate disclosure plans

Auckland Airport has voluntarily published climate-related disclosures aligned with the TCFD recommendations for two years.

For the third year, we are following the guidelines of the Task Force on Climate Related Disclosures (TCFD) to disclose the impact of climate change on our business and our impact on climate change. This year, we are compliant with the New Zealand External Reporting Board's (XRB) Climate-related Disclosure standards.

## 2021

- Adopted the guidelines of TCFD to disclose the impact of climate change on our business for the first time
- Identified and assessed climate-related risks and opportunities
- Set a suite of new sustainability targets to 2030

## 2022

- Continued to align our climate change disclosure with TCFD guidelines
- Identified additional physical climate-related risks and improved understanding of the potential impacts of the physical risks under different scenarios
- Identified a much broader range of transitional risks relating to policy, market and reputation
- Escalated climate-related risks to sit within the company executive-level risks, increasing Board oversight of risks and controls

## 2023

- Advanced our understanding of climate-related risks by fully complying with the XRB standard one year before it becomes mandatory
- Conducted climate scenario analysis across three possible futures, drawing from the tourism sector and property and construction sector-wide scenarios
- Evaluated and quantified the potential financial impact of material climate-related risks
- Measured a broader range of climate-related metrics
- Undertook further modelling of climate-related physical risks

## 2024

- Track performance against climate-related metrics and targets
- Continue to advance our understanding of physical climate-related risks and plan and adapt to these
- Review quantification of financial impact of climate change as understanding of risks improves

### Climate-related Disclosure Standards

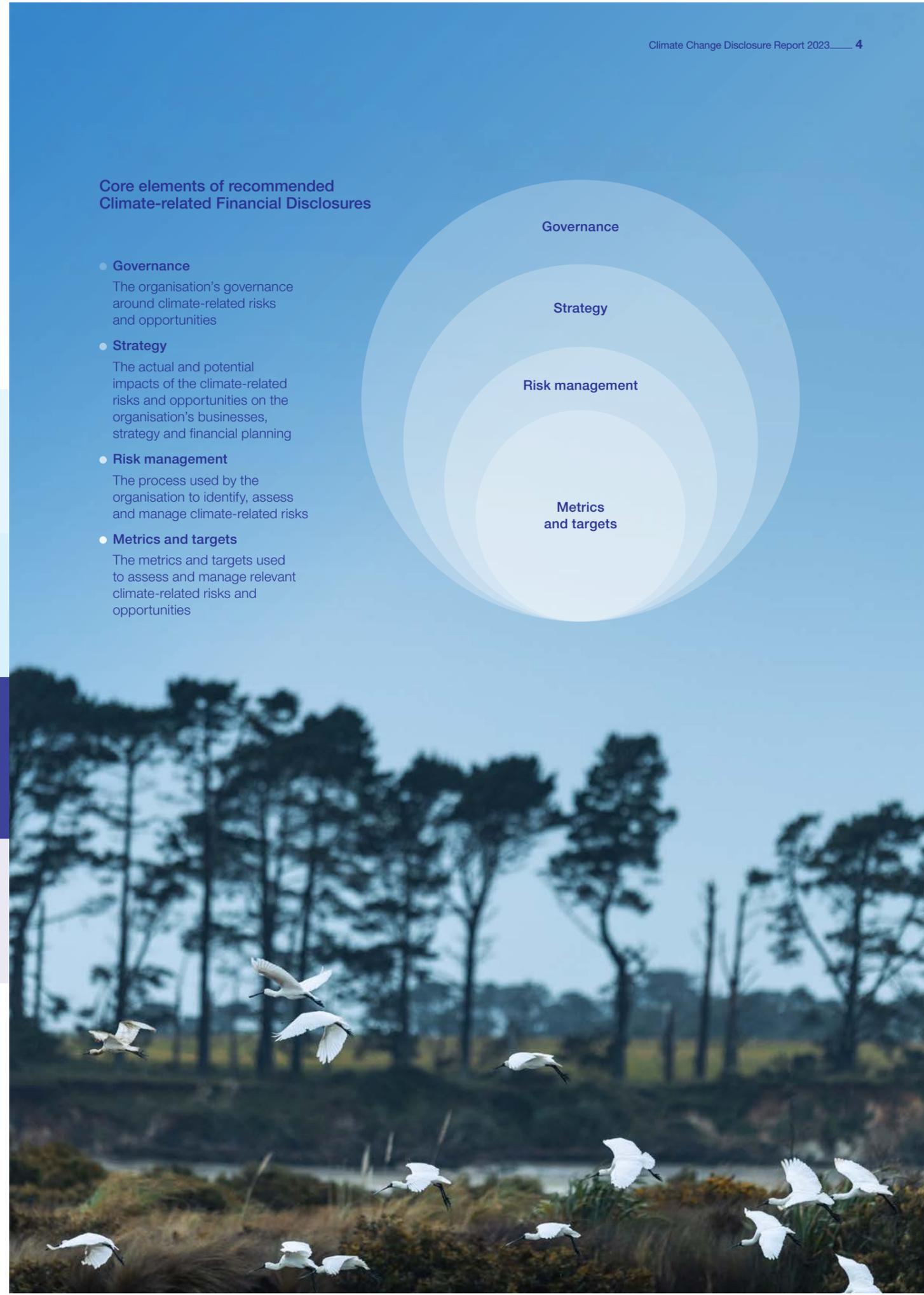
In 2015, the Financial Stability Board established the TCFD to review how the financial sector can take account of climate-related issues.

In 2017, the TCFD released recommendations for climate-related financial disclosures which promote transparency, leading to better climate-risk management. The recommendations are structured around four thematic areas that represent core elements of how organisations operate: governance, strategy, risk management, and metrics and targets. These are intended to interlink and inform each other.

In 2021, the New Zealand Government passed legislation to enable mandatory climate-related disclosures. This means that from 2024, Auckland Airport will be required by law to publish annual disclosures on the impact climate change has on our business. The XRB has published a suite of standards which align with the TCFD recommendations.

### Core elements of recommended Climate-related Financial Disclosures

- **Governance**  
The organisation's governance around climate-related risks and opportunities
- **Strategy**  
The actual and potential impacts of the climate-related risks and opportunities on the organisation's businesses, strategy and financial planning
- **Risk management**  
The process used by the organisation to identify, assess and manage climate-related risks
- **Metrics and targets**  
The metrics and targets used to assess and manage relevant climate-related risks and opportunities



# Governance

## Board oversight of climate-related risks and opportunities

Auckland Airport's Board of Directors is responsible for reviewing and ratifying the risk-management structure, processes and guidelines which are developed, maintained and implemented by management, including climate change. The Board sets the company's risk appetite on an annual basis and tracks the development of any existing risks and the emergence of new risks to the company. The Board also considers climate change issues when reviewing and guiding business strategy, plans and budgets. In the development of Auckland Airport's new business strategy, Building a Better Future, climate change was a key consideration. 'Future Resilience' is one of the five foundations that make up our strategic vision. Further information about our Building a Better Future strategy and future resilience foundation can be found in the 2023 Annual Report.

The Board also considers climate change when setting management incentives. In the 2023 financial year, all members of the executive leadership team, including the Chief Executive, had a portion of remuneration linked to sustainability key performance indicators including climate change. Sustainability metrics and targets are set by management and approved by the Board, and performance against these tracked over time.

The Board has delegated risk oversight and monitoring (including in relation to climate change) to the Safety and Operational Risk Committee (SORC) which currently comprises four Board Directors. The SORC is responsible for assisting the Board in discharging its responsibilities in relation to risks, and oversees, reports and makes recommendations

to the Board on the safety, environmental (including climate change) and operational risk profile of the business. The SORC receives a quarterly report from management on whole-of-company risks and controls, including the physical and transitional impact of climate change on the business.

The Board assesses a range of skills, including sustainability and climate change competencies on a skills matrix. Two Board members have been assessed as having high competence in climate change and sustainability in the 2023 financial year, with a further four having practical and direct experience and two with some experience.

## Management responsibilities for climate-related risks and opportunities

Auckland Airport's management is responsible for the active identification of risks and implementation of mitigation measures, including for climate change, to achieve and maintain operational and strategic objectives. Management has developed an enterprise risk management framework, designed to promote a culture which ensures a proactive and consistent approach to identifying, mitigating and managing risk on a company-wide basis. Our Chief Executive oversees the risk framework and reporting to the SORC, including climate-related risks, and the Chief of each business unit is responsible for assessing and monitoring the risks specific to their business unit.

The Sustainability team oversees the implementation of the sustainability programme including material climate change initiatives and controls. This includes ongoing monitoring of climate change modelling and research, and the advancement of our ongoing climate change disclosures.

# Strategy



## Resilience of business strategy

Auckland Airport has an extensive coastline given our unique location adjacent to the Manukau Harbour. As a result, physical inundation and flooding of assets due to sea-level rise and extreme weather events is one of our key climate-related risks. Our business model is built on the operation and development of aeronautical infrastructure and commercial property. This means impacts from sea-level rise and extreme weather events could significantly affect our business operations.

In addition, due to the high carbon profile of the aviation industry, there are various risks to the business associated with the transition to a low-carbon economy. Global and domestic carbon policies impacting aviation activity, as well as public perceptions towards air travel, have the potential to affect Auckland Airport.

We keep abreast of global and local trends in climate change research and modelling and undertake regular environmental scans and analysis of key factors such as: developments in global carbon policy; public perception of aviation; and technological advancements to decarbonise aviation, so that we are able to respond to any emerging risks early.

## Current climate-related impacts

While the full impact of climate change is yet to affect businesses, the Board and management are conscious of these risks and have maintained comprehensive business interruption and major disruption insurance to mitigate the impact of physical climate change impacts.

The 2023 financial year brought with it several extreme weather events that financially impacted Auckland Airport. In January 2023, Auckland Airport experienced the most significant flooding that has ever occurred in its International Terminal due to Auckland receiving 201mm of rainfall within 24 hours (see case study). Two weeks later Cyclone Gabrielle brought high winds making the airfield unsafe for ground handling and baggage operations. As at 30 June 2023, Auckland Airport has incurred \$8.4 million in flood-related expenses. However, Auckland Airport is yet to quantify the full extent of its losses. Further costs associated with necessary remedial works, lost productivity and revenue are likely to become clearer over time.

These events, as well as additional impacts associated with the transition to a low carbon economy, illustrate the scale of risk climate change poses to Auckland Airport and the wider tourism industry. This demonstrates the importance of understanding these risks and preparing transition and adaptation plans.

Figure 1. Governance of climate-related risks at Auckland Airport





**Case study:  
January 2023 floods**

On 27th January 2023, Auckland received the highest ever recorded level of rainfall in a 24-hour period, which came on top of an already wet summer with January 2023 being the wettest month since records began in 1853. Flooding around the city was widespread, with water levels up to rooftops in some areas. Multiple lives were lost in the floods and landslides that occurred over the Auckland Anniversary weekend.

Auckland Airport received over 200 mm of rainfall in a single day. The worst impacts were felt inside the International Terminal, where flooding halted all passenger processing and restricted aircraft movements. With the local transport networks also disrupted, and accommodation across the city limited, many passengers slept in the International Terminal with some choosing to stay for up to four days. The flooding also impacted the whole aviation network, with many long-haul flights diverted to Christchurch Airport and several flights having to return to their place of origin. The generosity and teamwork of Auckland Airport employees, contractors and airline partners in response to the event ensured domestic travel was able to resume after approximately 24 hours and international flights after 37 hours. Flood Modelling, undertaken by Auckland Airport in 2020 and 2022, demonstrated that the international



**201mm**

of rainfall fell in 24 hours at Auckland Airport

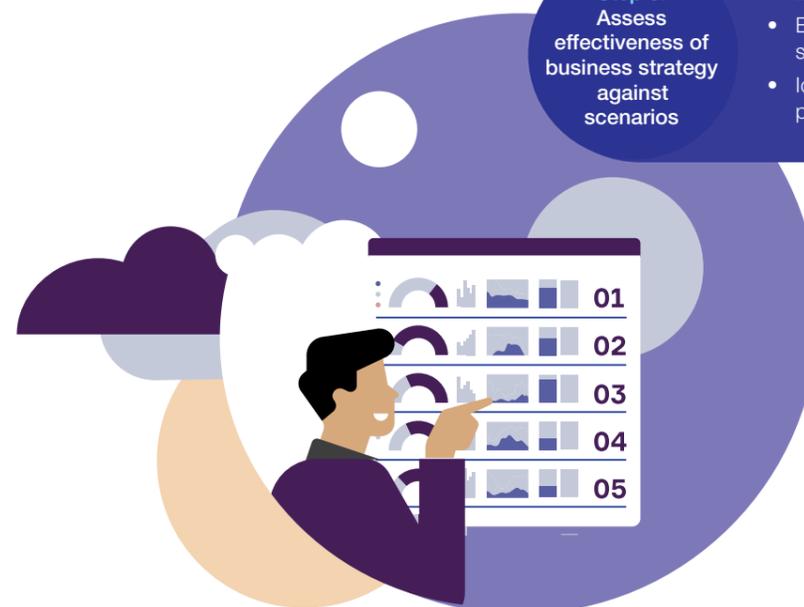
terminal was safe from flooding until well into the 2040s. However, the unprecedented level of rainfall received on 27th January came much earlier than predicted under even the worst case climate scenario. This event demonstrated the importance of transition and adaptation plans. While the 'worst-case' scenario cannot necessarily always be foreseen and planned for, it is important to remain adaptive and consider climate change in all aspects of company operations. Auckland Airport has a comprehensive stormwater masterplan that guides infrastructure development around the

precinct. Upgrades to the stormwater network commenced in 2020, carried out in parallel with our infrastructure development programme. Since the January flooding event, key projects have been brought forward to improve resilience against severe weather events. Stormwater improvements were incorporated into upgrades along George Bolt Memorial Drive, the new terminal exit road and the under-construction Te Ara Kōrako.

**Scenario analysis**

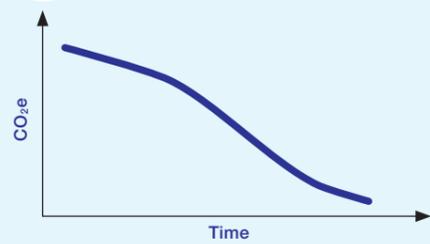
During the 2023 financial year, Auckland Airport undertook scenario analysis to further test the organisation's resilience against climate change. Drawing from the sector-wide scenarios developed for the tourism and construction and property sectors, Auckland Airport developed three climate-related scenarios that cover all relevant aspects to the business. These scenarios describe plausible and distinct futures with different assumptions of the potential climate-related impacts. Auckland Airport followed TCFD guidance for scenario analysis as summarised in Figure 2. A range of internal stakeholders from the sustainability and strategy teams led the development of the scenarios with input from the Executive Leadership Team in a workshop format. The three scenarios represent a rapid and orderly transition (low emissions scenario), a disorderly and delayed transition (a medium emissions scenario) and a hothouse world where emissions continue to rise unabated (a high emissions scenario). Physical climate change modelling has been undertaken using representative concentration pathways (RCP) 2.6, 4.5 and 8.5. These scenarios are outlined on the the following page.

**Figure 2.** A summary of the scenario analysis process undertaken.





**Scenario 1: An Orderly, Rapid Transition**



Tightening of international frameworks results in global emissions peaking around 2030 and declining rapidly in an orderly fashion in line with a 1.5°C pathway.

**IMPACT ON AUCKLAND AIRPORT**

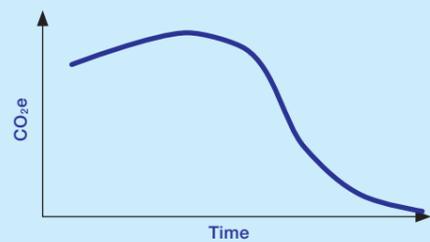
- High transition risk in the short term: regulatory changes and market demand drives innovation so decarbonisation becomes the norm
- Low physical risk: limited interruption to business activity from physical climate change impacts

**DRIVING FORCES**

- 1. Temperature and weather patterns**
  - Lowest modelling pathways (RCP 2.6 and similar): -1.5°C temperature increase
  - The frequency and intensity of severe weather events slightly amplify over time
- 2. Price of carbon**
  - Moderate increases in the price of carbon which impacts the cost of infrastructure development programme and price of travel
- 3. Attitudes towards high carbon activities**
  - Public becomes more aware of the carbon impact of business activities (aviation, transport and construction), resulting in increased demand for low carbon transport
- 4. State of biodiversity in New Zealand**
  - Physical impacts are limited and efforts to maintain New Zealand’s unique biodiversity are successful so the country remains an attractive nature-based tourism destination
- 5. Government regulation**
  - International aviation is included in national carbon budgets and targets
  - Strong decarbonisation policy nationally and globally
- 6. Technology development**
  - Successful development and deployment of low carbon aviation technologies in the 2030s due to financial incentives and market demand



**Scenario 2: A Disorderly and Delayed Transition**



Global emissions peak around 2040, after which rapid decarbonisation occurs to limit warming to 2°C.

**IMPACT ON AUCKLAND AIRPORT**

- High transition risk: Sudden push for rapid decarbonisation post-2040 to limit warming to 2°C
- Physical risk: Infrequent disruption to critical infrastructure

**DRIVING FORCES**

- 1. Temperature and weather patterns**
  - Medium modelling pathways (RCP 4.5 and similar): -2.4°C temperature increase Severe weather events slowly increase in frequency and intensity
- 2. Price of carbon**
  - High increase in carbon price which impacts the cost of infrastructure development and price of travel
- 3. Attitudes towards high carbon activities**
  - Post-2040, very little tolerance for high emitting activities
- 4. State of biodiversity in New Zealand**
  - Slow, irreversible biodiversity decline
  - NZ’s efforts to maintain its unique biodiversity are unsuccessful and therefore the country is increasingly less appealing as a destination for nature-based tourism
- 5. Government regulation**
  - Little additional decarbonisation policy until post-2040, after which policy is rapidly updated to limit physical impacts of climate change
- 6. Technology development**
  - Slow deployment of low carbon technologies in short-term, with rapid uptake in later years to meet Carbon Offsetting and Reduction Scheme for International Aviation targets
  - Main focus of decarbonisation is on short regional routes



**Scenario 3: A Hothouse World**



Global emissions continue to rise Efforts to mitigate climate change are only implemented by the largest global emitters once it is too late

**IMPACT ON AUCKLAND AIRPORT**

- Low transition risks: limited climate change policy or reputational risk
- High physical risks in long term: frequent severe weather events cause regular disruption to critical assets

**DRIVING FORCES**

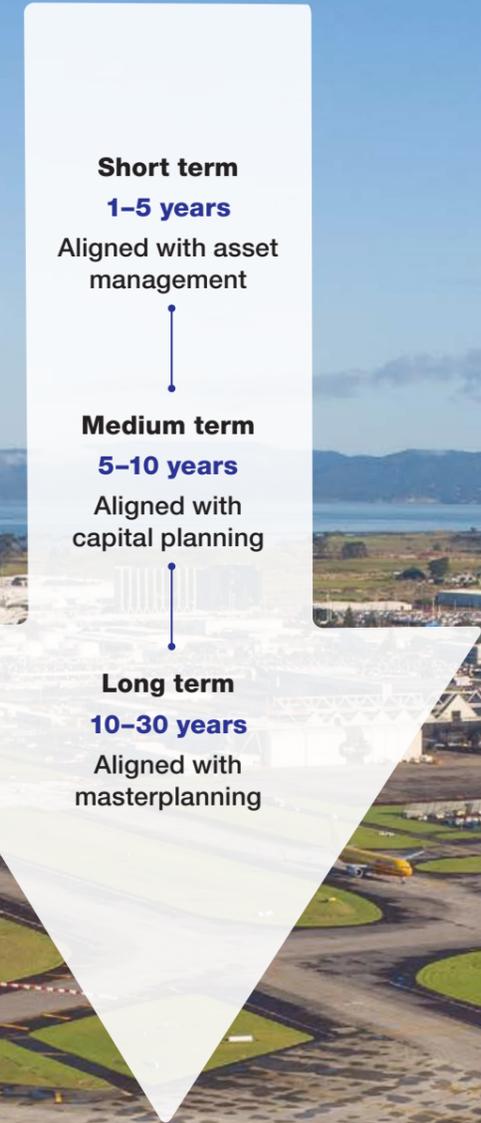
- 1. Temperature and weather patterns**
  - Highest modelling pathways (RCP 8.5 and similar): -4.3°C temperature increase Increase in frequency and severity of weather events over time
- 2. Price of carbon**
  - Does not increase much from current price
- 3. Attitudes towards high carbon activities**
  - Public aware of climate change but don’t change behaviours
  - Business activity is unconstrained and unchallenged
- 4. State of biodiversity in New Zealand**
  - Physical impacts are widespread and biodiversity declines over time
  - New Zealand tourism pivots to focus on cultural elements to attract international tourists
- 5. Government regulation**
  - Little to no decarbonisation policy for aviation
  - Reversal of national or global decarbonisation policy
- 6. Technology development**
  - Aviation continues to rely on fossil fuels for the vast majority of its activities as decarbonisation efforts are unsuccessful
  - Limited uptake of zero emissions aircraft in NZ

**Climate-related risks and opportunities**

For the past two years, Auckland Airport has published a wide range of climate-related risks and opportunities.

In the 2023 financial year, we undertook a comprehensive risk assessment against the three climate-related scenarios using the Auckland Airport risk assessment matrix. The financial impact of each risk ranked “high” or “critical” was then quantified under each scenario. A second materiality lens was then applied based on the financial impact. This identified four material risks which are outlined in Table 1 below. Quantifying the financial implications of the climate change risks we face has required many assumptions which will be refined over time as our understanding of climate-related risks and opportunities matures.

Auckland Airport continues to consider climate-related risks and opportunities as part of Auckland Airport’s strategic planning, including our short-term asset management plans, medium-term capital projects, long-term masterplan for the whole of the Auckland Airport precinct. We use the following definitions when referring to different planning timeframes:



**Table 1:** Financial impact of material climate change risks

Risk type	Anticipated impact on Auckland Airport	Potential financial impact of unmitigated risk and timeframe	Quantification methodology	Current and future controls
Physical (Flooding)	Costs of damage to infrastructure, and loss of revenue from business interruption and operational delays due to flooding of areas and assets critical to airport operations	\$0–\$70 million per event Long term	<ul style="list-style-type: none"> <li>Estimated potential financial impact is the cost associated with a significant flooding event with a 100-year Annual Return Interval under RCP 2.6, 4.5 and 8.5</li> <li>Validated against experience from flooding event in January 2023</li> <li>Considers the impact of sea level rise under each scenario</li> </ul>	<ul style="list-style-type: none"> <li>Stormwater masterplan kept up to date considering latest climate change modelling</li> <li>Maintenance of infrastructure undertaken in consideration of climate change</li> <li>Implementation of stormwater network upgrades to withstand future severe weather events</li> <li>Investment in stormwater network brought forward as a result of January 2023 flooding</li> <li>Development of a second runway further inland and on higher ground</li> <li>Insurances held for business interruption and damage</li> </ul>
Transition (Policy and Legal)	Loss of revenue due to moderation in growth caused by external decarbonisation policy and pricing mechanisms	\$0–\$35 million Medium term	<ul style="list-style-type: none"> <li>Potential financial impact is an annualised figure of reduction in the 2050 net profit after tax (NPAT) from retail, carparking, transport licence fees and hotels compared to unconstrained forecast</li> <li>Aeronautical income assumed to be unchanged as the building blocks methodology will recover aeronautical charges over the reduced passenger volumes</li> <li>Internal price elasticity figures have been used to determine impact on passenger demand if an emissions-related levy is introduced compared to forecast passenger numbers to 2050</li> </ul>	<ul style="list-style-type: none"> <li>Policy engagement and advocacy</li> <li>Decarbonisation of operational emissions and investment in low-carbon infrastructure</li> <li>Provision of infrastructure to enable adoption of low-carbon aircraft energies and technologies</li> </ul>
Transition (Reputation)	Loss of revenue due to moderation in growth caused by changes to public sentiment towards air travel due to carbon footprint	\$0–\$40 million Long term	<ul style="list-style-type: none"> <li>Potential financial impact is an annualised figure of reduction in the 2050 net profit after tax (NPAT) from retail, carparking, transport licence fees and hotels compared to unconstrained forecast</li> <li>Aeronautical income assumed to be unchanged as the building blocks methodology will recover aeronautical charges over the reduced passenger volumes</li> <li>Assumes that Auckland Airport forecast annual passenger growth is reduced between 2035 and 2050</li> </ul>	<ul style="list-style-type: none"> <li>Effective monitoring of consumer perceptions in New Zealand and key inbound markets</li> <li>Maintaining a diverse portfolio of markets and strengthening short-haul markets</li> <li>Provision of infrastructure to enable adoption of low-carbon aircraft energies and technologies</li> </ul>

Risk type	Anticipated impact on Auckland Airport	Potential financial impact of unmitigated risk and timeframe	Quantification methodology	Current and future controls
Transition (Reputation)	Higher interest rates and cost of capital if investors and financiers avoid aviation sector due to carbon footprint	Too uncertain to quantify Medium term	<ul style="list-style-type: none"> <li>This risk has not been quantified as there is insufficient information available to develop assumptions on how this could impact Auckland Airport.</li> <li>However, this risk is deemed material, so it remains within the disclosed risks.</li> </ul>	<ul style="list-style-type: none"> <li>Decarbonisation of operational emissions and investment in low-carbon infrastructure</li> <li>Transparent disclosure of greenhouse gas inventory and decarbonisation initiatives</li> </ul>

Climate-related risks have the potential to impact assets, as noted in our 2023 Financial Statements. No risks or opportunities identified are considered to have impacts warranting material changes to the valuation of Auckland Airport’s assets given the long-term nature of the assessment and the mitigations that are planned in advance.

**Climate-related opportunities**

Climate change also presents opportunities for Auckland Airport. These include:

- Lowering operating costs by reducing energy consumption and other efficiency initiatives
- Playing a role in bringing new renewable electricity generation capability into the New Zealand market
- Supporting communities to enhance the environment that is impacted by the physical impacts of climate change
- Supporting our airline partners to reduce their emissions through provision of electrification and low-emission fuels infrastructure
- Advancing the sustainability capability of the New Zealand design and construction sector.

These opportunities have not been quantified as they are not considered to have a material financial impact on the business.

**Business model and transition plan**

Auckland Airport groups its revenue-making activities into three categories: aeronautical, retail and carparking, and commercial property. A full business model description, and the refreshed company strategy, can be found in Auckland Airport’s Annual Report for the 2023 financial year on the company’s website.

Auckland Airport’s company strategy places a focus on sustainability. In 2020, we committed to reaching net zero direct (scope 1 & 2) emissions by 2030, developing a decarbonisation pathway which reflects a 90% reduction in scope 1 & 2 emissions from 2019 levels. Further information can be found in the metrics and targets section on page 14.

Our company strategy shapes our capital plan. The decarbonisation pathway, as well as physical climate adaptation measures such as upgrades to our stormwater system, are integrated into budgets for capital projects to ensure a transition to a low carbon, climate-resilient future is part of every project. Following the flooding event in January 2023, Auckland Airport brought forward investment in planned stormwater upgrades. Our company strategy and capital allocation are likely to continue to evolve over time as the understanding of climate-related risks and opportunities, and the transition and adaptation measures required, improves.



# Risk management

Our enterprise risk management framework and company policy guide our approach to managing risks in relation to climate change. Risks are identified at all levels of the organisation, and all employees are responsible for implementing, managing and monitoring the processes and risk plans with respect to material business risks, as appropriate.

All enterprise-wide material risks, including those relating to climate change, are assessed through Auckland Airport's risk assessment matrix. This matrix assesses the likelihood of the risk occurring, and the impact on the business should it occur, to produce a total "risk rating". Risk ratings are described as "residual risks" and "inherent risks", reflecting the impact to the business with or without controls in place to mitigate the risks.

Auckland Airport's process for risk management is continuous and is designed to provide advanced warning of material risks before they eventuate. In addition to identifying and assessing risks, the process includes:

- Risk mitigation strategy development
- Reporting
- Compliance, monitoring and evaluation to ensure the ongoing integrity of the risk management process.

## Managing climate-related risks

Climate-related risks and opportunities have been identified and assessed using climate science, independent peer reviewed research, climate scenario modelling specific to Auckland Airport and in-house expertise. Following the initial assessment of climate-related risks (in accordance with TCFD guidance) in the 2021 financial year, management undertakes a yearly review identifying and assessing climate-related risks and their impacts. This review is led by the Sustainability team with input from the Executive Leadership team and function leads across the business. These function leads represent the various operations that have the potential to be impacted by climate change. The function leads have expertise and responsibilities to identify the potential ways that climate change may impact their area of Auckland Airport operations.

Key components of the annual review include:

- Identifying new information or data that may change the underlying assumptions of the risk, for example, policy changes or updates to climate models
- Assessing each risk against the risk assessment matrix for the low, medium and high emissions scenarios.

Priority physical and transitional climate-related risks (those with a materiality of medium, high, or extreme) are included in Auckland Airport's enterprise-wide risk register, which is updated by management on a quarterly basis. In the 2022 financial year, climate-related risks were escalated to be classified an executive-level risk. The SORC receives a quarterly update on executive-level risks, the controls in place to mitigate the risk and the planned actions to address them.

Climate-related risks that have a risk rating of medium or higher are assigned controls to reduce the residual risk to a lower level. Management is responsible for identifying and implementing these controls, with the Board providing confirmation that the controls sufficiently mitigate the risk to an acceptable level.

# Metrics and targets

Auckland Airport recognises that the aviation industry contributes to climate change. The impacts of climate change, including rising sea levels and temperatures, and unpredictable weather patterns will impact our company, the local community, New Zealand and the planet.

We seek to take a leading-practice approach to managing and reducing our carbon emissions.

## Managing our own footprint

Having measured and disclosed our carbon emissions since 2008, and being the first airport in the world to set a carbon reduction target under the Science-Based Targets Initiative, in 2021 we lifted our sights and challenged ourselves again by setting a suite of new sustainability targets.

## Net Zero

scope 1 and 2 emissions by 2030 resulting in

↓90%

reduction in emissions from 2019 levels (27% reduction in FY23)

↓20%

reduction in potable water use from 2019 levels by 2030 (29% reduction in FY23)

↓20%

reduction in waste to landfill from 2019 levels by 2030 (3% reduction in FY23)

Our planned pathway to Net Zero aligns with a 1.5-degree warming trajectory and will see us reduce scope 1 and 2 emissions<sup>1</sup> by 90% by 2030. We will achieve this by:

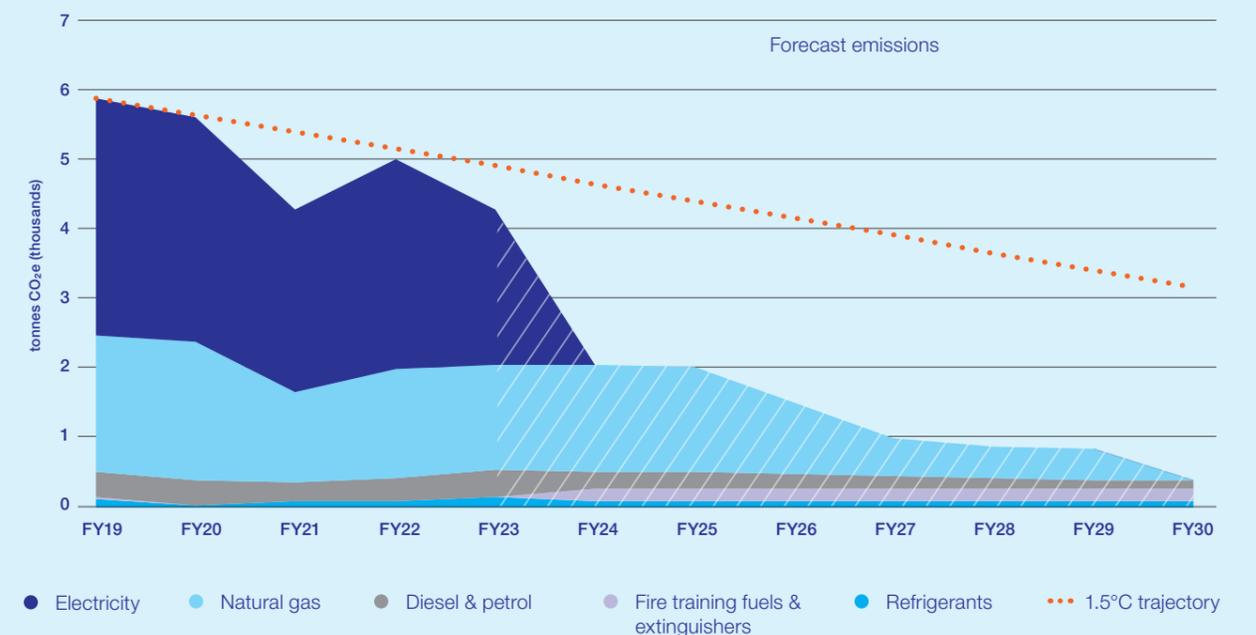
- Using electricity generated from a mix of on- and off-site renewable generation, likely from 2024.
- Phasing out the use of natural gas in the terminal through the incremental replacement of natural gas boilers with electric alternatives
- Electrifying our corporate vehicle fleet
- Using refrigerants with the lowest global warming potential possible

From 2030, the residual emissions (estimated to be 10% of 2019's scope 1 & 2 emissions) will be permanently neutralised through the purchase of certified carbon removals. The certification scheme has not yet been decided.

1. Scope 1 = direct emissions from business activity. Scope 2 = indirect emissions from the generation of purchased electricity.

## Auckland Airport's scope 1 and 2 decarbonisation pathway

The decarbonisation pathway aligns with a 1.5°C trajectory and FY23 performance shows a 27% reduction from the baseline year.



**Reducing our indirect emissions**

Scope 1 and 2 emissions make up only a small proportion of Auckland Airport’s greenhouse gas emissions inventory. The vast majority of emissions that occur as a consequence of the operation of New Zealand’s largest airport are outside of our operational control. We are actively partnering with stakeholders across the airport ecosystem to address these emissions and work towards Aotearoa New Zealand’s goal to reach net zero by 2050.

We are working with our airline, ground handling and air navigation partners to increase operational efficiency and reduce the impact of aviation on the environment. This includes:

- Provision of two banks of common-use electric vehicle (EV) chargers on the airfield to support ground handlers in their transition to electric ground support equipment (GSE)
- Supplying ground power units (GPUs) and pre-conditioned air at all international gates so aircraft can connect to New Zealand’s low-carbon electricity supply instead of burning jet fuel while at the gate. GPUs will also be installed at all gates in our new domestic jet facility, opening 2028/2029
- Ongoing work with Airways and airlines to reduce aircraft fuel burn by setting fuel-saving flight paths, allocating taxiways to minimise aircraft taxi time and just-in-time pushback allowing aircraft to delay engine use.

Auckland Airport remains committed to supporting initiatives to work through the challenges in decarbonising aviation. Following the publication of New Zealand’s first Emissions Reduction Plan in 2022, a joint government-industry leadership body, Sustainable Aviation Aotearoa, was established to prepare for and accelerate the adoption of lower emissions aircraft. Auckland Airport is proud to be an active member of this group. We are also working closely with our airline partners to understand their plans to introduce alternative aircraft fuels and technologies, and the infrastructure requirements to enable these to be deployed at Auckland Airport.

Emissions reduction has been integrated into the large-scale infrastructure development programme planned over the next ten years. We are working with our design and construction partners to reduce embodied carbon in the materials of our developments. Where possible, projects are targeting

sustainability certification, including the Transport Hub which is targeting a Gold Parksmart rating for the car park, the first parking building expected to achieve the Parksmart rating in New Zealand, and a 5-Star Green certification for the adjoining office building. Mānawa Bay is also targeting a 5-Star Green rating for its design and build with a number of other key sustainability initiatives underway including: optimising resources, reducing carbon emissions, supporting local communities and enhancing the environment.

We are also future-proofing our transport network to enhance connectivity and provide for low-emission transport modes.

Other scope 3 emissions are made up of potable water use and wastewater treatment, waste sent to landfill, staff business travel, and tenant electricity use.

**Auckland Airport’s 2023 carbon emissions**

This year, our scope 1 and 2 emissions have decreased as we progress along our decarbonisation pathway. Natural gas use has decreased with the introduction of our first electric heat pump which has reduced the need for gas boilers to operate at full capacity. Electricity emissions have also dropped, however this is largely due to the lower emission factor for New Zealand grid electricity this year from a higher percentage of renewable electricity being generated within the country. It is expected that scope 1 and 2 emissions will continue to reduce over time as natural gas continues to be phased out from the terminal and electric vehicles continue to be purchased.

Scope 3 emissions, on the other hand, have increased year-on-year with the acceleration of business activity post-COVID-19. Waste and water use have increased due to the tripling of passengers between 2022 and 2023. Business travel and construction activity have also increased as border restrictions have lifted and the business financial performance recovers.

This year we have introduced a much broader range of scope 3 emissions (including aircraft full flight emissions and airside vehicles), so total reported scope 3 emissions have increased significantly year-on-year. We expect to also report on surface access (staff, tenant and passenger commuting) emissions in future years once higher quality data is available.

For the full 2023 emissions profile, please refer to Auckland Airport’s Greenhouse Gas Emissions Inventory Report on the company website. This report outlines further detail about the calculation methodology for Auckland Airport’s emissions, including consolidation approach, emission factors and excluded emissions.

Information within the Greenhouse Gas Emissions Inventory Report is stated in accordance with the requirements of the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004)* (“the GHG Protocol”).

**Additional climate-related metrics**

Auckland Airport has quantified the following additional climate-related metrics in the 2023 financial year.

Metric	FY23	Explanation
Amount or percentage of assets or business activities vulnerable to transition risks	Almost all (>90%) of the business may be impacted to some extent by climate-related transition risks	Auckland Airport’s aeronautical and commercial lines of business may be impacted to varying degrees by transition risks associated with climate change. These impacts include reductions in revenue following potential changes in demand or volume of activity at Auckland Airport.
Amount or percentage of assets or business activities vulnerable to physical risks	13% of the Auckland Airport precinct	Percentage of land area modelled to be impacted by sea level rise and extreme weather events in future under RCP 8.5.
Proportion of revenue, assets, or other business activities aligned with climate-related opportunities, expressed as an amount or percentage	De minimis	Climate-related opportunities have been considered as having low materiality and therefore have not been quantified.
Amount, in reporting currency, of capital expenditure, financing, or investment deployed toward climate-related risks and opportunities	\$2.86 million	Capital expenditure on assets or projects which are separately identifiable, material and whose main purpose is mitigation of climate-related risks or realisation of opportunities. Given climate resilience and decarbonisation is a key focus for many Auckland Airport projects, capex has not been captured for those projects where it is not reasonably practical to separate sustainability elements from the rest of the project. For example, Mānawa Bay’s fully electric food court, installation of larger stormwater infrastructure and Green Star rated buildings.
Internal emissions price	N/A	Auckland Airport does not use an internal emissions price for business activity. However, where needed, the current NZ Emissions Trading Scheme price is used. The future carbon prices under the tourism sector climate-related scenarios have been utilised within Auckland Airport’s climate-related scenario analysis.
Proportion of management remuneration linked to climate-related risks or opportunities in the current period, expressed as a percentage, weighting, description or amount in reporting currency	10% of total Short-Term Incentive for Chief Executive and direct reports	The proportion of the Short-Term Incentive that is linked to climate change is confirmed by the Board for the Chief Executive at the start of the financial year.

Below is a summary of Auckland Airport’s greenhouse gas emissions.

Scope		FY19	FY20	FY21	FY22	FY23
Scope 1	Tonnes CO <sub>2</sub> e	2,472	2,397	1,674	2,004	2,060
Scope 2 <sup>2</sup>	Tonnes CO <sub>2</sub> e	3,423	3,224	2,615	3,007	2,231
Scope 3	Tonnes CO <sub>2</sub> e	6,228	5,185	16,497	77,523 <sup>3</sup>	2,579,061 <sup>4</sup>
Scope 1 & 2 emissions intensity	tonnes CO <sub>2</sub> e per m <sup>2</sup> terminal area	39.23	36.10	28.06	25.69	25.75
Scope 1 & 2 emissions intensity	tonnes CO <sub>2</sub> e per passenger	0.30	0.39	0.73	0.94	0.27

2. FY19-FY22 scope 2 emissions have been restated in FY23 as the methodology for calculation has changed. Electricity transmission and distribution (line losses) for the entire Auckland Airport precinct (including tenants) is now included in scope 3 instead of separating into scope 2 and scope 3.

3. In FY22 Auckland Airport reported aircraft landing and take-off emissions for the first time, resulting in a much higher scope 3 emissions footprint.

4. In FY23 Auckland Airport introduced a wider range of scope 3 emissions sources in an aim to align disclosure with the international Airport Carbon Accreditation framework. This includes aircraft full flight emissions as well as contractor vehicles, airside vehicles and tenant electricity use.

