Climate Statement

2024

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This Climate Statement is structured around the four mandatory sections of the *Aotearoa New Zealand Climate Standard 1 – Climate-related Disclosures* (NZ CS 1), which are based on the recommendations of the *Task Force on Climate-Related Financial Disclosures* (TCFD) that Air New Zealand has reported against in previous years. The order of the disclosures in the Strategy section differs from the order in NZ CS 1 for the purpose of readability.

About this Climate Statement

1.1 Reporting entity

This Climate Statement is for the parent company Air New Zealand Limited (the Parent) and its subsidiaries (together referred to as 'Air New Zealand', 'the Group', or 'the airline'). The Parent is a Climate Reporting Entity under the Financial Markets Conduct Act 2013.

This Climate Statement has been prepared for the year ended 30 June 2024. The scope of the reporting entity aligns with that used for the Group's 2024 Consolidated Financial Statements.

1.2 Compliance statement and statement regarding adoption provisions

This is the Parent's first reporting period under the Aotearoa New Zealand Climate Standards (NZ CS). In relation to the adoption provisions outlined in those Standards, Air New Zealand has applied:

- **Adoption provision 1 (Current financial impacts):** This adoption provision provides an exemption from disclosing the current financial impacts of the physical and transition impacts identified and from disclosing an explanation of why Air New Zealand is unable to disclose this information (if applicable);
- **Adoption provision 2 (Anticipated financial impacts):** This adoption provision provides an exemption from disclosing the anticipated financial impacts of climate-related risks and opportunities reasonably expected by the entity and from disclosing an explanation of why Air New Zealand is unable to disclose this information (if applicable). It also provides an exemption from disclosing a description of the time horizons over which the anticipated financial impacts of climate-related risks and opportunities could reasonably be expected to occur;
- **Adoption provision 3 (Transition planning) (only in relation to paragraph 16(c) of NZ CS 1):** This adoption provision provides an exemption from disclosing the extent to which Transition Plan aspects of Air New Zealand's strategy is aligned with its internal capital deployment and funding decision-making processes;
- **Adoption provision 5 (Comparatives for Scope 3 greenhouse gas emissions (except where indicated)):** This adoption provision provides an exemption from disclosing, for each disclosed Scope 3 greenhouse gas (GHG) emission metric, comparative information for the immediately preceding two reporting periods;
- **Adoption provision 6 (Comparatives for metrics (except where indicated)):** This adoption provision provides an exemption from disclosing, for each disclosed metric, comparative information for the immediately preceding two reporting periods; and
- **Adoption provision 7 (Analysis of trends (except where indicated)):** This adoption provision provides an exemption from disclosing an analysis of the main trends evident from a comparison of each metric from previous reporting periods to the current reporting period.

With those adoption provisions applied, this Climate Statement complies with the NZ CS.

This Climate Statement was approved by the Board of Directors of Air New Zealand (the Board) on 29 August 2024.

Dame Therese Walsh
Chair

Alison Gerry
Director

For and on behalf of the Board.

About this Climate Statement (continued)

1.3 Forward-looking statements and the uncertainty inherent in climate change

Climate change is an evolving challenge, with high levels of uncertainty, particularly over long-term horizons. Descriptions of the impacts of climate change on the Group necessarily involve estimates and uncertain projections. Risks and opportunities may be more or less significant than anticipated.

There are many factors that could cause the Group's actual results, performance or achievement of climate-related metrics, including targets, to differ materially from that described. These include economic and technological viability, and climatic, government, legal, consumer and market factors outside of the Group's control.

This Climate Statement contains disclosures that rely on evolving assessments of current and forward-looking information, incomplete or estimated data, and related judgements, opinions and assumptions. Air New Zealand has sought to provide accurate information but would caution against reliance being placed on representations that are necessarily subject to significant risks, uncertainties or assumptions.

Air New Zealand has based the contents of this Climate Statement on the strategies and information it has at the date of publication. It does not:

- Represent that those statements and opinions will not change or will remain correct after publishing this Climate Statement;
- Undertake to revise or update those statements and opinions if events or circumstances change or unanticipated events happen after publishing this Climate Statement, other than as required by law; or
- Give any representation, guarantee, warranty or assurance about its future business performance, or that the outcomes expressed or implied in any forward-looking statement made in this Climate Statement, including its performance against climate-related targets, will occur.

Forward-looking statements can generally be identified by the use of words such as "may", "should", "will", "plan", or similar expressions. Forward-looking statements regarding the Group's business operations, market conditions, sustainability objectives, climate-related targets and risk management practices necessarily involve assumptions, forecasts and projections about the Group's present and future operating environment and strategies which are inherently uncertain and subject to contingencies outside the Group's control.

Risks and opportunities described in this Climate Statement, and Air New Zealand's strategies to achieve its targets, may not eventuate or may be more or less significant than anticipated. While Air New Zealand has made every effort to fairly present this Climate Statement, it gives no representation, guarantee, warranty or assurance about its future business performance, or that the outcomes expressed or implied in any forward-looking statement made in this document, including its performance against climate-related targets, will occur.

To the extent permitted by law, the Group does not accept any liability whatsoever for any loss arising directly or indirectly from any use of, or reliance upon, the information contained in this Climate Statement. Nothing in this Climate Statement should be interpreted as capital growth, earnings or any other legal, financial, tax or other advice or guidance.

1.4 Materiality

The Group has followed the guidance set out in Aotearoa New Zealand Climate Standard 3 - General Requirements for Climate-related Disclosures (NZ CS 3) in relation to the application of materiality. Information is considered material where 'omitting, misstating or obscuring it could reasonably be expected to influence decisions that primary users make on the basis of an entity's climate-related disclosures'. The primary users of this report are expected to be potential and existing investors, lenders and insurers, and other creditors.

To help with understanding the terminology used throughout this Climate Statement, a glossary of key terms is included on page 49.

1.5 Enquiries

If you have any questions or comments regarding this Climate Statement, please contact investor@airnz.co.nz.

Governance

2.1 Oversight by the Board of Directors

This section describes governance of climate-related risks and opportunities at Air New Zealand. It includes five sections: the identity of the governance body, the process and frequency of updates, how the Board ensures sufficient skills and competencies are available, the integration of climate into strategy, and how the Board sets and monitors climate-related metrics and targets.

Governance body

The primary responsibility of Air New Zealand's Board is to exercise their individual and collective judgement to act in what they believe to be the best interests of the Group and its shareholders. This includes active engagement in directing and approving the strategic planning of the airline, including in relation to climate matters, and responsibility for oversight of climate-related risks and opportunities.

The Board-approved strategy, Kia Mau, provides a strategic framework for the airline. Embedded within this is the airline's sustainability enabler, which includes climate-related matters.

The Audit & Risk Committee (ARC) is the Board subcommittee which oversees financial reporting, compliance, and risk management practices. As part of its role, the ARC oversees key risks for the Group including climate change risks.

Governance process and frequency

The Board receives information regarding climate-related matters through three primary channels: strategy sessions, regular board paper reporting, and standalone approval requests and information updates from Management.

In terms of regular board paper reporting, the Board receives the following updates:

- **Monthly** tracking of the sustainability-related component of the annual Short-Term Incentive (STI) award in a monthly update delivered by the Chief Financial Officer (CFO);
- **Monthly** updates in the period leading up to year-end reporting on the process, progress and content of this Climate Statement from a cross-functional management-level Climate-Related Disclosures Steering Committee;
- **Twice-yearly** compliance updates on domestic and international emissions obligations from the Sustainability and Corporate Finance teams;
- **Twice-yearly** updates on the airline's top strategic risks, including climate-related risks, from the Enterprise Risk team;
- **Twice-yearly** updates on the airline's Transition Plan (since May 2024) from the Transition Plan Governance Forum; and
- **Annual** review and approval of the airline's Sustainability Report, Greenhouse Gas Emissions Inventory Report, and Climate Statement from the cross-functional management-level Climate-Related Disclosures Steering Committee.

Some examples of standalone climate-related approval requests and information updates from Management that have been considered by the Board in the 2024 financial year include the purchase of a Next Generation Aircraft (NGA) and the scope of uses for the airline's Climate and Nature Fund. The Board also considers the sustainability, including climate-related, impacts and exposures of new business cases that it reviews where relevant, and balances these impacts with other considerations when making approval decisions.

Board skills and competencies

The Board ensures that appropriate climate-related skills and competencies are available to provide oversight of climate-related risks and opportunities through:

Board appointments: A wide range of skills and competencies are considered as part of the process of selecting new Directors. Balanced and complementary skill sets across a wide variety of areas and experience is a key focus for Board appointments. This can include climate-related skills and competencies.

Training: Some Directors participate in training on climate-related topics. During the 2024 financial year, one Director completed the Advanced Directors' Course delivered by the New Zealand Institute of Directors. Four further Directors enrolled in the Climate Change Governance Essentials course during the 2024 financial year and plan to complete it during the 2025 financial year. All Directors of the Board are also members of Chapter Zero New Zealand.

Management delegations: Responsibility for implementing the strategy and for managing day-to-day operations is delegated to the Chief Executive Officer (CEO) and, through that role, the Executive team, which includes the Chief Sustainability and Corporate Affairs Officer (CSCAO). These delegations cover responsibility for developing a plan for the airline's sustainability strategy, securing appropriate resourcing and keeping the Board updated as needed. This includes appointing people with appropriate experience, qualifications, skills and competencies on climate-related matters into relevant positions, and making the Sustainability team's expertise available across the business as required. This is described in more detail in section 2.2 The role of Management.

Governance (continued)

External experts: Air New Zealand engages external expertise to supplement internal skills and competencies where necessary. This includes twice-yearly meetings with the Sustainability Advisory Panel which comprises external experts providing independent advice to Air New Zealand in relation to sustainability developments and initiatives. These meetings include sessions with the Board, the Executive team and the Sustainability team. Details about the panel are available on Air New Zealand's website. The dynamic environment in which the airline operates may result in changes to the role of the panel or its composition in the future.

The following Directors have specific external governance roles regarding climate-related risks and opportunities which expose them on an ongoing basis to the latest climate-related developments:

- Dame Therese Walsh is Chair of the Chapter Zero New Zealand Steering Committee. She is also Chair of the Nominating Committee for He Pou a Rangi, the New Zealand Climate Change Commission; and
- Laurissa Cooney is also a member of the Chapter Zero New Zealand Steering Committee and is Co-Chair of The Aotearoa Circle.

Chapter Zero New Zealand is the New Zealand chapter of the Climate Governance Initiative, hosted by the New Zealand Institute of Directors. The Climate Governance Initiative builds on the World Economic Forum's Principles for Effective Climate Governance and has a mission to mobilise, connect, educate and equip directors and boards to make climate appropriate governance decisions, thereby creating long-term value for both shareholders and stakeholders.

He Pou a Rangi, the New Zealand Climate Change Commission is an independent Crown entity that advises the New Zealand Government on climate change policy and monitors the government's progress towards New Zealand's emission reduction goals.

The Aotearoa Circle is a public private partnership, whose purpose is to restore natural capital in New Zealand.

Integration of climate change into Air New Zealand's Kia Mau Strategy

Key climate-related risks were considered when Air New Zealand's Kia Mau strategy was first formed and approved by the Board in 2020. Management and the Board oversee implementation of the strategy through periodic reviews of progress and updates where required. As part of these reviews and updates, the Board considers climate-related risks and opportunities.

On an annual basis the Board reviews the airline's five-year financial plan and formally approves its annual budget, both of which include consideration of climate-related risks and opportunities.

Setting, monitoring, and overseeing climate-related metrics and targets

The Board approves climate-related metrics and targets following advice from Management. The airline's targets are briefly discussed on the following page and outlined in detail in sections 3.5 Transition Plan and 5.3 Targets used to manage climate-related risks and opportunities.

Once set, the Board formally monitors progress against the targets in its monthly updates on metrics from the CFO, twice-yearly Transition Plan update, and as otherwise required. This monitoring includes consideration of the ongoing reasonableness and achievability of the targets.

Governance (continued)

2050 Target

As a member of the International Air Transport Association (IATA), Air New Zealand has set a target to achieve 'net zero' carbon emissions by 2050 (the 2050 Target). This involves:

- Reducing emissions through using more efficient aircraft, adopting NGA, and improving operational efficiency (noting that the airline expects to continue to use fossil jet fuel for its fleet through and beyond 2050);
- Reducing emissions through increased use of Sustainable Aviation Fuel (SAF) (with emissions being reduced due to the biogenic nature of SAF that is explained in the box SAF - biogenic emissions on page 27, despite producing similar emissions as fossil jet fuel when combusted); and
- Thereafter, selectively using eligible carbon credits and removals to address residual emissions in the period to 2050.

The methods and pathways for endeavouring to meet the 2050 Target constitute the 'Transition Plan' aspects of Air New Zealand's strategy. The Transition Plan is difficult to achieve and is dependent on numerous external factors including policy and technology developments, as well as cost and other commercial constraints on the ability to decarbonise. The 2050 Target and the airline's Transition Plan to achieve it are described in detail in sections 3.5 Transition Plan and 5.3 Targets used to manage climate-related risks and opportunities.

2030 Target

In August 2022, Air New Zealand set a near-term target for 2030 in line with the aviation sector methodology designed by the Science-Based Targets initiative (SBTi) to reduce its carbon emissions intensity by 28.9 percent against a 2019 baseline (the 2030 Target).

After careful consideration, Air New Zealand retracted this target and withdrew from the SBTi in July 2024.

This was driven by two main factors. Many of the levers needed to meet the target, including the availability of new aircraft, the affordability and availability of SAF, and global and domestic regulatory and policy support, are outside the airline's direct control and remain challenging. More recently, delays and potential ongoing delays to the airline's fleet renewal plan due to global manufacturing and supply chain issues that could potentially slow the introduction of newer, more fuel efficient aircraft into the fleet posed an additional risk to the target's achievability.

The 2030 Target as it stood during the 2024 financial year is described in detail in section 5.3 Targets used to manage climate-related risks and opportunities and some of the challenges associated with its achievement are outlined in section 3.3 Current impacts and anticipated impacts of climate-related risks and opportunities.

Work has begun to consider a new near-term carbon emission reduction target that reflects these challenges.

In addition to this ongoing work, Air New Zealand remains a signatory to the World Economic Forum's Clean Skies for Tomorrow Ambition Statement, which the airline signed in October 2021. This has been reported in previous years' Sustainability reports. That Ambition Statement requires signatories to target using 10 percent SAF (as a percentage of their total fuel) in 2030.

Governance (continued)

2.2 The role of Management

Management-level responsibilities

Management is responsible for identifying and managing Air New Zealand's climate-related risks and opportunities. This responsibility is delegated and shared across different groups.

The CSCAO leads the Sustainability team, who provide expertise and advice to the airline about climate mitigation and adaptation. The CSCAO reports directly to the CEO and leads the sustainability enabler of the Group's strategy.

The Executive team is responsible for delivery of the Transition Plan, with each Executive overseeing climate risk and opportunities relevant to their business units. The Transition Plan is governed by the quarterly Transition Plan Governance Forum, which is chaired by the CEO, and includes the Executive team and other relevant senior leaders.

The Sustainability team delivers climate-related priorities, top-down physical and transition risk analysis, climate-related advocacy, and leadership of key climate projects. It also manages the Transition Plan Governance Forum and supports all business units to understand the sustainability, including climate-related, impacts of proposals considered in the airline's investment decision-making processes.

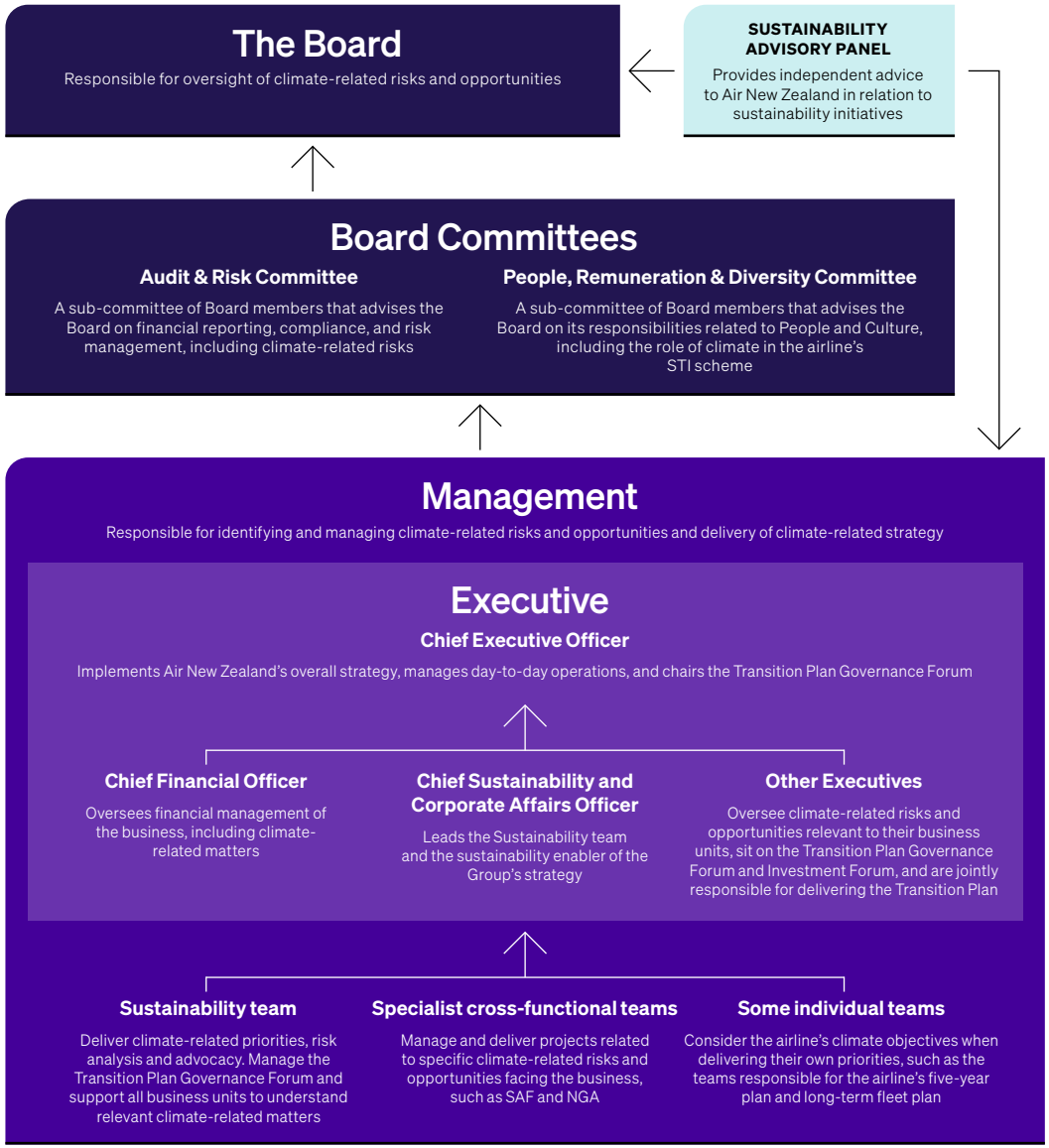
Senior leaders across the business oversee climate risk and opportunities relevant to their business units through divisional risk profiles and progress reporting against climate-related performance indicators in their respective business units.

Specialist cross-functional teams focus on specific climate-related risks and opportunities facing the business. These include teams for SAF, NGA, customer emissions reporting and operational integrity. The teams responsible for the airline's five-year financial plan and long-term fleet plan also consider the airline's climate objectives when developing these plans. Members of the Sustainability team join these teams to provide advice and support as required.

The frequency with which management-level positions or committees engage with the governance body is described in section 2.1 Oversight by the Board of Directors.

Organisational structure

The organisational structure, showing relevant management-level positions and committees relevant to climate-related matters, is illustrated on the right.



Governance (continued)

Process and frequency of climate-related updates to Management

Climate-related updates are regularly communicated to the Executive team and senior management through various internal channels. These are reported on the right. In addition to these regular updates, other frequent ad hoc updates are provided, including updates by the Sustainability team at management meetings, Steering Committee meetings on climate-related topics, and internal planning meetings.

Update	Description	Frequency
Airline-wide business planning	Each quarter the Executive team sets priorities for the next quarter to give effect to the airline's strategy. Sustainability items, including climate matters, are regularly included which helps ensure access to sufficient resources to execute, and elevate the priority of, identified sustainability workstreams. Ahead of monthly sessions where the Executive team review performance against these priorities, they also review reporting on climate-related metrics, amongst other things, and business decisions may be made at these sessions.	Priorities set quarterly Updates received monthly
Transition Plan Governance Forum	Each quarter, the Executive team meets with senior leaders across the business to monitor planning for, and delivery of, the airline's Transition Plan. This Forum is chaired by the CEO.	Quarterly
Investment Forum	Each month, the Executive team sits on a forum that considers for approval any significant investment proposals, which must include an assessment of potential climate-related impacts, where relevant.	Monthly
CSCAO updates	At the Executive team's weekly meeting, the CSCAO provides an update on climate-related matters, where relevant.	Weekly

Strategy

3.1 Scenario analysis

Air New Zealand conducted climate-related scenario analysis in the 2023 and 2024 financial years. This section outlines the goals of that analysis, explains the process and governance of the analysis, describes the scenarios used, and outlines the methods and timelines it adopted.

Climate scenarios are not forecasts or probabilistic, they are illustrative and designed to highlight potential risks, opportunities, and dynamics. The process is theoretical and involves significant uncertainty. Future climate patterns, socioeconomic responses to climate change, energy development pathways, New Zealand specific impacts, aviation sector technology, and customer and competitive dynamics are all highly uncertain and necessarily driven by assumptions and hypotheses. While scenario analysis is helpful for identifying climate-related risks and opportunities and testing the resilience of the airline's strategy, it does not provide an indication of probable outcomes.

The airline plans to periodically refresh the scenario analysis depending on sector developments, the emergence of additional relevant data that could produce materially new insights, such as the latest climate science, and stakeholder feedback. Air New Zealand intends to update its scenario analysis in the 2025 financial year to align it with the latest policy trajectories, take advantage of increasingly mature scenario analysis methodologies, and take account of any new significant information including industry developments and updated research about aviation's climate mitigation options.

More detail about the scenarios is available in Appendix A: Details of scenario analysis.

Goals of scenario analysis

Air New Zealand developed a set of goals and principles to guide its scenario analysis. The goals were to:

- Identify climate-related risks and opportunities;
- Test the resilience of the airline's decarbonisation strategy; and
- Meet obligations under the NZ CS.

To meet these goals, the airline sought to meet three principles: to select plausible, internally consistent scenarios; to ensure scenarios were sufficiently differentiated to produce insights on a breadth of plausible futures; and to adopt at least three scenarios, including one 1.5°C aligned, one >3°C and at least one other scenario.

Process and governance

Air New Zealand's scenario analysis consisted of the following five steps:

1. Convene a management-level Steering Committee;
2. Agree goals for analysis;
3. Define scenarios;
4. Identify transition and physical risks across scenarios; and
5. Assess resilience of the airline's strategy.

The scenario analysis was a standalone process but its outputs have been used in a number of ways, including insights from the work influencing the evolution of the airline's Transition Plan, and outputs of the work serving as inputs to the airline's assessment of climate-related risks and opportunities in its usual risk management process, described in section 4. Risk Management.

The Steering Committee was the primary governance mechanism for the scenario analysis. The Steering Committee consisted of the CSCAO, the Chief Operational Integrity and Safety Officer, and senior leaders from the Legal, Finance, Network Strategy and Sustainability teams. The Steering Committee oversaw steps 2 through 5. A working team facilitated the overall process and undertook the analysis. This included external consulting support from WSP New Zealand, Accenture New Zealand, and Risk Frontiers. This process included input and oversight from the Board, including approval of the scenarios for analysis.

Strategy (continued)

Description of scenarios

The three scenarios Air New Zealand used for its scenario analysis are described below. The starting point for each scenario is one of the Intergovernmental Panel on Climate Change's (IPCC's) Shared Socioeconomic Pathways (SSPs), which are a set of illustrative emissions scenarios developed in the IPCC's 6th Assessment Report.[1]

These scenarios refer to possible future states of the world developed by the airline to test the resilience of its current business model and strategy, and identify potential climate-related risks and opportunities. The scenarios do not represent predictions or forecasts. That means the 'Ambitious' scenario, for example, refers to a hypothetical scenario with ambitious global action on climate change mitigation and adaptation, rather than an ambitious set of outcomes for Air New Zealand specifically.

SCENARIO 1: 'Ambitious' scenario

The airline's first climate scenario is aligned to SSP1-1.9 and is consistent with 1.5°C of global warming by 2100, where global GHG emissions are managed down to levels consistent with the Paris Agreement.

This scenario limits physical damage through substantial global policy support, successful collaboration to accelerate technology development, accelerated renewable electricity adoption, and accelerated green hydrogen and SAF development and adoption time frames.

In this scenario, New Zealand will experience accelerated renewable energy adoption and highly responsive financial markets that reward businesses adopting science-based decarbonisation pathways.

The aviation sector will see rapid technology development, highly supportive policy environments, and lower corporate, cargo and passenger demand than in the other scenarios.

This scenario will require the collective global community to rapidly decarbonise and follow through with the investment and adoption necessary to achieve reduction targets.

TEMPERATURE	SSP	POLICY AMBITION AND SUPPORT	TECHNOLOGY DEVELOPMENT	CUSTOMER DEMAND
1.5°C	**SSP 1-1.9**	**Highly supportive**	**Rapid**	**Lowest**

SCENARIO 2: 'Steady' scenario

The airline's second climate scenario is aligned to SSP2-4.5 and is consistent with 2.7°C of global warming by 2100.

Air New Zealand considers that this scenario is most in line with existing global decarbonisation policies[2] and actions, and represents moderate GHG emissions from more gradual global renewable energy and technology development and adoption.

Compared to the 'Ambitious' scenario, the global energy pathway includes less abundant renewables and more widespread barriers to green hydrogen and SAF development and adoption, and lower renewable energy adoption and less responsive financial markets in New Zealand.

In this scenario, the aviation sector will see less successful technology development and less government support for decarbonisation than the 'Ambitious' scenario, while corporate, cargo, and passenger demand is higher.

TEMPERATURE	SSP	POLICY AMBITION AND SUPPORT	TECHNOLOGY DEVELOPMENT	CUSTOMER DEMAND
2.7°C	**SSP 2-4.5**	**Less government support**	**Gradual, less successful**	**Lower**

SCENARIO 3: 'Delayed' scenario

The airline's third climate scenario is aligned to SSP3-7.0 and is consistent with 3.6°C of global warming by 2100.

Air New Zealand considers this scenario to represent a weakening of global targets, policies, and actions, and meets the NZ CS requirements to model at least one >3.0°C scenario.

It would see global GHG emissions continue to increase through this century due to limited cooperation on policy and technology, and less renewable energy development and adoption.

New Zealand would see significantly more extreme weather, less adoption of new renewable energy technology, and slow market and business responses.

In the aviation sector, technology development would be slow and there would be limited government support. Corporate, cargo and passenger demand will be the highest of the three scenarios, driven by fewer restrictions and policies discouraging demand.

TEMPERATURE	SSP	POLICY AMBITION AND SUPPORT	TECHNOLOGY DEVELOPMENT	CUSTOMER DEMAND
3.6°C	**SSP 3-7.0**	**Limited cooperation and support**	**Slow**	**Highest**

1. UN IPCC (2023), 'Synthesis report', via https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullVolume.pdf 2. Climate Action Tracker (2023), 'Warming Projections Global Update', via https://climateactiontracker.org/documents/1187/CAT_2023-12-05_GlobalUpdate_COP28.pdf

Strategy (continued)

Method and time horizons

Air New Zealand's scenario analysis involved defining scenarios across four sets of parameters and developing two key models to identify risks and test the airline's strategy. The scenarios considered the time frame from 2024 – 2100 and were developed with reference to the IPCC's SSPs, which use the year 2100 as an end point.

The scenarios were developed by making selections across four sets of parameters: global climate and socioeconomic pathways; global energy pathways; New Zealand-specific impacts; and aviation-specific developments. More detail about the scenarios is available in Appendix A: Details of scenario analysis.

Two key models were developed to support the airline's scenario analysis:

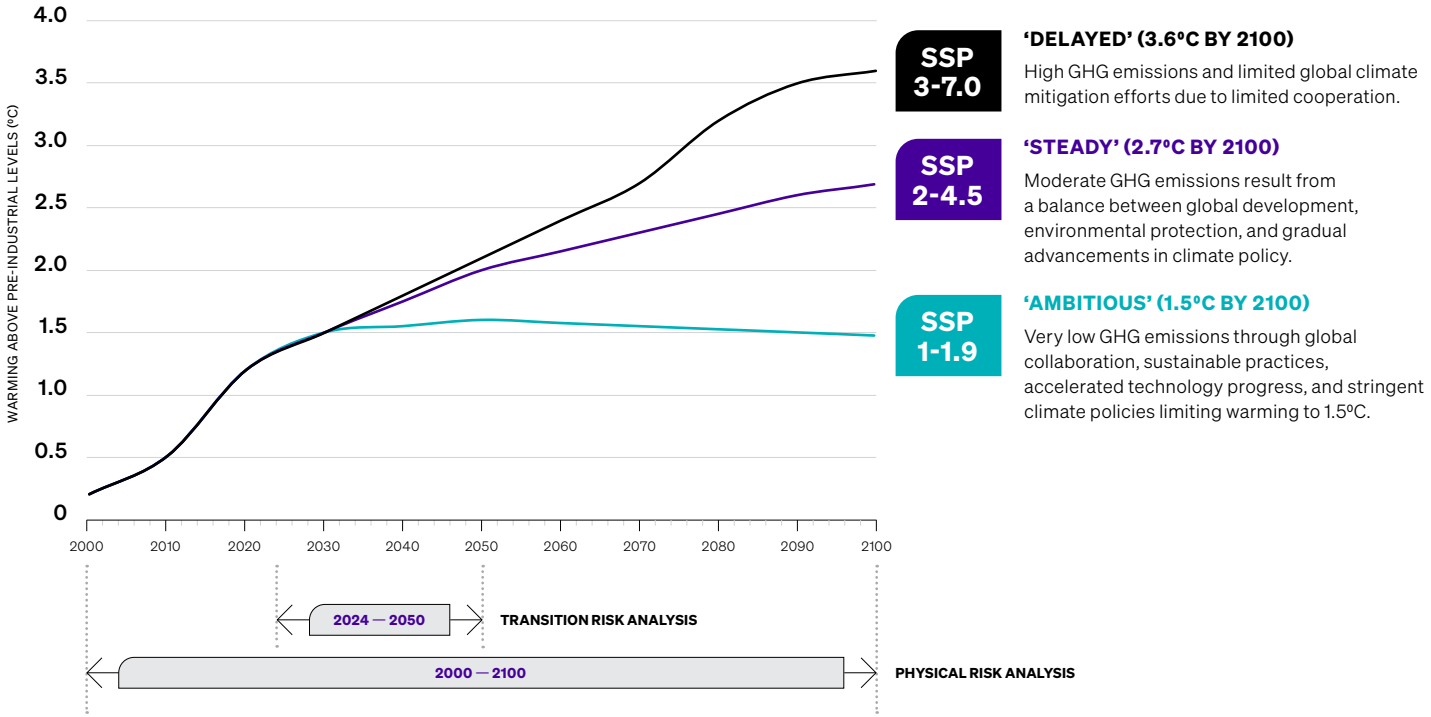
A physical risk model

This analysed the future frequency and severity of acute weather events at the domestic and international airports which Air New Zealand flies to. This included the frequency of severe heat, fog, wind, thunderstorms, rain, ice and snow that has occurred each year since 1990, and projected occurrences out to 2100.

The physical risk model was considered appropriate and relevant to assessing the resilience of Air New Zealand's business model and strategy to climate-related risks and opportunities because it combined data from a range of external, peer-reviewed models. This combination of models was chosen for several reasons, including that they: include a range of possible temperature changes for a given amount of carbon dioxide emissions; are produced by reputable research groups; are independent from one another; provide access to a range of scenarios; and include a range of relevant and detailed variables required for physical climate risk analysis in the aviation sector. The physical risk model also met the airline's goals and principles for the scenario analysis.

SSP time horizons are defined based on a 2100 endpoint

IPCC Scenarios: Shared Socioeconomic Pathways (SSPs), aligned with Representative Concentration Pathways (RCPs).



Air New Zealand also commenced engagement with Auckland International Airport to share respective findings regarding physical risks identified at Auckland airport, given it is the airline's main operational hub.

A transition risk model

This analysed the potential risks and opportunities from further emissions pricing, changes to NGA and SAF adoption time frames, and competitive impacts of airfare pricing changes. The purpose of this model was to test the resilience of the airline's 2050 Target and pathway under the different scenarios.

The model was deemed appropriate and relevant to assessing the resilience of Air New Zealand's business model and strategy to climate-related risks and opportunities because it leveraged leading independent data sources, and it was aligned with the airline's scenario analysis goals and principles.

Strategy (continued)

3.2 Climate-related risks and opportunities

This section describes the climate-related risks and opportunities identified by the airline, and associated time frames.

Climate-related opportunities

Air New Zealand has not identified any material 'opportunities' from climate change, as they are defined by NZ CS 1. On balance, the effects of climate change create risks for the aviation sector, notwithstanding the opportunities to reduce the impact of those risks (for example, by reducing emissions through new technology such as SAF and NGA or reducing emissions costs or the costs of such technology through different mitigators). This is discussed further in this section and in section 3.3 Current impacts and anticipated impacts of climate-related risks.

There may also be opportunities for the airline to differentiate itself competitively by moving faster or slower than peers to decarbonise, or to evolve its Domestic network through the use of NGA in the future. However, the size and nature of these opportunities is not yet considered material.

This lack of material opportunities is largely driven by the airline's current reliance on fossil jet fuel, its decarbonisation targets and Transition Plan, and the uncertainty of future technological, customer, competitive, policy, regulatory and other developments.

Climate-related risks, including whether physical or transition

Air New Zealand has identified 11 categories of material climate-related risks, summarised in the table on page 13. These risks were identified through bottom-up business unit level risk management processes, dedicated cross-functional workshops, scenario analysis, supplementary analysis by the Sustainability team, and ongoing operational work on climate-related projects such as SAF and NGA. The risks described in the table are gross risks before factoring in mitigations.

These risks are interrelated and correlated. They link to each other across categories and if one materialised it could change the likelihood and / or possible magnitude of others.

Time frames

The identified climate-related risks are described as likely to occur over the following short, medium, or long-term time frames:

- **Short-term:** 0-5 years, which aligns with strategic and network planning time horizons for the airline's five-year financial plan, which incorporates capital deployment plans;
- **Medium-term:** 5-18 years, which aligns with decisions about fleet planning and aircraft lease and purchases, and generally represent the airline's longest capital deployment horizons, excluding property;
- **Long-term:** 18 years and beyond, which would include the airline's 2050 Target time frame and the time-period over which the airline expects the greatest physical impacts of climate change to occur.

Strategy (continued)

CATEGORY OF RISK	SUMMARY OF SPECIFIC RISK (SEE FOLLOWING SECTION FOR FURTHER DETAILS)	MATERIAL TIME FRAMES SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
PHYSICAL RISKS				
1 Acute and severe weather events	Climate change is expected to increase the magnitude and frequency of acute and severe weather events. This could cause delays and disruptions to the airline's operations, and potentially damage physical assets like aircraft, property, and ground service equipment.	*	◉	◉
2 Chronic climate change	Longer-term shifts in underlying climate patterns like average temperature, rainfall, and sea level rise could constrain the airline's network options, increase mitigation spending, and exacerbate the effect of increased acute and severe events.		◉	◉
TRANSITION RISKS FOR THE AIRLINE				
3 Changing demand	Climate change could affect underlying drivers of aviation demand, consumer preferences, and airline costs, which might affect demand for all global airline services, including Air New Zealand's.	◉	◉	◉
4 Competitive differentiation	In this context, competitive differentiation refers to the pace and cost at which Air New Zealand transitions to a lower emissions business model, compared to competitors. Both the airline's strategic choices around its Transition Plan, and similarities and differences in policy settings across markets, could affect the pace and cost of the airline's transition and competitive positioning relative to peers.	◉	◉	◉
5 Emissions pricing	Air New Zealand is currently a participant in two emissions pricing schemes: the New Zealand Emissions Trading Scheme (NZ ETS) and the International Civil Aviation Organization's (ICAO) Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). Potential changes to the scope of emissions included in these schemes, the level and volatility of emissions pricing in the schemes, and the potential for new emissions pricing schemes to be developed, could increase the airline's cost base.	◉	◉	◉
6 Funding, insurance and legal claims	Air New Zealand's ability to transition to a lower emissions business model, and its exposure to climate-related risks and regulation, may affect the airline's access to funding and insurance, and its legal exposure.		◉	◉
7 Supply chain disruption and cost increases	The resilience and adaptability of Air New Zealand's supply chain to climate-related risks could affect the airline's ongoing operations. This includes airports and suppliers of other infrastructure, air traffic management services, aircraft, fuel and fuelling infrastructure, and spare parts and engines for aircraft.	◉	◉	◉
TRANSITION RISKS RELATING TO THE TRANSITION PLAN				
8 Availability and price of SAF	Acquiring the required volumes of SAF at commercial prices is a material success factor for the airline's achievement of its Transition Plan. The airline's ability to do this relies on external developments in production, technology, certification, costs and policy support, which are all evolving rapidly and so carry significant uncertainty and risks for the airline.	◉	◉	◉
9 Carbon removal supply and cost	In the longer term, Air New Zealand anticipates relying on carbon removals to address residual emissions and achieve its 2050 Target. This includes 'nature-based' removals, for example, enhancements to natural systems or ecosystems that sequester and store carbon on a certified, additional, and enduring basis, and 'engineered' removals, for example, using technology to capture CO_2 directly from the air. However, the availability, cost and credibility of both nature-based and engineered removals represent material uncertainties and risks to the airline's achievement of its Transition Plan.		◉	◉
10 Conventional fleet renewal	Replacement of the current fleet with more efficient and / or innovatively designed conventional aircraft is critical to achievement of the airline's Transition Plan but relies on global suppliers to deliver affordable aircraft on expected timelines. These suppliers are already severely constrained and development and commercialisation time frames are uncertain.	◉	◉	◉
11 Next Generation Aircraft adoption	Air New Zealand expects NGA to play a role in achieving the 2050 Target. However, significant progress by third parties is required for this to be viable. Delays in the medium to long-term could impact the delivery of the airline's Transition Plan.		◉	◉

* Note on short-term impacts: while acute and severe weather events can occur in the short-term, the contribution of climate change to exacerbating the impact of these events is difficult to attribute, and the associated financial impact is unlikely to be material to Air New Zealand, so the risk posed to Air New Zealand is assessed as not material in the short-term. Air New Zealand nonetheless acknowledges that these events would likely be material and potentially devastating to impacted communities.

Strategy (continued)

3.3 Current impacts and anticipated impacts of climate-related risks

This section includes information about the current and anticipated impacts of Air New Zealand's climate-related risks. They refer to gross risks before factoring in mitigations, not residual risks.

Physical risks

MATERIAL TIME FRAMES		
SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
*	◉	◉

1 Acute and severe weather events

Description	**Climate change is expected to increase the magnitude and frequency of acute and severe weather events. This could cause delays and disruptions to the airline's operations, and potentially damage physical assets like aircraft, property, and ground service equipment.**
Current impact	No material current impacts.
Anticipated impact	**More frequent and significant acute and severe weather events could increase operational delays and disruptions.** Specifically, external climate modelling suggests increased frequency of thunderstorms and rain and decreased frequency of fog and ice across the Domestic network. Similarly, across the international network, external climate modelling suggests an increase in exposure to extreme heat, extreme rainfall, thunderstorms, and maximum wind speeds at most locations. Modelling also suggests a reduction in cold-related hazards at most locations, including ice, snow, and fog. The airline's ability to manage its business to mitigate the effect of the potential increased frequency of these events will determine how they impact delays and disruptions. Greater disruptions could affect the airline's revenue, costs and reputation. **The risk of weather-related damage to 'immovable' physical assets could increase due to the combination of more frequent and / or severe weather events, potentially increasing costs.** This is most likely to occur where rising sea levels increase flood risk and damage the airline's 'immovable' physical assets like buildings and contents. The locations with the greatest 'immovable' physical asset values and currently assessed as having high exposure to these risks are Auckland, Wellington, and Nelson airports. Depending on insurance coverage of these assets, the airline's revenue or costs could be impacted. **Increased frequency and severity of storms may also increase the likelihood of damage to aircraft, potentially increasing maintenance costs and disrupting scheduling.** Air New Zealand's largest fixed assets by value are its aircraft. In many cases, aircraft are movable when damaging weather events are anticipated. However, there is some risk that climate change brings more frequent and / or severe storms that could damage aircraft in the air or on the ground, including through hail and lightning strikes. This could increase maintenance costs and require aircraft to be out of service during repairs. This could disrupt scheduling, which may result in reduced revenue and reputational damage. **Greater acute and severe weather events could require more employee training and protection measures to mitigate any increases to Occupational Health & Safety (OH&S) risks.** Greater thunderstorms, heat waves, and other acute and severe weather events may increase OH&S risks for Air New Zealand's staff and require the airline to increase investment to mitigate those risks.

* Note on short-term impacts: while acute and severe weather events can occur in the short-term, the contribution of climate change to exacerbating the impact of these events is difficult to attribute, and the associated financial impact is unlikely to be material to Air New Zealand, so the risk posed to Air New Zealand is assessed as not material in the short-term. Air New Zealand nonetheless acknowledges that these events would likely be material and potentially devastating to impacted communities.

Strategy (continued)

2 Chronic climate change

MATERIAL TIME FRAMES		
SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
	◉	◉

Description	**Longer-term shifts in underlying climate patterns such as average temperature, rainfall and sea level rise could constrain the airline's network options and exacerbate the effect of increased acute and severe events.**
Current impact	No material current impacts.
Anticipated impact	**Chronic climate change and increased risks of physical asset damage could increase the airline's mitigation spending.** For example, as the expected magnitude and frequency of acute and severe weather events increases, those locations that are also vulnerable to chronic climate change might need greater spending to strengthen or protect physical assets from the impacts of these events. This could raise costs for the airline. **Chronic climate change could constrain network choices and create uncertainty in network planning in the long-term.** Network planning includes decisions about destinations, aircraft choice, and frequency. Significant increases in average temperatures, rainfall, or sea level rise could affect the long-term viability of some airports or desirability of destinations in Air New Zealand's International network in particular. While the airline can generally adjust its network in response to impacts on its network, this may involve deploying aircraft on higher cost or lower revenue routes than they otherwise might operate on, potentially affecting overall profitability.

Strategy (continued)

Transition risks for the airline

3 Changing demand

MATERIAL TIME FRAMES		
SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
◉	◉	◉

Description	**Climate change could affect underlying drivers of aviation demand, consumer preferences, and airline costs, which might affect demand for all global airline services, including Air New Zealand's.**
Current impact	No material current impacts. Air New Zealand's customer research suggests some customers are starting to consider changing their air travel behaviour for climate-related reasons, but it is difficult to identify the impact of this on bookings.
Anticipated impact	Note that the airline's financial performance is highly sensitive to small changes in revenue, so small changes in these demand drivers could materially affect profitability. **Changes to underlying aviation demand drivers could increase or decrease demand for Air New Zealand's services.** These underlying drivers of aviation demand include factors like the state of the domestic economy, tourism levels, migration rates, and export demand and supply. Climate change could affect these drivers in different ways. For example, physical changes to New Zealand's environment might reduce tourism demand, while New Zealand's net migration might increase as global populations shift to avoid the worst physical impacts of climate change. **More climate conscious customers could increase or decrease demand for Air New Zealand's services.** For example, some customers might seek to reduce their overall flying, while others might fly more or less with Air New Zealand depending on whether the airline is seen as more or less sustainable than its competitors. **Climate change might increase Air New Zealand's cost base, which could increase ticket prices and decrease demand for the airline's services.** Aviation costs have increased over time due to inflation and rising input costs and this trend is expected to continue. The transition to low emissions flying and responding to the physical impacts of climate change is also likely to increase costs, which could make flying less affordable for some customers and reduce demand for the airline's services.

Strategy (continued)

MATERIAL TIME FRAMES		
SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
◉	◉	◉

4 Competitive differentiation

Description

In this context, competitive differentiation refers to the pace and cost at which Air New Zealand transitions to a lower emissions business model, compared to competitors. Both the airline's strategic choices around its Transition Plan, and similarities and differences in policy settings across markets, could affect the pace and cost of the airline's transition and competitive positioning relative to peers.

Current impact

The impact on Air New Zealand's competitive positioning in 2024 from its signalling about the pace and cost of its Transition Plan was unclear. The airline published information about its Transition Plan in its 2023 Sustainability Report and issued updates throughout the year on its expectations for SAF and NGA developments. Overall, the impact of these messages on the airline's competitive positioning is not clear.

Uneven emissions pricing regimes and SAF policy support disadvantaged Air New Zealand compared to competitors throughout the year. Unlike Air New Zealand, many of the airline's competitors do not face emissions trading scheme obligations in their domestic markets and therefore face lower operating costs, all else being equal. Similarly, SAF policy support was in place in California, Illinois, the USA more generally, and British Columbia which effectively lowered the cost of SAF in these markets. While Air New Zealand can uplift some SAF from these markets, it cannot benefit from the policy support to the same extent as airlines with more of their operations in those locations.

Anticipated impact

Ongoing strategic choices that the airline makes about the pace and cost of its Transition Plan could affect its competitive positioning. If the airline moves more quickly than competitors, it could create opportunities to stand out to customers and build expertise but potentially face higher costs if there is no 'first mover' cost advantage with low emissions aviation technologies. If the airline moves more slowly than competitors, it may reduce its comparative costs, but give competitors opportunities to differentiate themselves from Air New Zealand with customers.

Uneven policy settings across markets are expected to continue, which is likely to have a mixed impact on Air New Zealand relative to competitors. Global approaches to emissions pricing and policy support for sustainable aviation technology are likely to continue to differ between markets. If these different policy settings negatively affect Air New Zealand compared to its competitors, such as through higher emissions costs or more limited access to aviation technology support, the airline's ability to compete and its financial performance could be adversely impacted. Examples of potential uneven policy settings in future include:

- Potential expansion of the NZ ETS to include some or all international aviation emissions, as discussed in the Emissions pricing risk below;
- Continued policy support for SAF in other airlines' domestic markets but not in New Zealand;
- The possible introduction of regulations that restrict, levy or reduce aviation sector growth in specific markets; and
- The continued uneven rollout of mandates for SAF, which can require airlines to uplift SAF in specific markets, or levies for SAF, which impose a charge on operations within specific markets, could require Air New Zealand to incur higher SAF-related costs than if the airline were to uplift SAF from the cheapest locations globally.

In destinations Air New Zealand services, mandates or levies to drive SAF uplift have been announced in British Columbia, Japan, and Singapore, and are expected to be announced in Australia, California, China, Hong Kong, Indonesia, South Korea, and Taiwan by the end of 2025. Brazil, Chile, the European Union, India, Malaysia, Thailand, the United Arab Emirates, and the United Kingdom have also announced similar policies.

Strategy (continued)

MATERIAL TIME FRAMES		
SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
◉	◉	◉

5 Emissions pricing

Description

Air New Zealand is currently a participant in two emissions pricing schemes: the New Zealand Emissions Trading Scheme (NZ ETS) and ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

Potential changes to the scope of emissions included in these schemes, the level and volatility of emissions pricing in the schemes, and the potential for new emissions pricing schemes to be developed or applicable, could increase the airline's cost base.

Current impact

Note that both the NZ ETS and CORSIA calculate the airline's obligation based on calendar years. The airline's NZ ETS obligation for the 2023 calendar year was determined early in the 2024 calendar year, and the airline's CORSIA obligation for the 2023 calendar year is expected to be determined late in the 2024 calendar year.

Air New Zealand's NZ ETS compliance costs increased to $38 million in the 2023 calendar year, partly driven by NZU price increases. In the 2022 calendar year, Air New Zealand's NZ ETS obligation was 557,840 tonnes of CO_2-e and the airline's cost to acquire NZUs to meet this obligation was $27 million. In the 2023 calendar year, Air New Zealand's NZ ETS obligation was 602,362 tonnes of CO_2-e and the airline's cost to acquire NZUs to meet this obligation was $38 million. In the 2024 financial year, Air New Zealand sourced NZUs through Government auctions and on the secondary market.

Changes to how CORSIA obligations are calculated and a growing aviation sector globally could increase the airline's obligations in the 2024 calendar year. The airline does not expect its CORSIA obligation for the 2023 calendar year to be a material amount. However, the baseline that ICAO uses to calculate CORSIA obligations will decrease for the 2024 calendar year (from 100 percent of 2019 emissions to 85 percent) and the aviation sector globally is expected to continue growing. Air New Zealand therefore expects to generate a CORSIA obligation for the 2024 calendar year. This obligation will be determined by November 2025.

Anticipated impact

Market forces and regulatory changes could drive movements in the price of eligible units under both the NZ ETS and CORSIA, affecting costs for the airline. Changing demand and supply of NZUs or CORSIA eligible emissions units could change their price. One driver of these dynamics is the rules that govern what counts as an NZU or CORSIA eligible emissions unit. Changes to these rules could also contribute to price movements. For example, changes to forestry-generated NZUs in the NZ ETS could potentially reduce the supply of NZUs and increase their price, all else being equal.

International aviation emissions could be added to the NZ ETS, which would raise Air New Zealand's costs. He Pou a Rangi, the New Zealand Climate Change Commission, will provide advice to the New Zealand Government by the end of 2024 on whether, and if so how, international aviation emissions should be included in New Zealand's domestic emissions reduction targets. In April 2024, the Commission released a public consultation document that indicatively supported including international aviation emissions in domestic targets. If the Commission recommends these emissions be included in domestic targets and the Government elects to follow this advice, it is possible the Government may elect to use the NZ ETS as a policy tool for addressing some or all of these emissions. Such an expansion of the scope of the NZ ETS would require Air New Zealand to purchase more NZUs, increasing its operating costs. Note that if this occurred, it is unclear whether the airline's CORSIA obligation would be deducted from any NZ ETS obligation to prevent double counting.

Other changes to the scope of emissions included in the NZ ETS or CORSIA could raise Air New Zealand's emissions costs. In addition to the potential inclusion of international aviation emissions in the NZ ETS described above, this could include increasing the coverage of CORSIA or replacing it with a new, more fulsome regime, and including some or all non-CO_2 effects in CORSIA and / or the NZ ETS. Either of these changes could materially increase Air New Zealand's compliance costs.

Additional emissions pricing schemes could emerge, especially if countries implement stronger regimes for aviation emissions that supplement CORSIA, which could raise costs for Air New Zealand. Like the possible inclusion of international aviation emissions in the NZ ETS, other countries in the airline's international network might also decide to introduce additional international aviation emissions pricing alongside the CORSIA scheme.

Strategy (continued)

MATERIAL TIME FRAMES		
SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
	◉	◉

6 Funding, insurance and legal claims

Description	**Air New Zealand's ability to transition to a lower emissions business model, and its exposure to climate-related risks and regulation, may affect the airline's access to funding and insurance, and its legal exposure.**
Current impact	No material current impacts.
Anticipated impact	**Air New Zealand's ability to effect its Transition Plan and adapt to climate change could affect its access to, and its cost of, capital.** This will be especially important if lenders and creditors increasingly factor climate mitigation and adaptation into their decision-making. **Increasing physical climate change impacts could affect access to and / or the cost of insurance for Air New Zealand.** This could be driven by both the airline's own exposure to climate-related risks and increased insurance claims globally from severe weather events. **As an emissions intensive business, like other airlines, Air New Zealand may face increased risks associated with climate-related regulation and claims.** Greater climate-related regulation in New Zealand and globally may increase the exposure of the airline, along with other companies, to potential climate-related claims and increased compliance costs.

Strategy (continued)

7 Supply chain disruption and cost increases

MATERIAL TIME FRAMES		
SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
◉	◉	◉

Description	**The resilience and adaptability of Air New Zealand's supply chain to climate-related risks could affect the airline's ongoing operations. This includes airports and suppliers of other infrastructure, air traffic management services, aircraft, fuel and fueling infrastructure, and spare parts and engines for aircraft.** Note this supply chain risk is related to several of the other risks discussed in this section, such as Conventional fleet renewal, Next Generation Aircraft adoption and Availability and price of SAF.
Current impact	No material current impacts.
Anticipated impact	**Short-term interruptions or long-term damage to suppliers' assets and operations could create operational disruptions for Air New Zealand.** Such disruptions may be caused by either physical or transition risks. The exposure of Auckland International Airport's precinct, and Channel Infrastructure New Zealand's fuel pipeline from Marsden Point to the Wiri terminal, to physical climate risks are material risks for Air New Zealand, even if their vulnerability is low, due to the importance of these suppliers to the airline's day-to-day operations. **Higher operating or capital costs could arise if suppliers pass on their own climate mitigation or adaptation costs to the airline.** This could be a material financial risk to the airline that could increase the airline's operating costs. **If aeronautical services providers do not adopt sufficient new technology, Air New Zealand's ability to navigate more frequent and / or severe weather events might be impacted.** This could increase fuel burn across the network, create operational safety impacts, and expose aircraft to damage.

Strategy (continued)

MATERIAL TIME FRAMES		
SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
◉	◉	◉

Transition risks relating to the Transition Plan

8 Availability and price of SAF

Description	**Along with the need for significant development of the global SAF industry, many evolving and uncertain factors will affect the airline's ability to uplift SAF at the price and volumes required to achieve the Transition Plan.** This is discussed in more detail below and in section 3.5 Transition Plan.
Current impact	**The cost of SAF is currently approximately two to five times the cost of fossil jet fuel.** In the 2024 financial year, 0.4 percent of Air New Zealand's fuel was SAF, uplifted in New Zealand, Singapore and the United States.
Anticipated impact	**Lack of new policy support in New Zealand and the Asia Pacific region, or potential removal of existing support in North America, could result in supply shortfalls or sustained high costs to meet the airline's targets.** Policy support is necessary to both accelerate the development of the SAF industry overall and support the affordability of SAF relative to fossil jet fuel. Uneven support across markets and especially a lack of policy support in New Zealand could increase Air New Zealand's costs and competitiveness. **If SAF technology does not keep developing and / or scale-up of production is less than industry forecasts, Air New Zealand's access to, and the cost of, SAF would be negatively impacted.** This could threaten Air New Zealand's ability to access the volumes of SAF required under its Transition Plan, potentially resulting in Air New Zealand missing its emissions reduction targets, as well as suffering reputational damage and increased compliance costs. **Securing long-term SAF offtake contracts, which is common in SAF markets, can also lead to delivery and price risks for Air New Zealand.** Suppliers could fail to deliver on agreed contracts, forcing the airline to find alternative sources of supply at short notice. Locking in long-term prices at above-average rates could lead to a higher cost base relative to competitors. Realisation of these risks could increase reliance on other emissions reduction levers, which could increase costs or negatively impact the delivery of the Transition Plan. **The acceptability of specific SAF feedstocks could change, which may affect Air New Zealand's supply options, Transition Plan, or overall acceptance of SAF.** SAF is widely and increasingly accepted by ICAO, IATA, and international governments as a legitimate means of aviation decarbonisation, and the IPCC recognises biofuel as the most viable means of decarbonising intercontinental air travel. However, the airline's ability to effectively utilise SAF over the medium to long-term to achieve its Transition Plan could be adversely affected by: the reduction in availability of acceptable feedstocks for SAF due to concerns about the biodiversity, food systems, labour rights, water use, land use change or other impacts of that SAF production; changes to the life cycle assessment methodologies for specific feedstocks or technologies; or public acceptance of SAF changing, including because of the broadly similar Tank-to-Wake emissions of SAF relative to fossil jet fuel. Any of these concerns could undermine the broader acceptance of SAF as a legitimate means of emissions reduction, which could reduce Air New Zealand's ability to use SAF and increase the airline's reliance on other levers to deliver its Transition Plan.

Strategy (continued)

9 Carbon removal supply and cost

MATERIAL TIME FRAMES		
SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
	◉	◉

Description	**In the longer term, Air New Zealand anticipates relying on carbon removals to address residual emissions and achieve its 2050 Target. This includes 'nature-based' removals, for example, enhancements to natural systems or ecosystems that sequester and store carbon on a certified, additional, and enduring basis, and 'engineered' removals, for example, using technology to capture CO_2 directly from the air. However, the availability, cost and credibility of both nature-based and engineered removals represent material uncertainties and risks to the airline's achievement of its Transition Plan.** This is discussed in more detail below and in section 3.5 Transition Plan.
Current impact	No material current impacts.
Anticipated impact	**If clear standards to guide the credible use of carbon removals do not develop, the airline's planned and actual use of removals could create reputational risks and / or impact the delivery of its 2050 Target.** Because carbon removals do not represent reductions in the airline's own gross emissions, clear external standards are required to ensure their acceptable use. The airline's view is that credible and globally accepted standards that guide the use of either nature-based or engineered removals need to be developed. If such standards do not develop in the medium to long-term, removals projects may be compromised, introducing reputational risks and / or impacting the airline's ability to achieve its 2050 Target. **If supply of credible carbon removal options does not scale up in the period to 2050, Air New Zealand's ability to deliver its Transition Plan at an affordable cost will be impacted.** The future supply and cost of credible carbon removals is highly uncertain, but Air New Zealand expects to rely on carbon removals to deliver at least some of its 2050 Target. For nature-based removals, key barriers include land availability, understanding biodiversity impacts, measurement challenges, regulatory acceptance, social acceptance, and climate change impacts, amongst others. For engineered removals, barriers include uncertain technological development, investment requirement, energy needs, infrastructure challenges, and regulatory and social acceptance, amongst others. If sufficient supply does not develop at affordable prices, achievement of Air New Zealand's Transition Plan and / or the airline's financial performance may be affected.

Strategy (continued)

10 Conventional fleet renewal

MATERIAL TIME FRAMES		
SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
◉	◉	◉

Description	**Air New Zealand's Transition Plan is predicated on access to conventional fleet upgrades and the emergence of innovative aircraft and engine designs over time; the airline's ability to achieve its 2050 Target could be impacted if these do not emerge.** This is discussed in more detail below and in section 3.5 Transition Plan.
Current impact	**In the short-term, the aviation sector generally and Air New Zealand are experiencing severe supply constraints of both aircraft and engines, limiting the airline's options for conventional fleet renewal.** Continued constraints to conventional fleet renewal are expected to remain material in the medium-term and could be exacerbated if conventional fleet and equipment manufacturers experience further production slowdowns. These delays and constraints restrict the airline's fleet renewal options and add risk to the airline's ability to achieve its Transition Plan.
Anticipated impact	**Continued constrained or delayed access to new, more efficient conventional aircraft, or the slow development of new innovative aircraft designs, could impact Air New Zealand's ability to achieve its Transition Plan.** If these delays required the airline to adopt alternative decarbonisation levers to achieve its 2050 Target, this may come at a higher cost per tonne of carbon abated, raising overall costs. **Air New Zealand's maintenance costs could also increase if new fleet technology is less robust or resilient than existing conventional fleet technology.**

Strategy (continued)

MATERIAL TIME FRAMES		
SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
	◉	◉

11 Next Generation Aircraft adoption

Description	**While NGA will not be commercially viable in the short-term, Air New Zealand expects them to play a role in achieving the 2050 Target. However, significant progress on several factors by parties external to the airline is required for this to be viable. Delays to any or a combination of these factors in the medium to long-term could impact the airline's Transition Plan.** This is discussed in more detail below and in section 3.5 Transition Plan.
Current impact	No material current impacts.
Anticipated impact	**External parties need to make significant progress on multiple factors for NGA to play a viable role in the airline's Transition Plan.** Delays to any or a combination of these factors in the medium to long-term could impact the ability of the airline to meet its 2050 Target or increase reliance on other levers to deliver its Transition Plan. These factors include: • **Technology development:** Late availability of NGA would increase reliance on other levers in the Transition Plan, potentially increasing operating and compliance costs; • **Regulatory approvals:** Delayed regulations could slow the pace of development and the use of NGA, limiting the ability to operate these new aircraft. Lack of government support could also result in increased costs of renewable energy and green hydrogen (hydrogen produced using renewable electricity), increasing operating costs; • **Capital costs:** Capital investment in NGA could be higher than anticipated; • **Green hydrogen costs:** Procurement of green hydrogen could increase operating costs if production costs do not decline; • **Airport infrastructure:** Lack of airport infrastructure, such as recharging facilities, hydrogen storage facilities, and new maintenance equipment, could limit the network flown by NGA, reducing revenue due to limits on aircraft use; and • **Right to renewable electricity:** The renewable electricity consumed by a NGA fleet, directly or as an input to creating green hydrogen, could introduce reputational or brand damage if it diverts renewable resources from other parts of the economy. **Key person risks in areas such as engineering, maintenance and flight operations could develop if workforce availability does not keep pace with Air New Zealand's adoption of NGA.** This could lead to a shortage of relevant skills if key employees leave or new employees cannot be attracted or trained. This could result in increased expenditure on employee attraction and retention, or slow the airline's pace of NGA adoption.

Strategy (continued)

3.4 Capital deployment

Climate-related risks serve as an input to internal capital deployment and funding decision-making in two key ways:

Funding

Funding of climate-related strategic priorities and ongoing operations is considered through the airline's annual budgeting process and as part of the annual refresh of the five-year financial plan. Annual operating budgets are reviewed and approved by the Board with reference to the airline's key strategic goals, including climate-related goals.

As an example, in the 2024 financial year, funding was allocated to the SAF budget to assist Air New Zealand in seeking to meet its annual SAF uptake milestones. SAF represents a key strategic priority with respect to the airline's decarbonisation goals. As a further example, capital was committed for the airline's first battery electric demonstrator cargo aircraft, which is key to understanding the opportunities and challenges that NGA present.

From an ongoing operations perspective, the airline approved resourcing for dedicated SAF and NGA teams, advisors for physical climate-related risk modelling, and establishment of a Climate and Nature Fund to support the airline's 2050 Target. The Climate and Nature Fund is described in more detail in section 5.1 Metrics relevant to all entities.

Investment decisions

Air New Zealand's internal investment governance tool was enhanced in the 2024 financial year to include specific considerations for sustainability, including climate-related impacts and exposures for all new business cases where relevant. This gives senior decision-makers visibility of the climate-related risks and opportunities that new investment proposals could be exposed to or capture when making investment decisions.

3.5 Transition Plan

This section describes Air New Zealand's current business model and strategy and outlines the Transition Plan aspects of the airline's strategy. It should be read together with the section 5.3 Targets used to manage climate-related risks and opportunities below.

Current business model and strategy

Air New Zealand's purpose is to enrich our country by connecting New Zealanders to each other and New Zealand to the world. Like all airlines globally, Air New Zealand relies on fossil jet fuel to operate its passenger and cargo services. As such, the aviation industry emits significant amounts of GHG emissions and is widely recognised as a hard-to-abate sector. Air New Zealand plans to reduce its carbon emissions over time, acknowledging the substantial industry changes required to do so. The airline's Transition Plan helps to chart potential paths to make these reductions over time.

Air New Zealand's strategy, Kia Mau, has three key pillars of value creation: to grow domestic, optimise international, and to lift loyalty. These pillars are executed through four key enablers, one of which is 'serious about sustainability'. The airline's 2050 Target, and the potential pathways to meet it, constitute the 'Transition Plan' aspects of the strategy.

Transition Plan aspects of the strategy

Air New Zealand's Transition Plan has been developed with reference to its 2050 Target. During the 2024 financial year, the Transition Plan was also guided by the 2030 Target, though the airline removed this target in July 2024.

The airline has developed roadmaps and governance structures to monitor and support the delivery of the Transition Plan. These roadmaps and governance structures are dynamic in the sense that they are regularly reviewed and assessed to ensure they remain fit for purpose. The airline therefore expects them to change over time. The Transition Plan will also evolve over time.

Air New Zealand's strategy for delivering its 2050 Target is currently designed to:

- Reduce emissions through using more efficient aircraft, adopting NGA, and improving operational efficiency, where reasonably possible;
- Reduce emissions through increased use of SAF (with emissions being reduced due to the biogenic nature of SAF that is explained in the box SAF - biogenic emissions on page 27, despite producing similar emissions as fossil jet fuel when combusted); and
- Thereafter, selectively using eligible carbon credits and removals to address residual emissions in the period to 2050.

Some actions necessary to enable the airline to achieve the 2050 Target are within the control of the airline, but most rely on third parties and governments to take material actions, within assumed time frames.

Strategy (continued)

Roadmaps

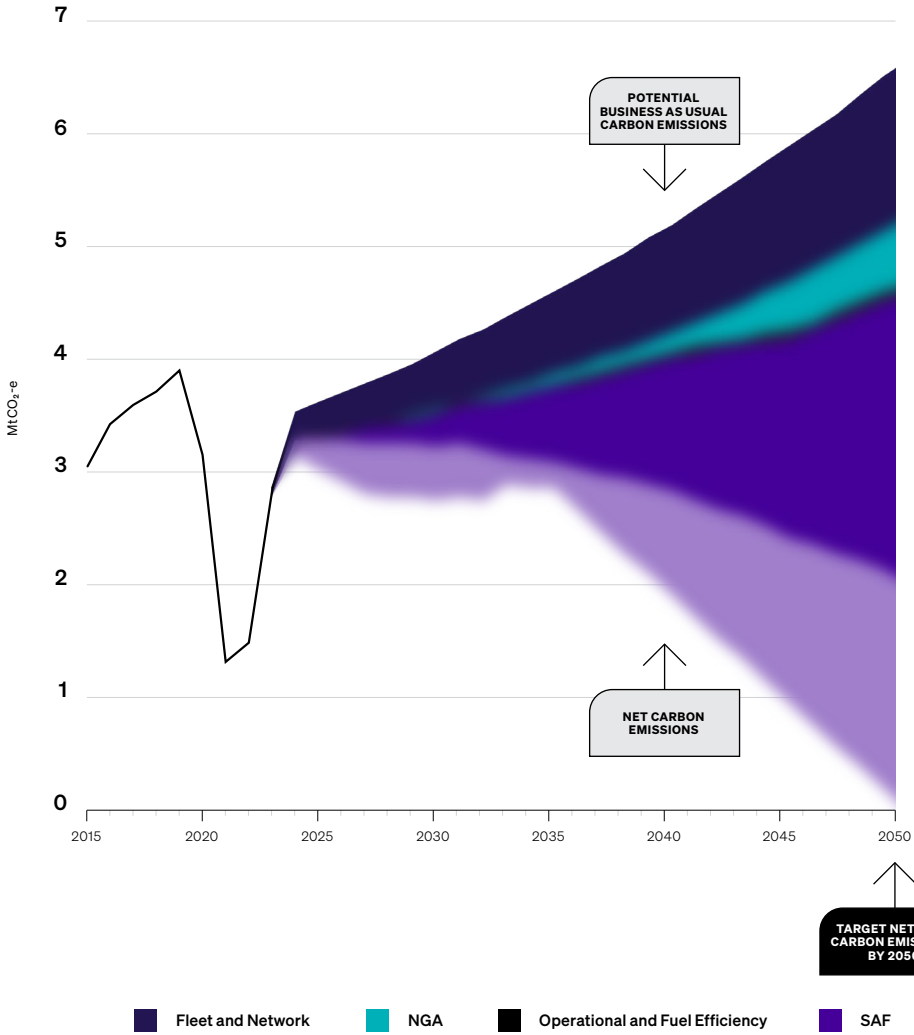
One hypothetical 'roadmap' is shown opposite, which illustrates Air New Zealand's view of how a series of measures could make varying contributions to help the airline potentially reach net zero carbon emissions over the period to 2050.

The roadmap illustrates various scenarios that could apply through to the 2050 Target. It is possible that the 2050 Target could be achieved through a different combination of factors or not achieved in full if, for example, the required technology and policy developments do not eventuate as illustrated below. Primary users should not infer from this roadmap that achievement of the 2050 Target is certain to eventuate (see section 3.3 Current impacts and anticipated impacts of climate-related risks and section 5.3 Targets used to manage climate-related risks and opportunities).

Two overarching assumptions shape the Transition Plan roadmap. First, a long-term growth rate for aviation sector demand of 2.5 percent per annum to 2050, measured in Revenue Tonne Kilometres (RTK) and based on Boeing's *Commercial Market Outlook* for the regions in which Air New Zealand operates. This is represented as "Potential business as usual carbon emissions" on Air New Zealand's illustrative roadmap, which shows what emissions could be if demand grew at this rate and the airline's emissions intensity was fixed at 2019 levels. Second, the assumption that Air New Zealand will meet this demand by adopting a portfolio of lower carbon technology when the airline is feasibly and commercially able to do so, and through continued fossil jet fuel-powered air travel in the meantime.

The roadmap is not a guarantee of future performance or the actual contributions made by any of the components of the Transition Plan. Actual results, developments or percentage contributions may differ materially from those presented. Air New Zealand intends to update roadmaps like this internally and update this public view annually. In some cases, for example certain NGA concepts and carbon removal solutions, the contributions relate to technologies that have not yet been developed or sufficiently scaled, and the estimated contributions in the roadmaps may evolve materially.

Air New Zealand illustrative roadmap



Optimising Fleet and Network is currently expected to play a large role in Air New Zealand's Net Zero 2050 journey, contributing around 20 – 30 percent of the emissions reduction in 2050.

NGA is currently expected to deliver around 10 – 15 percent of the emissions reduction in 2050.

Operational and Fuel Efficiency is currently expected to deliver 1 – 2 percent of the emissions reduction in 2050.

SAF (including both biogenic and e-SAF) is currently expected to play one of the largest roles in Air New Zealand's Net Zero 2050 journey, contributing around 35 – 45 percent of the emissions reduction in 2050.

Carbon Credits and Removals will be used to "net-out" residual emissions and could be used for around 10 – 30 percent of the total in 2050 under current modelling assumptions. Most of this use between now and 2035 will be to meet global compliance obligations under CORSIA.

Note: the sum of these ranges may exceed 100 percent as the contribution of each lever may vary.

Strategy (continued)

Scaling-up use of Sustainable Aviation Fuel (SAF)

What is SAF?

SAF is the industry term given to alternative jet fuel that is made from feedstocks other than fossil fuels and which seek to produce lower lifecycle emissions than fossil jet fuel. The term is used by the United Nations, national governments, and the aviation industry. Air New Zealand follows this convention when describing alternative jet fuel for consistency with the industry, but in doing so acknowledges that SAF still produces emissions over its lifecycle, including equivalent emissions to conventional jet fuel when combusted, and may create other adverse impacts on the environment.

There are two predominant types of SAF under development: biogenic SAF that is made from feedstocks such as used cooking oil, municipal solid waste, and agricultural or forestry byproducts; and power-to-liquid SAF, often called e-SAF, which is produced from water, carbon dioxide sources, and renewable energy. Currently, Air New Zealand expects the majority of SAF produced early in the period to 2050 to be biogenic SAF, which is discussed in more detail in the box SAF - biogenic emissions. The industry and Air New Zealand expect e-SAF use to scale later in the period to 2050. The technology, supply chain, and GHG accounting treatment of e-SAF is currently nascent.

Globally over 190 Governments, via ICAO, have endorsed the use of SAF as the key technology to address the climate impacts of aviation by 2050. The IPCC also accepts the use of biofuels as a valid solution to reduce emissions from industry, saying, *"studies indicate that biofuels are the most viable means of decarbonising intercontinental travel, given their technical characteristics, energy content and affordability."*[*]

However, the IPCC also notes, *"The lifecycle emissions of bio-based jet fuels…can be considerable depending on their location, but can be reduced by feedstock and conversion technology choices".*[**] Different SAF feedstocks and technologies also have different impacts on land, food systems, labour rights, water use, and land use change, which could all affect the overall societal assessment of SAF as a legitimate decarbonisation tool. Air New Zealand has adopted SAF procurement criteria that screen potential SAF supply options for these issues, but the way the broader SAF industry responds to them could affect public perceptions about the credible use of SAF overall.

SAF – biogenic emissions

SAF is almost chemically identical to jet fuel from fossil sources and generates approximately the same CO_2-e emissions as fossil jet fuel when combusted in the aircraft's engines. However, the carbon dioxide emitted from the combustion of biofuels is considered biogenic, meaning it equates to the carbon dioxide absorbed by the feedstock before SAF production, as assessed in a 'life cycle assessment' (LCA).

Multiple standards, such as the GHG Protocol, the New Zealand Ministry for the Environment's emissions measurement guidance, and the ICAO CORSIA scheme, treat biofuels as generating no Scope 1 carbon dioxide emissions when combusted.

Air New Zealand adopts this conventional treatment in its GHG emissions inventory. This means CO_2 emissions from the combustion of SAF purchased by Air New Zealand are not reported as Scope 1 emissions in the airline's GHG emissions inventory. Instead, for transparency, these CO_2 emissions are reported separately in the airline's GHG emissions inventory under biogenic emissions.

This same accounting treatment is also used by the airline to track its performance against climate-related targets.

Current low volumes

In the 2024 financial year, SAF comprised 0.4 percent of Air New Zealand's total fuel usage. To meet Air New Zealand's 2050 Target, the airline is targeting SAF to be 60 – 80 percent of its total fuel use in 2050, which will depend on sustained and appropriate policy support.

Achieving the airline's goals depends on significant and ongoing global scaling of SAF supply. Global SAF production is expected to increase from less than 0.01 percent of total global jet fuel in the 2019 calendar year to 0.5 percent in the 2024 calendar year. Long-term increases in global SAF supply will require domestic and global policy support.

SAF is expected to play the largest role in reducing carbon emissions in the Transition Plan. Currently, Air New Zealand anticipates that SAF could contribute around 35 – 45 percent of its emissions reductions toward the 2050 Target.

New Zealand does not currently produce any SAF. However, a number of SAF production projects are currently being considered by numerous parties. Air New Zealand is co-funding a feasibility study with New Zealand Government agencies to investigate the feasibility of SAF production from woody biomass and municipal solid waste in New Zealand. Domestic production would likely improve Air New Zealand's access to SAF and New Zealand's fuel security, however the viability of domestic SAF production is expected to require government policy support.

High cost of SAF

SAF commands a price premium above fossil jet fuel, so the airline's ability to achieve its goals also depends on its ability to access and afford SAF at commercial prices. This price premium is currently approximately two to five times the cost of fossil jet fuel depending on the production source and location. Based on current and predicted pricing this is expected to add

* IPCC (2018), "Summary for Policymakers" in "Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels", via https://www.ipcc.ch/sr15/chapter/spm/
** IPCC (2018), "Strengthening and Implementing the Global Response." in "Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels", via https://www.ipcc.ch/sr15/chapter/chapter-4/

Strategy (continued)

material cost to Air New Zealand's operations in the future. However, the extent of these cost increases is uncertain. Several factors that could reduce this price premium are discussed below. They could include:

- The introduction of regulatory SAF mandates in countries in the airline's global network could require fuel suppliers to blend specific shares of SAF into their jet fuel supply in those countries. The design of these mandates is expected to mean all airlines flying from or through these locations will need to uplift SAF;
- Declining premiums over time as a result of the expansion of SAF production subsidies beyond Japan and the United States, and economies of scale due to global increases in SAF production;
- The widespread acceptance of Book and Claim systems to meet SAF targets would allow Air New Zealand to purchase and claim the carbon reduction benefits of SAF delivered outside of the airline's physical network. This could allow the airline to purchase the carbon benefits of SAF from a wider range of locations; and
- Increases to existing 'blend limits', permitting higher percentages of SAF to be blended into deliveries of jet fuel, would enable the airline to uplift more SAF in cost-effective locations.

Significant technology scaling and development, as well as New Zealand and foreign government policy support for SAF, will be necessary for Air New Zealand to achieve the 2050 Target. As such, the airline continues to actively advocate for supportive SAF policy in New Zealand and to monitor global developments.

Adopting Next Generation Aircraft (NGA)

What is NGA?

NGA refers to aircraft powered by alternative propulsion that enables a significant reduction in carbon emissions compared to existing technology. This could include hydrogen fuel cells, hydrogen combustion, batteries, or battery hybrids that are used in combination with SAF and / or fossil jet fuel.

NGA remains in its infancy and is currently subject to material uncertainties as discussed in sections 3.2 Climate-related risks and opportunities, and 3.3 Current impacts and anticipated impacts of climate-related risks, so it is not expected to materially contribute to reducing emissions in the short-term. However, Air New Zealand's Transition Plan anticipates NGA could achieve around 10 – 15 percent emissions reduction in 2050. This opportunity is driven by the relatively short distances between New Zealand's dispersed destinations and underdeveloped, lower-emissions ground transport alternatives such as rail.

Limitations of NGA

NGA currently have significant range limitations. For example, batteries capable of providing sufficient power for aircraft are heavy and do not provide the energy density required for long-haul flights, restricting NGA primarily to short-haul routes.

NGA are not currently operated by Air New Zealand. The initial opportunity for Air New Zealand to adopt NGA at a meaningful scale is through the replacement or partial replacement of the Q300 turboprop fleet, the airline's smallest aircraft type that flies on regional routes in New Zealand. Replacement of the Q300 fleet is planned to take place in the decade from 2030. To enable NGA to replace some or all of the Q300 fleet after 2030 will require the availability of scalable NGA technology from aircraft and engine manufacturers as well as significant changes across the regulatory environment, energy sector and airport infrastructure. The risks associated with these required developments is discussed in sections 3.2 Climate-related risks and opportunities and 3.3 Current impacts and anticipated impacts of climate-related risks.

'Demonstrator' aircraft

Air New Zealand has agreed to a term sheet and paid an initial deposit on one battery-powered all-electric aircraft, plus agreed options for two further aircraft and purchase rights for another 20 aircraft. The aircraft (Beta's ALIA CTOL model) will be Air New Zealand's first commercial NGA 'demonstrator' aircraft and is expected to operate a single short-haul cargo route. It will carry commercial payloads in partnership with NZ Post, between Wellington and Marlborough airports, from 2026. This demonstrator is not expected to have any material contribution to carbon emission reductions. It is intended as a demonstration only of potential uses for NGA and is key to the airline's understanding of the opportunities and challenges that NGA present.

Optimising fleet and network

Renewing Air New Zealand's current fleet with more fuel-efficient conventional-propulsion aircraft, choices about where to fly, and the airline's ability to increase passenger and cargo load factors can all contribute to better emissions intensity and lower overall emissions.

Based on the airline's current fleet investment plan and long-term fleet and network plan and assumptions, the combined effect of fleet renewal, network choices, and load factors are expected to contribute in the short-term and to the 2050 Target.

Renewal of the current fleet with more fuel-efficient conventional-propulsion aircraft is estimated to contribute around 20 – 30 percent emissions reduction by 2050, based on fleet modelling. Importantly, the time frame between 2030 and 2050 is anticipated to include at least two fleet replacement cycles, and Air New Zealand's Fleet Strategy team continues to develop and assess future fleet scenarios that could impact the contribution to or cost of emissions reduction from this lever positively or negatively.

Strategy (continued)

As at 30 June 2024, Air New Zealand has an average seat-weighted fleet age of 8.7 years. In the 2024 financial year, the airline added two short-term leased Boeing 777-300ERs and two Airbus A321neos to its fleet. There were no fleet retirements in the year. The planned replacement of older aircraft is contingent on aircraft and engine manufacturers being able to deliver Air New Zealand's new aircraft on order to contracted time frames. Given current supply chain issues, this remains a risk to Air New Zealand, and the airline industry more generally. This risk is discussed in sections 3.2 Climate-related risks and opportunities and 3.3 Current impacts and anticipated impacts of climate-related risks.

Improving operational and fuel efficiency

Ongoing internal operational and fuel efficiency improvements are estimated to contribute 1 – 2 percent emissions reduction by 2050. The estimated contribution in the short-term is based on analysis conducted by internal teams and includes more than 30 individual initiatives. These initiatives generally deliver financial savings to the airline although they can require some upfront investment. They can be grouped into three main categories:

- Technology developments, including flight efficiency and planning software, and improved data access to drive behavioural shifts;
- Air operations, including policy and procedure changes and training support to embed more efficient practices, for example, single engine taxi flying practices; and
- System-wide improvements involving supply chain partners, for example, fuel tankering avoidance, airport efficiencies including increased use of ground power and pre-conditioned air, and development of a more efficient airspace management system.

The 2050 operational efficiency contribution of 1 – 2 percent is an assumption based on an extrapolation of these short-term opportunities, although Air New Zealand acknowledges that system-wide changes may be required to deliver these reductions. The 2050 Target does not rely on any efficiency improvements by the Group's fossil jet fuel suppliers, despite some suppliers' publicly-stated, short-term efficiency improvement goals.

Selectively using eligible carbon credits and removals

Eligible carbon credits and removals are expected to address all residual emissions in 2050. 'Residual emissions' refer to emissions that remain after other reductions have been accounted for and that cannot be addressed through other levers under the Transition Plan. The airline currently estimates that eligible carbon credits and removals will be required to address between 10 – 30 percent of emissions in 2050.

The airline intends to only use carbon credits or removals that are verified and / or certified, which the airline will determine with reference to external schemes or standards.

The airline expects that the nature of removals that are considered credible will evolve over time. This will be driven by changes in policy and standards, public and investor acceptance, development and scale of engineered carbon removal technologies, and development of a market for credible carbon credits and removals. Air New Zealand expects to outline a residual emissions strategy in the 2025 financial year.

Other initiatives

In addition to the Transition Plan, Air New Zealand has undertaken other initiatives, including advocacy and improving awareness of emissions generated on Air New Zealand services. While these other initiatives do not directly reduce carbon emissions, they are an important aspect of Air New Zealand's overall strategy.

Influencing industry and policy to support sustainable aviation

While Air New Zealand is focused on doing what it can to decarbonise its operations, the airline cannot reduce its emissions and deliver its Transition Plan alone. Aviation decarbonisation will require coordinated decision-making across the transport, energy, trade and tourism sectors, led by governments. It will be a journey that Air New Zealand shares with the New Zealand Government, policy makers in its global network, and other stakeholders across the global economy.

Air New Zealand continues to support domestic and international efforts to mitigate climate change by actively engaging with policy makers and participating in government and the New Zealand Climate Change Commission consultations on climate change policy. In the 2024 financial year, this included engaging in the New Zealand Climate Change Commission's consultation about inclusion of international shipping and aviation emissions in New Zealand's 2050 emissions reduction target; engaging in the Civil Aviation Authority of Singapore's consultation on its SAF policy; and supporting New Zealand's position at ICAO's Third Conference on Aviation Alternative Fuels (CAAF/3) in Dubai in November 2023.

In November 2022, Sustainable Aviation Aotearoa was launched. Sustainable Aviation Aotearoa is a public-private body led by the New Zealand Ministry of Transport focused on aviation decarbonisation. Three working groups with different focus areas have been established. One group focuses on SAF, another focuses on NGA, and the third focuses on strategic aviation policy. Air New Zealand has representatives on each working group, including the co-chair of the SAF working group. Air New Zealand is also represented on a separate group that leads the working groups.

Strategy (continued)

Air New Zealand is a member of a number of organisations dedicated to climate issues. These include the Sustainable Business Council, The Aotearoa Circle, the Sustainable Aviation Fuel Alliance of Australia and New Zealand, the International Sustainability & Carbon Certification, and the Roundtable on Sustainable Biomass. Air New Zealand is also a signatory to the World Economic Forum's Clean Skies for Tomorrow 2030 Ambition Statement (see section 5.3 Targets used to manage climate-related risks and opportunities).

Supporting customers to understand their emissions

For corporate, government, and cargo customers, the airline has introduced an emissions reporting platform to provide eligible customers with more accurate data on the impact of their choice to fly with or book via Air New Zealand. For leisure customers, the airline continues to offer a Voluntary Emissions Contribution Programme. In the 2024 financial year, leisure customers booking through Air New Zealand websites purchased carbon credits for 58,488 tonnes of CO_2-e and contributed $988,000 to Trees That Count. 3.36 percent of bookings made through online storefronts where the Voluntary Emissions Contribution Programme is available contributed to the programme.

Even with increased understanding, customers' willingness to pay to address the impact of their travel decisions could increase or reduce over time for a variety of reasons, including overall ticket prices and economic conditions. This is discussed in detail in sections 3.2 Climate-related risks and opportunities and 3.3 Current impacts and anticipated impacts of climate-related risks.

Risk Management

4.1 Processes for identifying, assessing and managing climate-related risks

Climate-related risks are identified, assessed and managed through dedicated climate-risk analysis projects that are led by the Sustainability team, and the airline's wider enterprise risk management process that is facilitated by the airline's Enterprise Risk and Compliance team.

The airline's dedicated climate-risk analysis can include physical and transition risk analysis, scenario analysis, and facilitation of climate-related risk workshops across the business. Each of these were most recently conducted during the 2024 financial year. These projects serve as inputs to the airline's wider enterprise risk management approach where relevant, including into Business Unit Risk Registers, Divisional Risk Profiles, and the Group Risk Profile.

Climate-related risks can also be identified through the airline's standard enterprise risk management approach, which is described in detail on page 45 of the Corporate Governance Statement. The dedicated climate risk analyses described above are the only climate-specific inputs to this process. In this process:

- Business Units regularly identify risks throughout the year, and capture or update these risks on the relevant Business Unit Risk Registers (the Risk Registers);
- Senior business leaders review and update the Risk Registers for their areas of responsibility;
- The Enterprise Risk and Compliance team synthesises the risks on the Risk Registers and elevate the most material risks to the relevant Divisional Risk Profile;
- Each Executive team member monitors and reviews the Divisional Risk Profile for which they are responsible at least twice-yearly, including any climate-related risks;
- The Enterprise Risk and Compliance team synthesises the most material risks in the Divisional Risk Profiles into draft updates to the Group Risk Profile. The Group Risk Profile captures the assessment of each risk, changes to this assessment, and the owner of the risk, amongst other information;
- The Executive team collectively review all risks captured on the draft Group Risk Profile at least annually, where each risk is discussed, validated, and prioritised, and the Group Risk Profile is finalised; and
- The ARC and Board both review the Group Risk Profile.

Currently, all climate-related physical and transition risks identified on Risk Registers and Divisional Risk Profiles are consolidated into a 'climate change' risk on the Group Risk Profile. The Executive team as a whole is the owner of this risk.

4.2 Tools and time frames

Several risk identification, assessment, and management tools are used in the risk management process, which senior leaders use in combination with their subjective business judgement to assess risks in each step outlined above. These tools include the Group Risk Matrix, Risk Control Effectiveness (RCE) Scale, Risk Appetite Statements, and dedicated climate-risk analysis.

The Group Risk Matrix is used to assess the likelihood and severity of potential risks.

The RCE Scale identifies and assesses the effectiveness of key controls and mitigations that exist for risks.

Risk Management (continued)

Risk Appetite Statements provide guidance to employees about how much risk the business is willing to take, with respect to each risk on the Group Risk Profile, when pursuing its strategy.

Dedicated climate-related risk analysis is also used by the Sustainability team and other business units. This can include outputs from the scenario analysis described above, targeted transition and physical risk analysis, and industry and academic research on climate risks and sustainable aviation. The most recent of these analyses was conducted by an external consultant in the 2023 financial year with supplementary physical risk analysis conducted in the 2024 financial year. This analysis can feed into the standard enterprise risk management process or the Sustainability team's specialist input into the process, both described above.

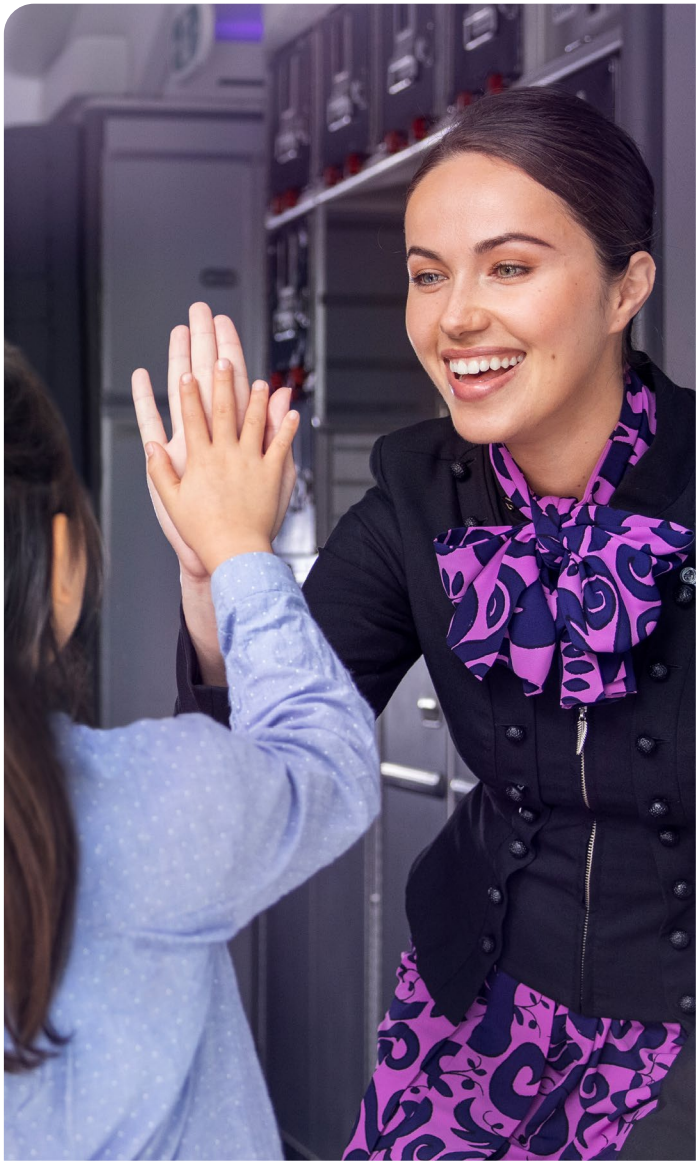
Time frames for the dedicated climate risk analysis include the short (0 – 5 years), medium (5 – 18 years) and long-term (18+ years) described in more detail in section 3.2 Climate-related risks and opportunities. These time frames differ from the likelihood criteria in the Group Risk Matrix, which do not accommodate the temporal and chronic nature of climate risk. The Group Risk Matrix therefore is not used on its own for climate-related assessments. Judgement from business leaders is required when comparing the time frames over which climate risks might occur and other, more conventional risks that the business faces.

4.3 Value chain and prioritisation

Parts of Air New Zealand's value chain are included in risk management processes to the extent that individual business leaders judge them to be relevant. All critical functions and business units across the organisation are included within the scope of the Enterprise Risk Management framework and leaders consider components of their internal and external operating context when considering their key risks. This includes a consideration of their key activities and processes, systems, people, and relationships with stakeholders including business partners and suppliers. While the airline has not carried out a formal value chain mapping exercise with respect to climate-related risks, Air New Zealand believes that relevant aspects of its value chain have been included in its processes for identifying, assessing, and managing climate-related risks.

The climate-related physical risk analysis conducted in the 2023 and 2024 financial years explicitly included consideration of all airports the airline regularly operates from. The climate-related risk workshops conducted internally with business units across the airline explicitly included consideration of fuel suppliers, aircraft manufacturers, customers and broader network considerations.

Risk ratings (determined by the above risk assessment process) are used as a proxy for prioritising identified risks. Physical and transition risks identified by business units and the Sustainability team are included in relevant Risk Registers. The risk ratings they receive through this process, and subsequent senior leader, Executive, ARC and Board judgement, contribute to their overall prioritisation in Divisional Risk Profiles and the Group Risk Profile. The 'climate change' risk that consolidates climate-related physical and transition risks on the Group Risk Profile, is currently rated 'Very High' and is one of the highest rated risks on Air New Zealand's Group Risk Profile.



Metrics and Targets

5.1 Metrics relevant to all entities

Greenhouse gas emissions

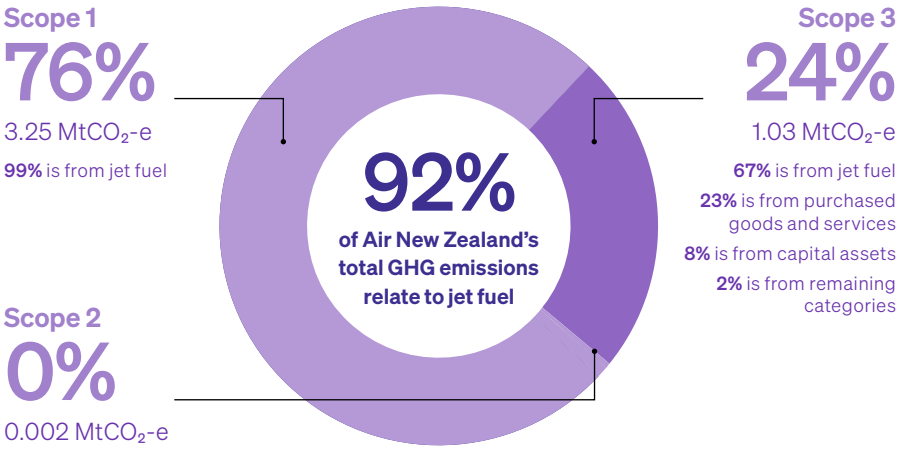
The Selected GHG emissions disclosures* in this section have been prepared and are presented in accordance with the NZ CS. The greenhouse gas emissions inventory published in this section covers the Group's 2024 financial year and has been measured in accordance with *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (2004) (GHG Protocol). In addition, guidance from the *Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard* (2011) (GHG Protocol Value Chain Standard) has been applied to prepare the inventory. It is a complete and accurate quantification of the amount of GHG emissions that can be directly attributed to the Group's operations within the declared boundary and scope for the specified reporting period. Any exclusions from reporting are disclosed and justified.

Air New Zealand has been calculating its GHG emissions on an annual basis since 2011. This year, the airline shifted its emissions base year for Scope 1 and 2 to the 2019 financial year in order to align with the comparative measure on progress toward its 2050 Target. This change did not require a recalculation of the base year emissions. A recalculation of the base year is triggered by structural changes to the Group, methodology, or identification of omissions that meet a 5 percent significance threshold.

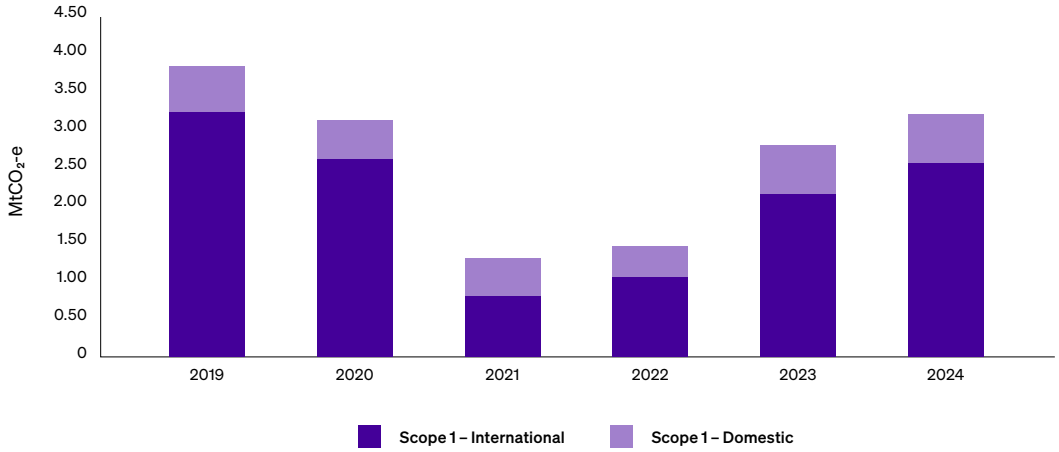
Over the past two years, the airline started reporting on some Scope 3 emissions categories. This year, all material emission sources are included in the GHG emissions inventory, and 2023 Scope 3 emissions for categories 1, 2, 5 and 6 have been recalculated voluntarily to align with improved calculation methods or more suitable emission factors to allow for better comparison of emissions over time. Scope 3 emissions make up 24 percent of Air New Zealand's GHG emissions, with 67 percent of this coming from the Well-to-Tank emissions associated with fossil jet fuel and SAF.

In the 2024 financial year, Air New Zealand emitted 4.3 million tonnes of CO_2-e across its direct and indirect emission sources (Scopes 1, 2 and 3). Total Scope 1 and 2 emissions increased by 14 percent compared to the prior year, while total Well-to-Wake emissions increased by 15 percent. This is due to increased flying activity on international routes, while domestic jet fuel use and emissions decreased slightly (by 3 percent).

Emissions snapshot 2024



Gross direct emissions from fossil jet fuel (Scope 1) in tCO_2-e (millions)



* 'Selected GHG emissions disclosures' refers to the disclosures covered in the 'Greenhouse gas emissions' section within this Climate Statement (p. 33 – 38) and is defined in detail in Deloitte's assurance report.

Metrics and Targets (continued)

Table 1: GHG emissions inventory by Scope and category in tCO_2-e

Emissions sources	2024	2023	2022	2019
Scope 1	**3,250,851**	**2,839,358**	**1,512,886**	**3,925,650**
Jet fuel – domestic	604,348	621,444	465,303	629,876
Jet fuel – international	2,639,807	2,210,836	1,040,786	3,286,502
Jet fuel – ground	255	953	1,048	941
Sustainable Aviation Fuel (SAF)[3]	87	108	-	-
Other fuel combustion[4]	6,164	6,002	5,735	8,318
Fugitive refrigerants[5]	18	-	-	-
Wood pellets[3]	172	15	14	13
Scope 2	**2,049**	**3,357**	**2,736**	**3,098**
Electricity consumption (location-based)	2,049	3,357	2,736	3,098
Scope 3	**1,026,989**	**857,031**	**307,335**	Not reported in 2019
Category 1: Purchased goods and services	239,391	218,032[6]	-	-
Category 2: Capital goods	84,043	62,215[6]	-	-
Category 3: Fuel- and energy-related activities	685,745	570,462	307,335	-
Category 5: Waste generated in operations	665	620[6]	-	-
Category 6: Business travel	6,354	5,702[6]	-	-
Category 7: Employee commuting[5]	9,952	-	-	-
Category 15: Investments[5]	839	-	-	-
Total reported Scope 1, 2, 3 emissions	**4,279,889**	**3,699,746**	**1,822,957**	**3,928,748**
Biogenic emissions[7]	13,487	3,927	818	725

3. Methane (CH_4) and nitrous oxide (N_2O) only. 4. Other fuel combustion includes diesel use in ground service equipment (mobile and stationary), diesel and petrol use in vehicle fleet, LPG and natural gas used for heating as well as engine oil used on aircraft. 5. Newly included in 2024 so no comparative data available.
6. Scope 3 emissions in category 1, 2, 5 and 6 for the 2023 financial year have been recalculated to align with updated calculation methodologies and / or emission factors used for the 2024 financial year. 7. Includes direct biogenic emissions from the combustion of SAF and the burning of wood pellets.

Metrics and Targets (continued)

Consolidation approach and organisational boundaries

Air New Zealand applies an operational control approach to determine the boundary of the airline's GHG emissions inventory. This means that 100 percent of the emissions from operations over which Air New Zealand, or one of its subsidiaries, has control are accounted for.

None of Air New Zealand's subsidiaries are excluded from this GHG emissions inventory. Most do not emit any GHG emissions, and those that do are reported within the Group. For a list of all subsidiaries under Air New Zealand Group as at 30 June 2024, and how each entity is treated for GHG accounting purposes, please refer to the Group's GHG Emissions Inventory Report 2024.

Source of emission factors and Global Warming Potential (GWP) rates

Air New Zealand calculates emissions by multiplying activity data with appropriate emissions factors. All emissions disclosed in this report are expressed in total tonnes of carbon dioxide equivalent (tCO_2-e). The time horizon in all cases is 100 years.

Where possible, emission factors are sourced from the latest publication of the Ministry for the Environment's (MfE) *Measuring emissions: A guide for organisations*[8]. Across Scope 3, the inventory additionally draws on factors published by the United Kingdom's Department for Environment, Food and Rural Affairs[9] (DEFRA) as well as Auckland Council-published consumption emission factors for any spend-based calculations[10]. The latter were adjusted for inflation to December of the financial year in question. For aircraft purchased in the current financial year, product-type specific emissions data has been used as proxy (sourced from SimaPro), while an emission factor for Well-to-Tank emissions for electricity specific to New Zealand has been sourced from Agrilink[11]. Carbon intensity values for uplifted SAF are sourced from documentation provided by suppliers.

MfE and DEFRA emission factors, which make up the majority of factors used in Air New Zealand's emissions inventory, use GWP rates from the IPCC's Fifth Assessment Report[12] to convert quantities of each greenhouse gas to tonnes CO_2-e. Auckland Council's spend-based factors draw on GWP rates from the previous Fourth Assessment Report[13] while the upstream aircraft factor from SimaPro and Agrilink's electricity emissions are based on the IPCC's Sixth Assessment Report[14].

Table 2: Total 2024 Scope 1 and 2 emissions by greenhouse gas in tCO_2-e[15]

Scope	CO_2	CH_4	N_2O	HFC	Total tCO_2-e
Scope 1	3,226,070	791	23,972	18	3,250,851
Scope 2	1,974	73	2	-	2,049
Total	**3,228,044**	**864**	**23,974**	**18**	**3,252,900**

8. MfE (2024), "Measuring Emissions: A guide for organisations", via https://environment.govt.nz/publications/measuring-emissions-a-guide-for-organisations-2024-detailed-guide/ 9. DEFRA (2023), "Greenhouse gas reporting: conversion factors 2023", via https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2023 10. Auckland Council (2023), "Consumption Emissions Modelling", via https://www.knowledgeauckland.org.nz/media/2593/consumption-emissions-modelling-market-economics-march-2023.pdf 11. Agrilink (2023), "New Zealand fuel and electricity total primary energy and life cycle greenhouse gas emission factors 2023", via https://agrilink.co.nz/wp-content/uploads/2024/03/Fuel-LCA-emission-factors-2023-2.pdf 12. IPCC (2013), "Climate Change 2013: The Physical Science Basis", via https://www.ipcc.ch/report/ar5/wg1/ 13. IPCC (2007), "Climate Change 2007: The Physical Science Basis", via https://www.ipcc.ch/report/ar4/wg1/ 14. IPCC (2021), "Climate Change 2021: The Physical Science Basis", via https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/ 15. SF_6, PFCs and NF_3 are not listed here as there have been no emissions relevant to Air New Zealand's activities.

Metrics and Targets (continued)

Operational boundaries

In alignment with the GHG Protocol, Air New Zealand's GHG emissions inventory is split into three scopes:

Scope 1 includes all direct emissions occurring from the airline's operations, most notably from the combustion of fossil jet fuel on Domestic and International flights. Smaller emission sources include the combustion of fuels for heating (LPG and natural gas) and transport (diesel and petrol). From this year on, the GHG inventory also includes emissions from refrigerant leaks and from the combustion of engine oil.

Scope 2 covers emissions from the generation of purchased electricity consumed at Air New Zealand operated sites.

Scope 3 refers to all other indirect emissions across Air New Zealand's value chain, both upstream and downstream, and can be divided into 15 different categories according to the GHG Protocol Value Chain Standard.

Air New Zealand strives to disclose all Scope 1 and 2 emissions, due to the Group's influence over these emissions. However, where the effort and difficulty obtaining accurate data outweigh the benefits, for example, where emissions are small and / or Air New Zealand's ability to influence emissions reductions is limited, some immaterial exclusions apply (see Table 3).

In addition to Scope 1 and 2 emissions, the following Scope 3 categories are quantified within the Group's GHG emissions inventory:

- **Category 1:** Purchased goods and services;
- **Category 2:** Capital goods;
- **Category 3:** Fuel- and energy-related activities;
- **Category 5:** Waste generated in operations;
- **Category 6:** Business travel;
- **Category 7:** Employee commuting (including emissions associated with working from home (WFH); and
- **Category 15:** Investments.

Three categories were identified as not applicable:

- **Category 10:** Processing of sold products. Not applicable to Air New Zealand;
- **Category 13:** Downstream leased assets. Not applicable to Air New Zealand in the 2024 financial year; and
- **Category 14:** Franchises. Not applicable to Air New Zealand.

The remaining five categories are excluded from the Group's emissions inventory as they have been identified as immaterial and largely difficult to obtain data for:

- **Category 4:** Upstream transportation and distribution. For most purchased products, transport is covered by categories 1 and 2 as it is included in the overall purchasing price. Where freight is split out, the resulting transport- and distribution-related emissions are immaterial and therefore not included in the inventory;
- **Category 8:** Upstream leased assets. Most emissions from the operation of leased assets are covered in Scopes 1 and 2. Energy use at offshore locations and some regional airports is difficult to track, but immaterial and therefore excluded;
- **Category 9:** Downstream transportation and distribution. This could include optional emission sources, including passenger transport to and from airports. Air New Zealand has elected not to include this category for the 2024 financial year due to the difficulty of obtaining activity data;
- **Category 11:** Use of sold products. For Air New Zealand, the key product sold is air transportation. Whether for passengers or cargo, these emissions are already reported in the inventory through Well-to-Wake jet fuel emissions; and
- **Category 12:** End-of-life treatment of sold products. Optional disclosure could cover the end-of-life treatment of products sold via the Airpoints store. These emissions have been excluded as they are considered immaterial, and it is difficult to obtain accurate data or influence emissions reductions.

Categories not covered in the airline's emissions inventory will be reviewed annually and may be included in future disclosures if they become material or applicable.

Additional individual emission sources not included within reported Scopes or categories are summarised in Table 3.

Table 3: Individual emission sources excluded from Air New Zealand's GHG emissions inventory

Emissions scope / category	Excluded emissions activity	Reasons for exclusion
Scope 1: Fuel combustion (diesel)	Fuel use by offshore ground service equipment and vehicle fleet	Difficulty obtaining accurate data. Immaterial
Scope 1: HFC (fugitive)	Possible refrigerant leaks at 29 regional sites	Difficulty obtaining data. Immaterial
Scope 2: Electricity consumption	Electricity used for charging EV fleet where this is done offsite	Difficulty obtaining data. Immaterial
Scope 3 – Category 5: Waste generated in operations	Wastewater Waste from smaller sites	No data available. Immaterial
Scope 3 – Category 15: Investments	Vehicles driven by Christchurch Engine Centre	Immaterial

Metrics and Targets (continued)

Methods, assumptions and uncertainties

Air New Zealand's GHG emissions inventory covers all material emission sources and has generally adopted the most specific calculation methods that its data currently allows.

In general, GHG emissions accounting relies on assumptions and estimates that lead to estimation uncertainty. The effect of this uncertainty is that emissions might be over- or understated, so the corresponding categories' emissions data should be interpreted accordingly. Table 4 provides an overview of the emission sources covered by Air New Zealand's GHG emissions inventory, including calculation methods, assumptions made, and an assessment of the uncertainty.

Furthermore, the airline has adopted calculation methodologies that involve some limitations where specific data is not currently available. For example, product- or supplier-specific data is not available for most purchased products or capital goods emissions (Scope 3, categories 1 and 2). Instead, the airline has adopted the spend-based method to estimate emissions in these categories, which multiplies the economic value of product or service groups purchased by the emissions per dollar of use. This approach has limitations, both with regards to the activity data used, which is allocated into broader purchasing categories rather than individual products, and in relation to the emission factors used. These similarly refer to product or service groups, and are calculated using underlying assumptions that might not be applicable to the actual purchases by the airline.

Air New Zealand has made some improvements to its data sources and calculation methods in the 2024 financial year to reduce uncertainties. The airline is committed to continuing this work by engaging with suppliers and improving methodologies where possible.

GHG emissions assurance

Selected GHG disclosures[16] included within this Climate Statement are assured by Deloitte Limited, with reasonable assurance provided for Scope 1 and 2 emissions and related disclosures, and limited assurance over Scope 3 emissions and related disclosures. See Deloitte Limited's assurance report on pages 45 to 47.

Table 4: Emission calculation methods, assumptions and uncertainty

Scope / category	Activity	Calculation method	Assumptions / estimations	Level of uncertainty
Scope 1				
Jet fuel – Domestic and International	Fuel used to operate aircraft	Fuel-based method		Low uncertainty
Jet fuel – ground	Fuel used for ground engine testing	Fuel-based method		Low uncertainty
Sustainable Aviation Fuel (SAF)	SAF purchased by Air New Zealand	Fuel-based method	Assumes CH_4 and N_20 emissions that occur from the combustion of SAF are comparable to those from the combustion of fossil jet fuel	Some emission factor uncertainty that is considered acceptable as there is currently no more accurate data available, and emissions are immaterial
LPG	LPG combusted for heating in Christchurch	Fuel-based method		Low uncertainty
Natural gas	Natural gas combusted for heating in Auckland	Fuel-based method		Low uncertainty
Diesel	Diesel combusted in ground service equipment (GSE) and vehicle fleet	Fuel-based method	Assumes that all diesel from tanks is combusted for mobile equipment use, as it is not possible to differentiate fuel use by GSE type	Low uncertainty
Petrol	Petrol combusted in vehicle fleet	Fuel-based method		Low uncertainty
Engine oil	Engine oil used to ensure engine system operates effectively and safely	Fuel-based method	Assumes all uplifted oil is burned	Moderate uncertainty in activity data, as some oil might not be burned, therefore emissions are slightly overestimated. As engine oil emissions are small this is considered negligible
HFC	Fugitive HFC losses from HVAC systems or chillers	Top-up method	Assumes no leaks occurred if no notification of such received by service provider	Some activity data uncertainty that is considered acceptable as sites are regularly serviced and emissions are immaterial
Wood pellets	Wood pellets burned for heating in Christchurch	Fuel-based method	Assumes all purchased wood pellets are burned	Some emission factor uncertainty, as disclosed by MfE. This is considered adequate as emissions are immaterial

16. 'Selected GHG disclosures' refers to the disclosures covered in the 'Greenhouse gas emissions' section within this Climate Statement (p. 33 – 38) and is defined in detail in Deloitte's assurance report.

Metrics and Targets (continued)

Table 4: Emission calculation methods, assumptions and uncertainty (continued)

Scope / category	Activity	Calculation method	Assumptions / estimations	Level of uncertainty
Scope 2				
Electricity	Electricity consumed at Air New Zealand operated sites	Location-based method		Low uncertainty
Scope 3				
Category 1: Purchased goods and services	Extraction, production, and transportation of goods and services purchased in 2024, not otherwise included in categories 2-8	Spend-based method	Emission factors used may not be the most representative for all types of goods and services purchased due to high-level categorisation	High uncertainty from emission factors used and high-level categorisation of purchased products and services. Improvements have been made since the 2023 financial year and this is a priority category to further reduce uncertainty
Category 2: Capital goods	Extraction, production, and transportation of capital goods (including aircraft and engines) acquired in 2024	Average-data method for aircraft, spend-based method across remaining assets	Aircraft calculation is based on proxy data to improve accuracy over spend-based approach	High uncertainty from emission factors used, especially where using spend-based factors. Improvements have been made to the spend categorisation since the 2023 financial year, and the aircraft proxy factor replaces the spend-based approach for aircraft purchases. This is a priority category to further reduce uncertainty
Category 3: Fuel- and energy-related activities	Extraction, production, and transportation of fuels and energy purchased in 2024, not already accounted in Scope 1 and 2	Average-data method except for some SAF where supplier-specific data is available		Minor uncertainty from the use of average emission factors. Some emission factor uncertainty for SAF where the suppliers use default values. This is considered adequate as it uses the best data currently available
Category 5: Waste generated in operations	Landfill and organic waste disposed of by Air New Zealand employees, customers, contractors across 46 sites	Waste-type specific method	Assumes landfills with gas recovery and commercial composting facilities are used. Assumes waste collected and reported by service provider belongs to Air New Zealand only and is not from a shared waste station. Assumes sites under contract, such as airports, are captured by the contract owner and therefore not included by Air New Zealand	Moderate uncertainty over activity data as waste data is not separated into more specific waste streams. Minor uncertainty from emission factors as they represent a New Zealand average rather than being site-specific. This is considered adequate as the emissions source is immaterial
Category 6: Business travel	Air travel on non-Air New Zealand airlines, hotel stays, travel in rental cars, taxis or employees' own vehicles where this was reimbursed by the Group	Distance-based method for all except taxi travel and employee mileage, where the spend-based method is applied	Assumes that employees use preferred booking methods for duty travel. Relies on some estimations for distances travelled and vehicle type. Hotel stays are calculated using country-specific factors, but are not specific to the type of accommodation	Moderate uncertainty as some activity data relies on estimations, and most emission factors represent averages. Considered adequate as the emissions source is relatively small, there is a high level of control over key booking systems, and difficulty in obtaining more accurate data
Category 7: Employee commuting (includes emissions associated with working from home)	Employee commute, and energy use associated with working from home	Distance-based method for Auckland head office employees, average-data method for others	Commuting data for Auckland head office staff is based on survey results from 2023. For all other employee groups, reasonable assumptions are made around the mode of transport, distance and commuting/WFH days, depending on their role	High uncertainty as the calculation is based on multiple estimations and assumptions. This is considered adequate due to difficulties in tracking accurate data, with work ongoing to further improve accuracy over time
Category 15: Investments	Fuel and electricity use by Christchurch Engine Centre	Investment-specific method		Low uncertainty
Other				
Biogenic emissions	SAF and wood pellets purchased by Air New Zealand	Fuel-based method	Assumes the carbon emissions created from the combustion of SAF are the same as from the combustion of fossil jet fuel, however, they are biogenic and considered to be neutral, and therefore accounted for separately	Low uncertainty

Metrics and Targets (continued)

GHG emissions intensity

Aviation specific GHG intensity values provide a measure of emissions generated for each kilogram of payload flown or each available seat. Payload carriage is expressed as Revenue Tonne Kilometre (RTK) and seat availability is measured in Available Seat Kilometre (ASK). Both of these and Well-to-Wake emissions are prominent metrics for benchmarking airline carbon intensity, and are explained in more detail in the Glossary (Appendix B).

For commentary on the emissions intensity performance since 2019 please refer to section 5.4 Performance against targets.

Carbon intensity metrics	2024	2023	2022	2019
Grams of CO_2-e per Available Seat Kilometre (ASK)[17]	77	79	75	85
Grams of CO_2-e per Revenue Tonne Kilometre (RTK)[17]	734	765	971	762
Grams of Well-to-Wake CO_2-e per Revenue Tonne Kilometre (RTK)[18]	889	918	1,165	916

Amount or percentage of assets or business activities vulnerable to transition risks

While it is challenging to precisely quantify the amount or percentage of assets or business activities vulnerable to transition risks, Air New Zealand currently uses two metrics to describe the amount of business activities vulnerable to transition risks:

- **The proportion of revenue-generating operations that currently relies on fossil jet fuel.** This currently includes revenue generated from all Domestic and International routes on its own network;
- **The proportion of revenue-generating operations that is currently estimated to generate an emissions pricing obligation.** This metric includes Domestic routes that are subject to NZ ETS obligations through the financial year, and forecast emissions pricing obligations in the CORSIA scheme in the period 1 January 2024 to 30 June 2024. The CORSIA obligations are estimated by including revenue on all routes to and from countries that are current participants in the CORSIA first phase, multiplied by the IATA Sectoral Growth Factor forecasts.

Note the unit for these metrics is percent of revenue, not percent of ASKs or another unit of activity. Not every ASK the airline operates generates the same amount of revenue; this metric down-weights emissions pricing on lower revenue ASKs and up-weights emissions pricing on higher revenue ASKs.

These metrics are imperfect, but the airline uses them because they provide useful information that changes over time. They are imperfect because they do not capture exposure to every material transition risk identified in section 3.2 Climate-related risks and opportunities. They are nonetheless useful because they fulsomely demonstrate the extent of business activities that are vulnerable to transition risks, they will change over time as both emissions pricing regimes and the airline's own use of fossil jet fuel evolves, and they can be calculated accurately.

The airline may change these metrics as and when it sees fit, and will explain any such decisions in future Climate Statements.

The Group has elected to use Adoption provision 6 (Comparatives for metrics) for the 2022 and 2023 financial years.

Metric	Unit	2024
Proportion of revenue-generating operations that currently relies on fossil jet fuel	% of revenue	94%
Proportion of revenue-generating operations that is currently estimated to generate emissions pricing obligations	% of revenue	34%

17. Measured based on Scope 1 jet fuel emissions from flying activity (including fossil jet fuel and N_2O and CH_4 emissions from SAF). 18. Measured based on Scope 1 and 3 jet fuel emissions related to flying activity (including SAF and fossil jet fuel).

Metrics and Targets (continued)

Amount or percentage of assets or business activities vulnerable to physical risks

While it is challenging to precisely quantify the amount or percentage of assets or business activities vulnerable to physical risks, Air New Zealand currently uses three metrics to assess the airline's exposure to physical risks:

- **Aircraft value as a proportion of total assets.** Aircraft constitute a significant portion of the airline's asset base and, despite being movable assets, may be exposed to risk of damage due to increased frequency and magnitude of acute weather events. Aircraft may be susceptible to damage from lightning strikes and hail, which could lead to greater maintenance costs and aircraft being out of service;
- **The proportion of assets, by value, that are 'immovable' and subject to greater acute physical risks.** Specifically this includes physical assets that could not be moved in the event of forecast severe weather and are in a location at risk of flooding due to storm-surge, river flooding, and / or coastal erosion in any of the SSP 1-2.6, SSP 2-4.5 or SSP 5-8.5 scenarios out to 2100. These hazards are included as they are the most likely events to cause physical damage to immovable assets. It does not factor in any mitigations or insurances in place to protect the airline from financial impacts associated with this vulnerability. This calculation currently includes assets such as property and infrastructure and excludes aircraft, ground service equipment and digital assets. The locations it currently includes are Auckland, Wellington, and Nelson airports. Other locations are excluded because the exposure and / or asset value at other airports and facilities are not considered material;

Metric	Unit	2024
Aircraft as a proportion of total assets	% of total asset value	45%
Proportion of 'immovable' assets exposed to flood risk	% of total property, plant and equipment	10%
Weather-related delays and cancellations	Proportion of total flights delayed due to weather-related reasons	1%
	Average length of delay for flights delayed due to weather-related reasons, in minutes	41
	Proportion of total flights cancelled due to weather-related reasons	1%

- **Weather-related delays and cancellations.** This collection of metrics serves as a proxy for the exposure of Air New Zealand's operations to disruption from more frequent and significant acute and severe weather events. They are considered helpful by the airline because changes to the metrics over time should represent changes to both the airline's exposure to, and ability to manage, the risk of operational disruptions. It is however an imperfect measure. Not all weather-related delays are driven by climate change, and not all physical climate-related risks manifest as delays and disruptions. Air New Zealand's data processes also underestimate delays caused by weather; weather-related delays and disruptions are routinely recognised for the first impacted flight but subsequent delays in the flight schedule because of this first disruption may be coded as a late arrival or unavailability of inbound aircraft or flight crew instead. The three metrics are the proportion of total flights delayed due to weather-related reasons, the average length of delay to those flights, and the proportion of total flights cancelled due to weather-related reasons.

The airline may change these metrics as and when it sees fit, and will explain any such decisions in future Climate Statements.

The Group has elected to use Adoption provision 6 (Comparatives for metrics) for the 2022 and 2023 financial years.

Metrics and Targets (continued)

Amount or percentage of assets or business activities aligned with climate-related opportunities

As noted above, Air New Zealand has not identified any material 'opportunities' from climate change, and the impacts of climate change are primarily a risk for the aviation sector rather than an opportunity. As such, currently no material proportion of Air New Zealand's assets or business activities is specifically aligned with the climate-related opportunities described in section 3.2 Climate-related risks and opportunities.

At the same time, the airline has some assets and activities focused on reducing the impact of climate-related risks. For example, the Group has an investment in the Drylandcarbon One Limited Partnership, which holds a geographically diversified portfolio of exotic forests for both timber and a supply of NZUs to help meet compliance obligations under the NZ ETS. The size of potential emissions cost savings from this investment depends on the investment's distributions, the prevailing NZU price, and regulations about acceptable NZUs. While it made no distributions in the 2024 financial year, it is expected to do so from the 2025 financial year. The carrying value of this investment at 30 June 2024 was $23 million.

The airline's Climate and Nature Fund is also used to fund priority decarbonisation initiatives amongst other things.

Capital expenditure deployed toward climate-related risks and opportunities

Climate considerations are embedded in the airline's capital expenditure decision-making processes. As discussed in section 3.4 Capital deployment, they are considered as part of the airline's annual budgeting progress and the annual refresh of the five-year plan. They are also factored into Air New Zealand's internal investment governance tool.

The airline made material investments with climate-related considerations in the 2024 financial year, such as new aircraft deliveries and progress payments on future aircraft deliveries (some but not all to replace less fuel-efficient aircraft), the purchase of electric and hybrid GSE, and expenditure on improved energy-rated property and infrastructure developments.

However, Air New Zealand only considers capital expenditure whose entire or primary purpose is to address climate-related risks and / or opportunities when estimating this metric. In the 2024 financial year, no material proportion of the airline's overall capital expenditure, financing, or investment was entirely or primarily deployed to the climate-related risks or opportunities identified in section 3.2 Climate-related risks and opportunities.

Air New Zealand made some investments where the primary purpose was climate-related, however these investments were not a financially material amount. These investments were paid out of the airline's Climate and Nature Fund.

Price per metric tonne of CO_2-e used internally

Air New Zealand applies a $20 / tCO_2 internal carbon charge on its ultra long-haul routes from Auckland to and from New York, Chicago and Houston. The airline does not currently use any other internal emissions pricing, though work is underway to identify opportunities to do so.

In the 2023 financial year, Air New Zealand piloted an internal carbon charge on its flagship ultra long-haul Auckland to New York return route. This internal accounting charge creates a dedicated revenue or investment stream which Air New Zealand has ringfenced for investment in sustainability initiatives. In the 2024 financial year, the pilot was expanded to include operations from Auckland to and from Chicago and Houston. The purpose of the internal carbon charge is to understand risk exposure, internalise some of the negative environmental externalities of flying those routes, and fund decarbonisation initiatives.

This internal charge accrues in a Climate and Nature Fund, which funds priority decarbonisation and sustainability-related initiatives. These initiatives focus on mitigating emissions, growing renewable energy supply, scaling SAF, and organisational improvements. The charge raised $9 million in the 2024 financial year. While this amount is not financially material, Air New Zealand believes the existence, amount, and use of the charge could be material to primary users.

Work is currently underway to identify further opportunities to better embed carbon into internal decision-making processes. Part of this work involves designing an internal shadow carbon price to better inform decisions across the wider business, such as fleet, network, and other major investments.

Management remuneration

Air New Zealand's People, Remuneration and Diversity Committee (PRDC) provides advice and assistance to the Board in its responsibilities with respect to People and Culture. The Board has generally delegated authority for rewards and remuneration to the PRDC. The PRDC introduced an emissions intensity performance measure into the STI scheme, comprising 15 percent of the overall STI value for non-unionised employees (22 percent of all employees) in the 2024 financial year. The climate-related component of the STI will be awarded if the prescribed annual emissions intensity reduction target for the year is achieved, or partially awarded if a minimum milestone is achieved. The PRDC has discretion to change the numerical STI targets, the components that make up the STI and / or value of awards annually. There is no climate-related component in the Long-Term Incentive Plan.

Metrics and Targets (continued)

5.2 Aviation industry metrics and other KPIs

The Sustainability Accounting Standards Board (SASB) publishes guidance on aviation-specific sustainability metrics. Air New Zealand reports the SASB GHG emissions metrics in the following locations: gross global Scope 1 emissions in 5.1 Metrics relevant to all entities; discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets in 3.5 Transition Plan, 5.3 Targets used to manage climate-related risks and opportunities, 5.4 Performance against targets; and fuel metrics in this section.

Activity metrics are reported in the following locations: Available Seat Kilometres, Passenger Load Factor, and Revenue Passenger Kilometres are reported on page 115 of the Annual Report; Revenue Tonne Kilometres and number of departures are reported in this section; and average fleet age is reported in section 3.5 Transition Plan.

Metric	Unit	2024
Total fuel consumed (all fuel types)	Gigajoules	43,958,911
Percentage of fuel consumed that was alternative fuel	% of total fuel	0.4%
Percentage of fuel consumed that was SAF	% of total fuel	0.4%
Percentage of expected total 2030 fuel volume that has been contractually secured as SAF via approved offtake agreements	% of total fuel	0.0%
Revenue Tonne Kilometre	RTK	990,035,712
Number of departures	#	173,002 (of a scheduled 179,372)

5.3 Targets used to manage climate-related risks and opportunities

Air New Zealand has set a long-term net zero carbon target for 2050 (the 2050 Target) that is described in further detail below. While this target does not link to specific climate risks, opportunities or anticipated impacts outlined in section 3.3 Current impacts and anticipated impacts of climate-related risks, it does guide Air New Zealand's Transition Plan which helps the airline to navigate the physical and transition risks faced by the airline.

The 2050 Target is difficult to achieve and the airline is dependent on numerous external factors including policy and technology developments, the affordable supply of SAF, as well as costs and commercial constraints on the airline's ability to deliver its Transition Plan. Some of these key challenges are discussed below.

This difficulty is reflected in the airline's decision to remove its 2030 Target in July 2024. Because the 2030 Target was in place during the 2024 financial year, it is described in detail below for information purposes.

Targets – key challenges

Air New Zealand is committed to playing its part by taking steps to implement its Transition Plan. However, the airline cannot solve its decarbonisation challenge or reach its targets alone. Reducing emissions to meet climate targets, particularly in a sector such as aviation that relies predominantly on fossil jet fuels, is inherently challenging due to several interdependent factors:

- **Economic:** In the short to medium-term, implementing the Transition Plan is expected to increase the airline's costs. To the extent those costs cannot be effectively passed on through ticket prices, Air New Zealand's profitability may be adversely affected. If these costs are passed on to customers by way of higher ticket prices, demand may decline, potentially reducing revenue and profits;
- **Technological:** The aviation industry is heavily reliant on the scaling of decarbonisation technologies, and in some cases, commercialisation of technologies or technology breakthroughs. The pace of these technological developments is unpredictable and is outside the control of any single entity, industry or government;
- **Policy:** Effective government policy frameworks are also crucial to drive and sustain emissions reductions across the aviation sector. These include policies that incentivise the adoption of low emission technologies and approval of methodologies such as Book and Claim; and
- **Capital management:** Implementation of Air New Zealand's Transition Plan and the achievement of its 2050 Target is also dependent on Air New Zealand's financial position and performance over the relevant period. Air New Zealand may need to prioritise other strategic priorities and investment where it is cash- or capital-constrained and that may delay the achievement of the 2050 Target.

The 2050 Target

- Air New Zealand's 2050 Target is to achieve net zero carbon emissions by 2050. The 2050 Target covers domestic and international flights, passenger and cargo flights, and revenue and non-revenue flights. The emissions and reductions in the scope of the 2050 Target are:
  - CO_2 emissions only (not CO_2-e emissions such as methane or nitrous oxide);
  - Tank-to-Wake emissions for fossil jet fuel; and
  - Well-to-Wake emissions for SAF, hydrogen and electric propulsion;
- Non-CO_2 effects are excluded from the target.

Metrics and Targets (continued)

- The target is a net reduction target, which includes absolute reductions (it seeks a reduction in the total volume of carbon dioxide emissions). Air New Zealand expects residual emissions will be addressed with credible carbon credits and / or carbon removal solutions;
- The 2050 Target aligns with the aviation industry's collective 2050 target agreed by resolution at the 77th IATA Annual General Meeting, which IATA states will bring air transport in line with supporting efforts of the Paris Agreement's temperature goal. It also aligns with the 2050 time frame adopted by ICAO's long-term global aspirational goal (LTAG) agreed by States (including New Zealand) at its 41st Assembly in 2022, which ICAO also states is in support of the Paris Agreement's temperature goal. The 2050 Target adopts the criteria identified by the IATA resolution to achieve net zero carbon emissions by 2050;
- Progress will be measured from 2019. This aligns with the commencement of the monitoring, reporting and verification requirements under CORSIA. IATA does not specify a base year for the net zero commitment;
- While IATA and ICAO state the net zero target is in line with the objectives of the Paris Agreement, Air New Zealand's 2050 Target is not verified or validated by the airline or any external third party.

The 2030 Target

Note that Air New Zealand removed this 2030 Target early in July 2024. Information about the 2030 Target is included here for information purposes, given the target was in place during the 2024 financial year.

- The interim 2030 Target required the airline to reduce Well-to-Wake emissions related to jet fuel by 28.9 percent from 916gCO_2-e/RTK in 2019 to 651gCO_2-e per RTK by 2030;
- The 2030 Target was developed in 2022 using an aviation specific model developed by the Science-Based Targets initiative (SBTi), together with Air New Zealand's own data. The 2030 Target was validated by the SBTi as meeting their criteria and methodology. Achievement of the target was subject to execution of the airline's Transition Plan;
- The 2030 Target covered Well-to-Wake emissions associated with jet fuel (this included Scope 1 emissions relating to jet fuel and Scope 3, category 3 emissions relating to jet fuel). This covered the entire life cycle of the jet fuel. There was no provision for carbon credits;
- The 2030 Target was based on carbon intensity (greenhouse gas emissions per RTK) rather than total emissions. It did not account for non-CO_2 effects which also contribute to climate change;
- The 2030 Target was based on a 'well-below 2°C' pathway developed with reference to the SBTi's aviation methodology and validated by the SBTi. The SBTi is currently working on a formal aviation methodology for a 1.5°C pathway;
- The SBTi's aviation methodology deploys a sectorial decarbonisation approach, thereby setting physical intensity emissions reduction targets that align with the sectoral pathway of an underlying climate change mitigation scenario.

Air New Zealand used workbooks provided by SBTi to develop its 2030 Target and the target was validated by the SBTi in accordance with the aviation methodology and its target setting criteria. The SBTi do not validate the achievability of the target by Air New Zealand.

As noted above Air New Zealand has withdrawn from the SBTi and work has begun to consider a new near-term emissions reduction target. In addition to that ongoing work, Air New Zealand remains a signatory to the World Economic Forum's Clean Skies for Tomorrow Ambition Statement, which it signed in 2021. This has been reported in previous years' Sustainability reports. That Ambition Statement requires signatories to target using 10 percent SAF (as a percentage of their total jet fuel) by 2030. There are no interim milestones for this target and there is no base year against which progress is measured.

5.4 Performance against targets

Air New Zealand's performance in the 2024 financial year against its climate-related targets is described below.

The 2050 Target

Air New Zealand's 2050 Target is for net zero emissions of CO_2 in the year 2050 from Tank-to-Wake carbon emissions for fossil jet fuel and Well-to-Wake carbon emissions for SAF, hydrogen and electric propulsion.

In the 2024 financial year, Air New Zealand's CO_2 emissions from these sources was 3,222,781 tCO_2.

Metrics and Targets (continued)

The 2030 Target

In the 2024 financial year, the airline's Well-to-Wake emissions intensity performance was 889g CO_2-e/RTK, compared to a targeted performance for the year of 817g CO_2-e/RTK and a 2030 goal of 651g CO_2-e/RTK.

While Well-to-Wake emissions intensity performance improved 3 percent compared to the 2023 financial year and dropped below the 2019 financial year level for the first time since the airline started reporting this metric, the airline failed to meet the milestone it had set for the year. Improving the airline's carbon intensity performance was challenging and influenced by engine challenges, which meant the airline operated a less fuel-efficient fleet mix than anticipated. In addition, competition and macro-economic factors meant that loads were lower than anticipated.

Part of the improvement in performance compared to the 2023 financial year was due to a change in the aviation fuel emissions factor published by New Zealand's Ministry for the Environment, which was used to calculate the airline's GHG emissions inventory.

The airline's decision to remove its 2030 Target early in July 2024 was driven by two main factors. Many of the levers needed to meet the target, including the availability of new aircraft, the affordability and availability of alternative jet fuels, and global and domestic regulatory and policy support, are outside the airline's direct control and remain challenging. And more recently, potential delays to the airline's fleet renewal plan due to global manufacturing and supply chain issues that could potentially slow the introduction of newer, more fuel efficient aircraft into the fleet, pose an additional risk to the target's achievability.

Work has begun to consider a new near-term emissions reduction target that could better reflect the challenges relating to aircraft and alternative jet fuel availability within the industry.

In terms of the World Economic Forum's Clean Skies for Tomorrow Ambition Statement, 0.4 percent of Air New Zealand's total fuel was SAF in the 2024 financial year. No SAF has been secured for 2030 under any forward-looking contracts. However, the airline continues to actively explore supply opportunities.

Assurance

6.1 Assurance report

Deloitte.

Independent Assurance Report on Selected Greenhouse Gas ('GHG') Disclosures Included Within the Climate Statement.

To the Shareholders of Air New Zealand Limited

Our Assurance Conclusion

Reasonable Assurance Opinion

In our opinion, the gross GHG emissions, additional required disclosures of gross GHG emissions, and gross GHG emissions methods, assumptions and estimation uncertainty ('Selected GHG disclosures') within the scope of our reasonable assurance engagement (as outlined below), included in the Climate Statement of Air New Zealand Limited (the 'Company') and its subsidiaries (the 'Group') for the year ended 30 June 2024, are fairly presented and prepared, in all material respects, in accordance with Aotearoa New Zealand Climate Standards ('NZ CSs') issued by the External Reporting Board ('XRB'), as explained on page 33 of the Climate Statement.

Limited Assurance Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the gross GHG emissions, additional required disclosures of gross GHG emissions, and gross GHG emissions methods, assumptions and estimation uncertainty ('Selected GHG disclosures') within the scope of our limited assurance engagement (as outlined below), included in the Climate Statement of the Group for the year ended 30 June 2024, are not fairly presented and not prepared, in all material respects, in accordance with NZ CSs issued by the XRB, as explained on page 33 of the Climate Statement.

Scope of Assurance Engagement

We have undertaken a reasonable assurance engagement over the following Selected GHG Disclosures on pages 33 to 38 of the Climate Statement for the year ended 30 June 2024:

Subject matter: 'Selected Scope 1 and 2 disclosures'	Reference
Gross GHG emissions, in metric tonnes of carbon dioxide equivalent (tCO_2-e), classified as: • Scope 1 • Scope 2 (calculated using the location-based method)	Pages 34 to 35
Additional disclosures per paragraph 24 (a) to (d) of Aotearoa New Zealand Climate Standard 1: *Climate-related Disclosures* ('NZ CS 1'): • The statement describing that GHG emissions have been measured in accordance with the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004)* ('the GHG Protocol') to the extent this pertains to Scope 1 and 2 emissions. • The statement that the GHG emissions consolidation approach used is the operational control approach, to the extent this pertains to Scope 1 and 2 emissions. • Sources of Scope 1 and 2 emission factors and the global warming potential ('GWP') rates used or a reference to the GWP source. • The summary of specific exclusions of Scope 1 and 2 emissions sources, including facilities, operations or assets with a justification for their exclusion.	Pages 33 to 36
Disclosures relating to Scope 1 and Scope 2 GHG emissions methods, assumptions and estimation uncertainty per paragraphs 52 to 54 of Aotearoa New Zealand Climate Standard 3: *General Requirements for Climate related Disclosures* ('NZ CS 3'): • Description of the methods and assumptions used to calculate or estimate Scope 1 and Scope 2 GHG emissions, and the limitations of those methods. • Description of any uncertainties relevant to the Group's quantification of its Scope 1 and Scope 2 GHG emissions, including the effects of these uncertainties on disclosures. • Explanation for base year GHG emissions restatements relating to Scope 1 and 2 emissions, where applicable.	Pages 33 to 38

Matters Relating to the Electronic Presentation of the Selected GHG Disclosure included within the Climate Statement

This assurance report relates to the Selected GHG Disclosures included within the Group's Climate Statement for the year ended 30 June 2024 included on the Group's website. The Directors are responsible for the maintenance and integrity of the Group's website. We have not been engaged to report on the integrity of the Group's website. We accept no responsibility for any changes that may have occurred to the Selected GHG Disclosures included within the Climate Statement since they were initially presented on the website.

The assurance report refers only to the Selected GHG Disclosures included within the Climate Statement named above. It does not provide an opinion on any other information which may have been hyperlinked to/from these disclosures. If readers of this report are concerned with the inherent risks arising from electronic data communication, they should refer to the published hard copy of the Climate Statement that include these Selected GHG Disclosures and related limited assurance report dated 29 August 2024 to confirm the information presented on this website.

Assurance (continued)

6.1 Assurance report (continued)

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We have undertaken a limited assurance engagement over the following Selected GHG Disclosures on pages 33 to 38 of the Climate Statement for the year ended 30 June 2024:

Subject matter: 'Selected Scope 3 disclosures'	Reference
Gross GHG emissions, in metric tonnes of carbon dioxide equivalent (tCO_2-e), classified as: • Scope 3	Pages 34 to 35
Additional disclosures per paragraph 24 (a) to (d) of NZ CS 1 that relates to Scope 3 GHG emissions: • The statement describing that GHG emissions have been measured in accordance with the GHG Protocol to the extent this pertains to Scope 3 emissions. • The statement that the GHG emissions consolidation approach used is the operational control approach, to the extent this pertains to Scope 3 emissions. • Sources of Scope 3 emission factors and the GWP rates used or a reference to the GWP source. • The summary of specific Scope 3 exclusions of sources, including facilities, operations or assets with a justification for their exclusion.	Pages 33 to 36
Disclosures relating to Scope 3 GHG emissions methods, assumptions and estimation uncertainty per paragraph 52 to 54 of NZ CS 3: • Description of the methods and assumptions used to calculate or estimate Scope 3 GHG emissions, and the limitations of those methods. • Description of uncertainties relevant to the Group's quantification of its Scope 3 GHG emissions, including the effects of these uncertainties on disclosures. • Explanation for base year GHG emissions restatements relating to Scope 3 emissions, where applicable.	Pages 33 to 38

Our assurance engagement does not extend to any other information included, or referred to, in the Climate Statement on pages 1 to 32, pages 39 to 44, and appendices. We have not performed any procedures with respect to the excluded information and, therefore, no conclusion is expressed on it.

Other Matter – Comparative Information

The comparative GHG disclosures (that is GHG disclosures for the period ended 30 June 2022 and 30 June 2023) have not been the subject of an assurance engagement undertaken in accordance with New Zealand Standard on Assurance Engagements 1: *Assurance Engagements over Greenhouse Gas Emissions Disclosures* ('NZ SAE 1'). These disclosures are not covered by our assurance conclusion.

Other Matter – Separate Greenhouse Gas Emissions Inventory Report ('GHG Inventory Report')

The Group has also prepared a GHG Inventory Report for the year ended 30 June 2024 which includes GHG emissions information disclosed in accordance with requirements of the GHG Protocol. We have performed a separate assurance engagement in accordance with International Standard on Assurance Engagements (New Zealand) 3410: *Assurance Engagements on Greenhouse Gas Statements* ('ISAE (NZ) 3410') issued by the XRB on the GHG Inventory Report. The GHG Inventory Report together with our separate assurance report is available at the Investor Centre of the Air New Zealand website.

Director's Responsibilities for the Selected GHG Disclosures

The Directors are responsible for the preparation and fair presentation of the Selected GHG disclosures in accordance with the NZ CSs, which includes determining and disclosing the appropriate standard or standards used to measure the Group's GHG emissions. This responsibility includes the design, implementation and maintenance of internal controls relevant to the preparation of Selected GHG disclosures that are free from material misstatement whether due to fraud or error.

Inherent Uncertainty in Preparing Selected GHG Disclosures

As discussed on page 37 of the Climate Statement, the GHG quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

Our Responsibilities

Our responsibility is to express an independent reasonable assurance opinion on the Selected Scope 1 and 2 disclosures and a limited assurance conclusion on the Selected Scope 3 disclosures, based on the procedures we have performed and the evidence we have obtained.

We conducted our assurance engagement in accordance with NZ SAE 1 and ISAE (NZ) 3410, issued by the XRB. These standards require that we plan and perform this engagement to obtain the intended level of assurance about whether the Selected GHG disclosures are free from material misstatement, due to fraud or error.

Our Independence and Quality Management

We have complied with the independence and other ethical requirements of NZ SAE 1, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour. We have also complied with the following professional and ethical standards:

- Professional and Ethical Standard 1: *International Code of Ethics for Assurance Practitioners (including International Independence Standards) (New Zealand);*
- Professional and Ethical Standard 3: *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements* which requires the firm to design, implement and operate a system of quality management including policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements; and
- Professional and Ethical Standard 4: *Engagement Quality Reviews*.

Assurance (continued)

6.1 Assurance report (continued)

Deloitte.

Our firm is the statutory auditor of the financial statements (on behalf of the Auditor-General) and also carries out other assignments for the Group which include the review of the interim financial statements, and assurance services relating to the GHG Inventory Report and compliance with student fee protection rules. In addition, we provide non-assurance services in the form of a climate-related disclosure assurance readiness assessment and services to the Corporate Taxpayers Group for which Air New Zealand is a member, along with a number of other organisations. These services have not impaired our independence as assurance practitioner for this engagement. In addition to this, partners and employees of our firm deal with the Group on normal terms within the ordinary course of trading activities of the business of the Group. The firm has no other relationship with, or interest in, the Group.

As we are engaged to form an independent opinion and conclusion on the Selected GHG disclosures prepared by management, we are not permitted to be involved in the preparation of the GHG information as doing so may compromise our independence.

Summary of Work Performed

Reasonable assurance

Our reasonable assurance engagement was performed in accordance with NZ SAE 1 and ISAE (NZ) 3410. This involves performing procedures to obtain evidence about the quantification of emissions and related information in the Selected Scope 1 and 2 disclosures. The nature, timing and extent of procedures selected depend on the assurance practitioner's judgement, including the assessment of the risks of material misstatement, whether due to fraud or error, in the Selected GHG disclosures.

In making those risk assessments, we considered internal control relevant to the Group's preparation of the Selected Scope 1 and 2 disclosures. A reasonable assurance engagement also includes:

- Assessing the suitability in the circumstances of Group's use of NZ CSs, applied as explained on page 33 of the Selected GHG disclosures, as the basis for preparing the Selected Scope 1 and 2 disclosures;
- Evaluating the appropriateness of quantification methods and reporting policies used, and the reasonableness of estimates made by the Group; and
- Evaluating the overall presentation of the Selected Scope 1 and 2 disclosures.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our reasonable assurance opinion.

Limited assurance

Our limited assurance engagement was performed in accordance with NZ SAE 1 and ISAE (NZ) 3410. This involves assessing the suitability in the circumstances of the Group's use of NZ CSs as the basis for the preparation of the Selected Scope 3 disclosures, assessing the risks of material misstatement of the Selected GHG disclosures whether due to fraud or error, responding to the assessed risks as necessary in the circumstances, and evaluating the overall presentation of the Selected GHG disclosures.

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks.

The procedures we performed were based on our professional judgement and included enquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

In undertaking our limited assurance engagement on the Selected Scope 3 disclosures, we:

- Obtained, through inquiries, an understanding of the Group's control environment, processes and information systems relevant to the preparation of the Selected Scope 3 disclosures. We did not evaluate the design of particular control activities, or obtain evidence about their implementation;
- Evaluated whether the Group's methods for developing estimates are appropriate and had been consistently applied. Our procedures did not include testing the data on which the estimates are based or separately developing our own estimates against which to evaluate the Group's estimates;
- Performed analytical procedures on particular emission categories by comparing the expected GHGs emitted to actual GHGs emitted and made inquiries of management to obtain explanations for any significant differences we identified; and
- Considered the presentation and disclosure of the Selected Scope 3 disclosures.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement. Accordingly, we do not express a reasonable assurance opinion about whether Selected Scope 3 disclosures are fairly presented and prepared, in all material respects, in accordance with NZ CSs.

Use of Our Report

Our assurance report is intended for users who have a reasonable knowledge of GHG related activities, and who have studied the GHG related information in the Climate Statement with reasonable diligence and understand that the GHG disclosures are prepared and assured to appropriate levels of materiality.

Our assurance report is made solely to the Company's shareholders, as a body. Our assurance engagement has been undertaken so that we might state to the Company's shareholders those matters we are required to state to them in an assurance report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company's shareholders as a body, for our work, for this report, or for the conclusions we have formed.

Deloitte Limited

Melissa Collier, Partner
for Deloitte Limited

Auckland, New Zealand
29 August 2024

Appendices

7.1 Appendix A: Details of scenario analysis

The climate scenario analysis was developed using the emissions reduction pathways described in section 3.1 Scenario analysis based on assumptions over a range of variables that are summarised below. Specific assumptions for two scenarios (Ambitious and Delayed) are included below as illustrative examples of the assumptions made for each variable. Note that all material parts of Air New Zealand's own operations were considered in the scenario analysis.

- **Technology pathways:** Technology assumptions were based on the availability and cost of technology solutions for Air New Zealand, including, for example, new propulsion technology, aircraft design innovations or carbon removal solutions. In the Ambitious scenario, technologies were assumed to be available sooner and at a relatively low cost to Air New Zealand whereas, in the Delayed scenario, technologies are not available for many years and are more expensive. Key sources for technology parameter values include ATAG (2021), *Waypoint 2050*; IEA (2022), *Direct Air Capture*;
- **Government policy:** Government policy assumptions were based on the barriers to, and government support for, technology development, and restrictions on certain emissions categories. In the Ambitious scenario, short-haul flights where no carbon-efficient alternatives exist would be banned and there would be restrictions on specific emissions categories. In the Delayed scenario, banning flights in select countries would be delayed and there would be limited restrictions on specific emissions categories. There would also be significantly less hydrogen and SAF available and limited government support grants for some technology and regulation. Key reference points included the French Government's short-haul flight ban; British Columbia and California Governments' Low-Carbon Fuel Standards; United States Government's Inflation Reduction Act's Sustainable Aviation Fuel Credit; European Union Aviation Safety Agency (2023), *Non-CO_2 Research Project*; amongst others;
- **Socioeconomic pathways:** Socioeconomic assumptions included considering customer demand and competitor strategy. In the Ambitious scenario, corporates reduce flying significantly to meet ambitious commitments, and leisure and cargo customers switch to the most sustainable provider. Key competitors set SBTi targets and decarbonise rapidly. In the Delayed scenario, leisure customers choose more sustainable airlines, there is a limited reduction in flights from corporate customers and the demand for air freight remains the same due to a lack of policies and restrictions. The aviation industry decarbonises slowly and is substituted by rail and other lower-emission modes of transportation. Key data sources included ATAG (2021), *Waypoint 2050*; Deloitte (2022), *Reshaping the landscape: Corporate travel in 2022 and beyond*; and internal input;
- **Energy pathways:** Energy pathway assumptions included considering the supply and cost of renewable electricity, green hydrogen and SAF. In the Ambitious scenario, the supply of all three variables increases rapidly, global investment is high and costs are low. In the Delayed scenario, the supply of all three variables and global investment is considerably lower, with costs remaining high. Key sources for international energy pathways include IEA (2021), *Net Zero by 2050 – A Roadmap for the Global Energy Sector*; IEA (2022), *Global Hydrogen Review*; ATAG (2021), *Waypoint 2050*; NGFS (2022), *NGFS Scenarios for central banks and supervisors*. He Pou a Rangi (2021), *Climate Change Commission scenarios*; IEA (2021), *Net Zero by 2050*. World Economic Forum and McKinsey & Company (2020), *Clean Skies for tomorrow: Sustainable Aviation Fuels as a Pathway to Net-Zero Aviation*. Internal and expert input;
- **Macroeconomic trends** are defined with reference to the SSPs, but the scenario analysis did not use underlying macroeconomic inputs such as GDP or population growth. Instead, external, independent industry sources were used to make assumptions about leisure and corporate aviation demand, and internal expertise was used to parameterise different aviation cargo demand scenarios. These are outlined under 'Socioeconomic pathways' above;
- **Carbon sequestration from afforestation and nature-based solutions and negative emissions technology:** Carbon sequestration from afforestation and nature-based solutions, and negative emissions technology are not defined. They only feature in the scenario analysis insofar as they address 'residual' emissions to achieve the airline's 2050 Target. The analysis assumes they will be available at $73 – 250 per tonne of CO_2-e in 2050, depending on the scenario. Key sources included: IEA (2022), *Direct Air Capture*. He Pou a Rangi, Climate Change Commission (2020), *Scenarios-dataset-2021-final-advice* and *Climate Change Commission ENZ-assumptions-inputs-2021-final-advice*; CommTrade NZU forward contract bid, offer, and fix pricing; Ministry for the Environment (2022), *Annual updates to emission unit limits and price control settings*. ICAO (2022), *2022 CORSIA periodic review and Assembly Working Paper A41-WP/659* and *Resolution A41-22*. Internal and expert input;
- **Global climate and socioeconomic impacts:** IPCC (2022), *Sixth Assessment Report for SSPs*. Muñoz-Sabater et al. (2019) *ERA5 and ERA5-Land reanalysis*, European Centre for Medium Range Weather Forecasting (ECMWF). Canadian Centre for Climate Modelling and Analysis (2019), *The Canadian Earth System Model version 5 (CanESM5)*. Döscher et al. (2022), *The EC-Earth3 Earth system model for the CMIP6*, EC-Earth Consortium. Shiogama et al. (2019), *MIROC6 model output prepared for CMIP6 ScenarioMIP*, MIROC Team;
- **New Zealand physical and climate impacts:** same sources as Global climate and socioeconomic impacts above; Ministry for the Environment (2018), *Climate Change Projections for New Zealand*.

Appendices (continued)

7.2 Appendix B: Glossary

- '**2030 Target**' means Air New Zealand's interim carbon intensity reduction target, which was removed in July 2024;
- '**2050 Target**' means Air New Zealand's long-term target of achieving net zero carbon by 2050, as agreed by IATA member airlines at the 77th IATA Annual General Meeting in October 2021;
- '**ASK**' means Available Seat Kilometres, which is measured by the available seats operated multiplied by the distance flown (capacity);
- '**Book and Claim**' refers to a system whereby airlines can purchase ('book') the life cycle benefits of SAF and credit ('claim') it against the emissions from their own use of conventional jet fuel, while another airline uses that SAF but is not able to claim the SAF's low-carbon credentials. The Book and Claim system, if adopted, is expected to increase demand, supply, and liquidity in the SAF market, ultimately increasing the global uptake of SAF.

  For example, one airline may not fly to any airports where SAF is available for uplift. Book and Claim would allow this airline to purchase and credit the low-carbon credentials of SAF that is input to the fuel supply at another location and used by a second airline. In this example, the second airline that does uplift SAF cannot claim the low-carbon credentials of the SAF because those credentials were purchased by the first airline. The first airline flies with conventional jet fuel but purchases and credits the low-carbon credentials of the SAF. The second airline flies with SAF but does not purchase or credit the low-carbon credentials of that fuel;
- '**CORSIA**' means the Carbon Offsetting and Reduction Scheme for International Aviation developed by the International Civil Aviation Organization (ICAO). Under CORSIA, Air New Zealand faces an obligation for growth in CO_2 above a baseline, calculated with reference to an annual Sector Growth Factor. Air New Zealand must acquire and cancel eligible emissions units to meet its obligation;
- '**IPCC**' refers to the Intergovernmental Panel on Climate Change, which is the United Nations body responsible for assessing the science related to climate change;
- '**Load Factor**' means revenue passenger kilometres (RPKs) as a percentage of ASKs. RPK is the number of revenue passengers carried multiplied by the distance flown (demand);
- '**Mass-balance approach**' refers to a global accounting practice applied to materials mixed in the same system. These materials may be physically or chemically the same but have other certification or characteristics which are different: for example, SAF made from used cooking oil and SAF made from tallow. In this example, mass-balancing allows a buyer to purchase the sustainability benefits of SAF from their preferred feedstock(s), and to connect only these attributes to their specific SAF delivery, even when their physical supply contains a mix of types. An audit process ensures that there is no fraudulent material or double counting: the preferred/certified material can only be sold once;
- '**Neat SAF**' refers to SAF that is not blended with conventional jet fuel. See also 'SAF';
- '**Next Generation Aircraft**' or '**NGA**' refers to aircraft powered by alternative propulsion that enables a significant reduction in carbon emissions compared to existing technology, which could include hydrogen fuel cells, hydrogen combustion, batteries, or battery hybrids that are used in combination with SAF and / or fossil jet fuel;
- '**Non-CO_2**' means impacts that arise from aircraft engine emissions of oxides of nitrogen (NO_x), soot particles, oxidised sulphur species, and water vapour. These impacts are in addition to CO_2-e;
- '**NZ ETS**' means the New Zealand Emissions Trading Scheme. Air New Zealand is a participant in the NZ ETS and has an obligation to report greenhouse gas emissions generated from fuel use on all domestic flights and then purchase and surrender to the Government an equal number of New Zealand Units to match those emissions;
- '**RTK**' or '**Revenue Tonne Kilometre**' is a measure of the weight that has been paid for on the aircraft (freight and passengers) multiplied by the number of kilometres transported;
- '**SAF**' or '**Sustainable Aviation Fuel**' is the industry term given to alternative jet fuel that is made from feedstocks other than fossil fuels and which seek to produce lower lifecycle emissions than fossil jet fuel. The term is used by the United Nations, national governments, and the aviation industry. Air New Zealand follows this convention when describing alternative jet fuel for consistency with the industry, but in doing so acknowledges that SAF still produces emissions over its lifecycle, including equivalent emissions to conventional jet fuel when combusted, and may create other adverse impacts on the environment;
- '**Science-Based Targets initiative**' or '**SBTi**' is a collaboration between the Carbon Disclosure Project, the United Nations Global Compact, the World Resources Institute and the World Wide Fund for Nature, which aims to assist companies to develop targets for reducing greenhouse gas emissions that are aligned with the goals of the Paris Agreement;
- '**Transition Plan**' means Air New Zealand's strategy and actions for its transition towards a low-emissions, climate-resilient future. This includes the 2050 Target and the steps taken in seeking to achieve that target;
- '**Well-to-Wake**' or '**WTW**' refers to emissions from the airline's activities and accompanying emissions across the value chain of jet fuel. It comprises: 'Well-to-Tank' emissions from feedstock sourcing, processing and transportation to fuel production and distribution (measured as Scope 3, category 3 emissions); and 'Tank-to-Wake' emissions from the combustion of fuel (measured as Scope 1 emissions).

AIR NEW ZEALAND

A STAR ALLIANCE MEMBER