

# Climate Statements 2024



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Throughout our reports, we include toi Māori (Māori art) designs co-created by Hāmiora Bailey (Ngāti Porou Ki Harataunga, Ngāti Huarere). These pattern systems are inspired by toi whakairo, tukutuku, and tāniko (traditional Māori art forms). They act as a poutokomanawa (central pole) along the spine of the report providing support for the content, and Visualising Te Pēke o Aotearoa (the Bank of New Zealand) on its haerenga (journey) to create a more sustainable future. As well as representing our people, these toi Māori work to illuminate BNZ’s strategy of integrating te ao Māori (the Māori world) into all our business practices, policies, products and services.



# Overview

# Important information

This document contains Bank of New Zealand (BNZ) Banking Group’s Climate Statements for the financial reporting period 1 October 2023 to 30 September 2024 (Statements). These Statements have been prepared in accordance with the Aotearoa New Zealand Climate Standards (NZ CS).

References to ‘BNZ’ or the ‘Bank’ means Bank of New Zealand. References to the ‘Banking Group’ or the ‘Group’, ‘we’, ‘us’ and ‘our’, means BNZ, all its wholly owned entities and other entities consolidated for financial reporting purposes.

Information disclosed in this document relates to BNZ and other members of BNZ’s financial reporting group, which consists of BNZ, all its wholly owned entities and other entities consolidated for financial reporting purposes. The Banking Group’s financial year ends on September 30. The financial year ended September 30, 2024 is referred to as FY24 and other financial years are referred to in a corresponding manner. All references to \$ in these Statements are to NZ dollars.

The ultimate holding company of BNZ is National Australia Bank Limited ABN 12 004 044 937 (NAB).

BNZ Investment Services Limited (BNZISL) is the manager of three Managed Investment Schemes (the ‘schemes’) including the BNZ KiwiSaver scheme. On 30 April 2024, BNZ completed the sale of BNZISL to FirstCape Limited (FirstCape). BNZISL reported climate-related disclosures in relation to the schemes in July 2024. BNZISL has its own Board of Directors and governance processes relating to the schemes’ climate-related disclosures, which are not covered by these Statements. However, operational emissions arising from the BNZISL operating entity prior to its sale are included in these Statements, as BNZISL was a wholly owned subsidiary of BNZ until 30 April 2024. Please refer to Section 4, Metrics and Targets of these Statements for further details.

## Adoption provisions

BNZ has elected to use the following adoption provisions from NZ CS 2 in preparing these Statements:

Adoption provision 1: Current financial impacts

Adoption provision 2: Anticipated financial impacts

Adoption provision 3: Transition planning

Adoption provision 4: Scope 3 greenhouse gas (GHG) emissions

Adoption provision 6: Comparatives for metrics

Adoption provision 7: Analysis of trends

## Cautionary statements

This document contains:

- BNZ’s understanding and assessment of the future climate-related risks and opportunities that could affect its business and customers, as well as its planning to address these risks and opportunities; and
- statements that are, or may be considered to be, forward looking statements.

All statements other than statements of historical facts included in this document are forward-looking statements. The words ‘anticipate’, ‘believe’, ‘expect’, ‘estimate’, ‘likely’, ‘should’, ‘could’, ‘may’, ‘focus’, ‘beyond’, ‘aim’ and other similar expressions are intended to identify forward-looking statements. Indications of, and guidance on, future earnings and financial position and performance are also forward-looking statements.

Forward-looking statements may, without limitation, relate to statements regarding:

- goals, targets, commitments, pathways, ambitions, expectations, objectives and strategies, and mitigating and adapting to related risks and opportunities;
- certain plans, strategies and objectives of management, and perceived costs, benefits and opportunities for BNZ associated with such plans, strategies and objectives;
- the assumptions, beliefs and conclusions in our climate change related statements and strategies; and
- our commitments to sustainable finance funding, sustainability reporting, frameworks, standards and initiatives.

By their very nature, forward-looking statements reflect judgements, predictions, estimates, projections, assumptions, and conclusions about the future that:

- are subject to inherent known and unknown risks, uncertainties and other factors, and continue to evolve;
- depend on a number of factors out of BNZ’s control, including but not limited to domestic and offshore governmental policy, regulatory, environmental and economic factors, and the actions of third parties, including our customers;
- rely on customer and other third-party data over which BNZ has no control; and
- are not forecasts of future outcomes, are not guarantees of future performance and involve known and unknown risks, uncertainties and other factors, many of which are beyond the control of the Banking Group. This may cause actual results to differ materially from those expressed or implied in such statements.

No representation, warranty or assurance (express or implied) is given or made in relation to any forward-looking statement made by any person (including BNZ or any of its advisors). In particular, no representation, warranty or assurance (express or

implied) is given that the occurrence of the events expressed or implied in any forward-looking statements in these Statements will actually occur.

BNZ has set out the basis and limitations of its analysis in these Statements. BNZ believes that as at the date of preparing these Statements, BNZ’s judgements, predictions, estimates, projections, assumptions, and conclusions about the future, and the standards, metrics, measurements, methodologies and models used by BNZ in preparing these Statements, are based on reasonable assumptions but outcomes may be materially different than anticipated. In addition, many of the standards, metrics, measurements, methodologies and models used in preparing these Statements, as well as the data underlying our climate analysis and strategy, and these Statements, continue to evolve. Due to the inherent uncertainty and limitations in measuring emissions under the calculation methodologies used in the preparation of such data, GHG emissions or references to GHG emissions (including ratios or percentages) in these Statements may include estimates.

The limitations set out in these Statements mean that the extent to which these Statements may be useful for decision-making is necessarily limited and readers should make their own assessments and not place undue reliance on these Statements. These limitations may also lead to BNZ revisiting its analysis and changing its views in the future (including, but not limited to, as its understanding of climate-related risks and opportunities, and the quality and completeness of data, standards, metrics, measurements, methodologies and models, continues to evolve and improve). BNZ does not intend to update any information in these Statements, and expressly disclaims any obligation or undertaking to do so, except where required to do so under the NZ CS or applicable law.

This section should be read together with the limitations identified elsewhere in these Statements.

These Statements have been produced for primary users as required by the NZ CS, namely our existing and potential investors, lenders and other creditors and are provided to inform readers, but do not take into account any circumstances of the reader, nor are they financial advice or earnings guidance. These Statements are not audited, although BNZ's GHG inventory is subject to reasonable assurance from Toitū Envirocare as part of the Toitū carbon certification for category 1 and 2 (scope 1 and 2), and limited assurance for remaining categories (see Toitū assurance report [here](#)). Readers should make their own assessments, not place undue reliance on these Statements and take appropriate professional advice in considering these Statements.

These Statements include disclosures that may include more detail and be from a different perspective than BNZ's other mandatory disclosures, in which we may use a definition of materiality established under applicable laws for the purpose of complying with the disclosure rules and regulations of applicable regulators and applicable stock exchange listing standards. While certain matters discussed in these Statements may be of interest and importance to our stakeholders, the use of the terms "material", "significant", "important" or similar words or phrases should not necessarily be read as rising to the level of materiality used for the purposes of securities or other laws and regulations. Any matters identified as 'material', or terms of similar meaning, for the purposes of climate-related or sustainability-related matters in this document are therefore not necessarily material for the purposes of financial reporting, securities disclosures or reporting under other regimes.

Nothing in these Statements shall constitute, or form part of, an offer to sell or a solicitation of an offer to buy or subscribe for any security or other instrument of BNZ or any of its affiliates, or as an invitation, recommendation or inducement to enter into any investment activity, and no part of this document shall form the basis of, or be relied upon in connection with, any contract, commitment or investment decision. Offers to sell, sales, solicitations of offers to buy or purchases of securities issued by BNZ or any of its affiliates may only be made or entered into pursuant to appropriate offering materials prepared and distributed in accordance with the laws,

regulations, rules and market practices of the jurisdictions in which such offers, solicitations or sales may be made. Professional advice should be sought prior to any decision to invest in securities.

Third-party references and website references and/or links throughout these Statements are provided for convenience only, and the content on the referenced websites is not incorporated by reference into these Statements. Such third-party references and website references and/or links do not imply an affiliation, sponsorship or endorsement of any party.

Please refer to the important information contained in the Appendices to these Statements, including the glossary in Appendix A for a list of defined terms used in these Statements.

Signed on behalf of BNZ on 5 December 2024 by:



Warwick Hunt

Chair



Dan Huggins

Managing Director and Chief Executive Officer BNZ

# 1. Governance

# 1.1 Board governance and oversight

## BNZ Board

The BNZ Board (Board) is the governance body responsible for oversight and implementation of BNZ’s overall strategy, policies, and risk management framework, which includes oversight of climate-related risks and opportunities. The Board has overall responsibility for setting the direction of BNZ’s response to climate change and for ensuring climate-related risks and opportunities affecting BNZ and its customers are appropriately identified, managed, and disclosed.

The Board is supported in its management of climate change risks and opportunities by two Board committees, the Board Risk and Compliance Committee (BRCC) and the Board Audit Committee (BAC), each discussed below.

BNZ aligns its management of risk with the NAB Group Risk Management Strategy (RMS), which sets out the Risk Management Framework applicable to both the NAB Group and BNZ, including BNZ’s material risk categories and risk management practices. The RMS is adopted and approved by the Board annually. The RMS starts with the Board-approved BNZ Strategy and includes the BNZ Risk Appetite Statement (RAS) for all material risk categories (including Sustainability Risk which incorporates climate-related risk), and BNZ’s Financial Plans. Risk appetite is translated and cascaded throughout the business, both qualitatively (through risk policies, standards, and operating procedures) and quantitatively (through risk limits, settings, and decision authorities). For more information, please refer to Section 3, Risk Management of these Statements.

The Board currently meets at least six times per year, including four main Board and Board committee meetings and two special purpose meetings for specific governance matters.

During FY24, the Board considered climate-related risks and opportunities through:

- receiving reporting on risk appetite settings for sustainability risk and climate-related risk via the CRO

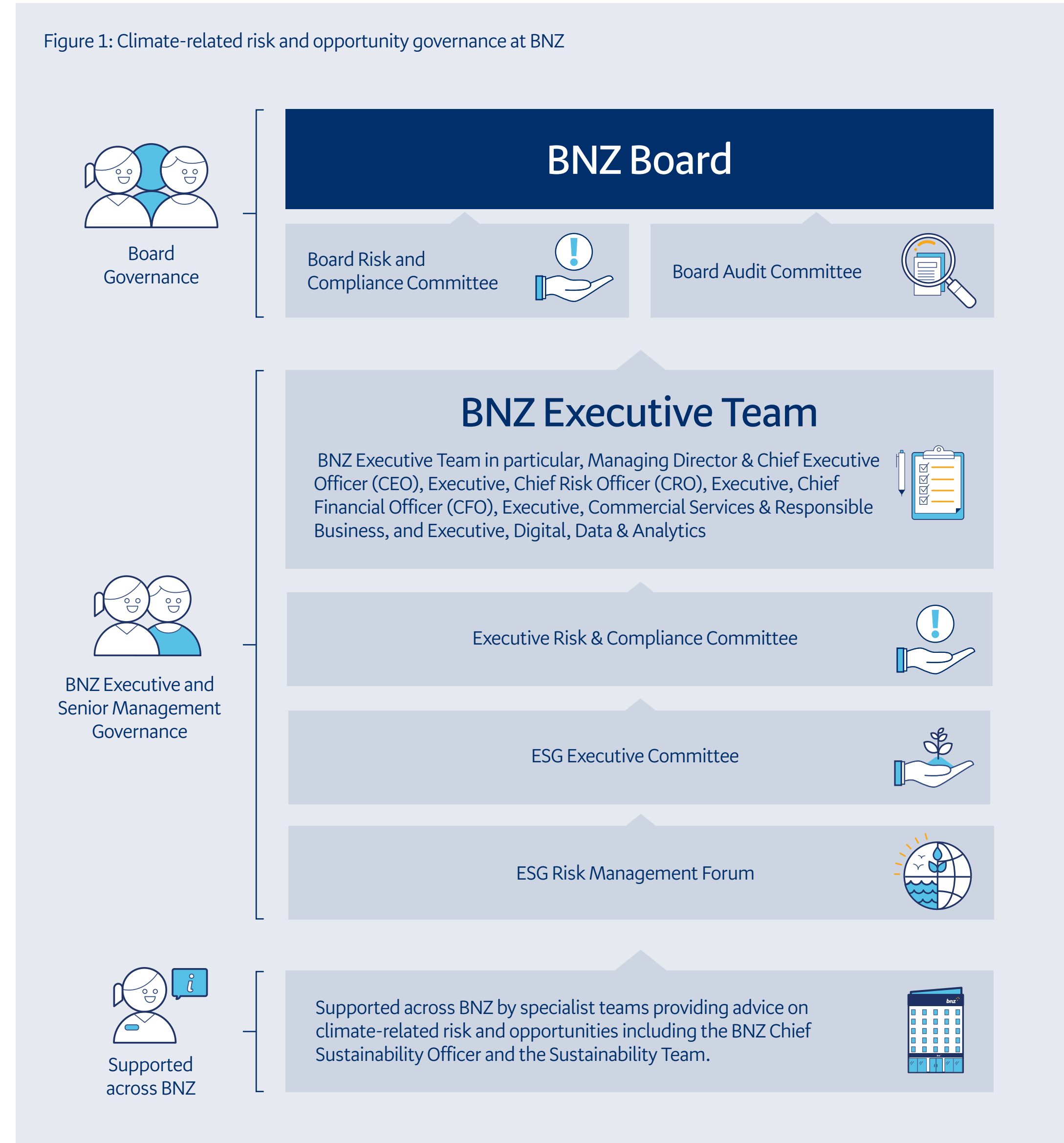
Report which includes a RAS dashboard that was presented at five meetings and once via circular between meetings;

- receiving updates at three of its meetings covering matters relating to regulatory climate reporting and assurance, key themes and adoption provisions relevant to these Statements, strategic integration, progress on climate-related metrics and targets (including lending opportunities); and
- two Board training sessions upskilling directors on climate-related reporting and topical ESG issues including international and NZ ESG developments and BNZ’s climate-related risk management.

The Board sets, monitors progress against, and oversees achievement of, climate-related metrics and targets. The Board previously approved the setting of BNZ’s Net Zero Banking Alliance (NZBA) target disclosures in May 2023. Reporting on the progress made against BNZ’s metrics and targets for managing climate-related risks is conducted at least annually and was included in the FY23 BNZ Climate Report discussed at the BAC and Board December 2023 meetings. The Board also discussed and approved the setting of BNZ’s NZBA emission reduction target for Residential real estate at its 1 November 2024 meeting. The Residential real estate target will be kept under assessment in the next 12 months. See Section 4 of these Statements for more information on BNZ’s metrics and targets.

The Board considered BNZ’s strategic planning and implementation throughout FY24 and discussed BNZ’s strategy and the key priorities for FY25 at its annual Board strategy session in June 2024. This included consideration of climate change transition planning and climate change impacts and opportunities.

Figure 1: Climate-related risk and opportunity governance at BNZ



## Board committees

### Board Risk and Compliance Committee

The BRCC is responsible for supporting the Board with its oversight of risk management, including climate-related risk, within the material risk category of Sustainability Risk. The BRCC currently comprises all BNZ directors. The BRCC currently meets at least five times a year, or more regularly if required. The BRCC provides updates and makes recommendations as required to the Board. Each year the BRCC reviews and, following discussion with management, considers whether to recommend the RAS and the adoption of the RMS to the Board for its approval. During FY24, the BRCC discussed the CRO Report (also provided to the Board), which includes a RAS dashboard for all material risk categories, including Sustainability Risk, at four of its meetings.

### Board Audit Committee

The Board has delegated responsibility for oversight of these Statements to the BAC. The BAC currently comprises three independent non-executive directors. The BAC is responsible for reviewing these Statements, and, following discussion with management and external auditors or other assurance providers as required, considers whether to recommend these Statements for approval by the Board. The BAC currently meets at least six times a year, or more frequently if required. During FY24, the BAC received and discussed updates (including those which were also provided to the Board) at three of its meetings on the approach and process for these Statements leading up to its publication and included a discussion of BNZ’s scenario analysis and climate change transition planning.

### Board skills and competencies

The Board monitors its skills and competencies to identify any areas where further training, knowledge, and/or expertise may be required to enable the Board to provide oversight of risks and opportunities (including climate-related risks and opportunities) relevant to BNZ. BNZ includes training sessions in the annual Board work plan and additional sessions are scheduled throughout the year, as required, to help directors individually and collectively develop and maintain their skills and knowledge. Directors are also expected to develop their individual skills and knowledge to perform their role as directors on the Board.

The Board skills matrix was last updated in September 2024. All directors have self-assessed their skills and competencies as being Highly Competent, Practised or Aware based on their professional capabilities. ‘Governance’ and ‘Environmental/ Sustainability and Social’ are included as part of the skills and competencies assessed in the matrix. The Board’s continued upskilling in climate-related matters will remain a focus for the Board in FY25.

The Board commissions an external review of its performance (including the Board committees) every three years, which was most recently completed in September 2024. In addition, an internal Board effectiveness review is currently completed in the period between external reviews. Directors also complete a self-assessment annually.

# 1.2 BNZ Executive Management

BNZ’s management is responsible for effectively managing BNZ’s climate-related risks and opportunities.

## Executive Risk and Compliance Committee

At an executive level, risk is overseen by the CEO through the Executive Risk and Compliance Committee (ERCC), which leads management in respect of risk matters relating to culture, integrated governance processes, risk strategy and performance, and is responsible for overseeing the effectiveness of risk management within BNZ, including sustainability risk, which incorporates climate-related risk. The ERCC is chaired by the CEO and supported in this area by its subcommittee the ESG Executive Committee (ESG EC).

All Executive Team (ET) members sit on the ERCC, which meets at least six times a year, or more regularly if required. During FY24 the ERCC met seven times. At a management level, the ERCC delegates decision making and oversight, approvals, and management of sustainability risk, climate integration, climate disclosure and the setting of emission reduction targets to the ESG EC. The ESG EC is supported by its own sub-committee, the ESG Risk Management Forum (ESG RMF). Reporting on risk appetite settings for sustainability and climate-related risks is provided by the CRO to the ERCC via the CRO Report presented six times throughout the year, and a RAS dashboard presented at each ERCC meeting.

## ESG Executive Committee

The ESG EC comprises several ET members and direct reports of ET members with sustainability or climate-related accountability or role responsibilities, including the Chief Sustainability Officer. The BNZ Executive, Commercial Services and Responsible Business is the Chair of ESG EC. The ESG EC is the oversight body responsible for monitoring adherence to BNZ’s obligations and commitments in relation to sustainability

risk. The ESG EC has the authority (by delegation from ERCC and as specified in its charter) to consider climate-related risks and opportunities including:

- Climate integration – monitoring and overseeing the integration of climate strategy, climate commitments, climate physical, transition and liability risk, and climate disclosures at and by BNZ.
- Targets and Metrics – monitoring and overseeing the development of emissions reduction targets to align with New Zealand’s Climate Change Response Act and other relevant targets e.g. Net Zero Banking Alliance commitments and as recommended by the ESG RMF.
- Climate opportunity – identifying and prioritising climate growth opportunities for BNZ and its customers.
- Progress updates on BNZ’s climate-related initiatives and commitments provided by the ESG RMF.

The ESG EC also approves the BNZ’s Sustainable Finance Framework, which is available on BNZ’s website at [BNZ Sustainable Finance Framework](#).

In FY24, the ESG EC met monthly (other than in July 2024) and received a quarterly Sustainability Risk update from the Risk team. The ESG EC provided minutes from its meetings to the ERCC.

## ESG Risk Management Forum

Members of the ESG RMF are senior leaders from across BNZ. The ESG RMF is co-chaired by the Chief Sustainability Officer and the Chief Regulatory & Compliance Officer. The ESG RMF meets at least six times per year or more regularly, if required, and supports the ESG EC in delivery and management of, and reporting on, external ESG commitments and regulatory requirements including emission reduction targets, commitments, and strategic initiatives under BNZ’s Sustainability and Climate Strategies, approval of updates to

policy settings (proposed by the BNZ Sustainability Team) and proposing targets and metrics to the ESG EC (as referred to above). The ESG RMF met 10 times in FY24 and provided the minutes and updates from its meetings to the ESG EC.

## Executive Team

Specific responsibilities for climate-related risks and opportunities have been assigned to the following BNZ ET members:

- BNZ’s CEO has delegated authority from the Board for management and operation of the day-to-day business of BNZ in accordance with BNZ’s Delegations of Authority Framework. The CEO receives reporting on climate-related issues in his capacity as a director of the Board and as a member of both the ERCC and the ESG EC.
- BNZ’s CRO is the accountable executive responsible for implementing and integrating processes for identifying, assessing, and managing climate-related risk and provides periodic risk reporting (including commentary relating to climate-related risk) to the ERCC, BRCC, and Board. The CRO is also responsible for overseeing compliance with BNZ’s ESG Policy.
- The BNZ Executive, Commercial Services and Responsible Business, is the accountable executive for enterprise sustainability and is responsible for sustainability policies and practices including BNZ’s ESG governance and commitments, and external reporting, BNZ’s sustainability and climate strategies, BNZ’s overall response to climate change, and the Sustainable Finance Framework.
- The BNZ CFO is the accountable executive responsible for overseeing the external emissions reporting process and the climate-related disclosures assurance process for these Statements.
- The BNZ Executive, Digital, Data & Analytics is the accountable executive responsible for completing external

data provider procurement, assessment and integration into BNZ systems and processes, and analytics and insights across the BNZ portfolio.

BNZ ET members consider and address climate-related risks and opportunities as part of the management of their business units including product design and development, the management of risk, and the delivery of emission reductions.

## Management remuneration

BNZ’s performance is assessed on the achievement of financial and non-financial measures as set out in relevant ET scorecards. Scorecard measures are linked to BNZ’s key strategic priorities, including risk, performance, and customer and colleague outcomes. In relation to remuneration, for FY24, all members of the BNZ ET had performance metrics, which specifically include a climate-related component as part of achievement of the BNZ’s strategic metrics, and metrics to maintain compliance with BNZ’s risk appetite (which includes climate-related risks, as described above). This component is not represented as a defined percentage or weighting. In addition, the Executive, Commercial Services and Responsible Business has an outcome measure relating to the implementation of ESG governance and reporting. ET performance metrics are reviewed and approved annually by the Board. The Board determines progress and performance outcomes against those metrics for each financial year, as part of BNZ’s performance review process, following receipt of a recommendation from the Board People and Remuneration Committee.

# 2. Strategy

# 2.1 BNZ's current business model and strategy

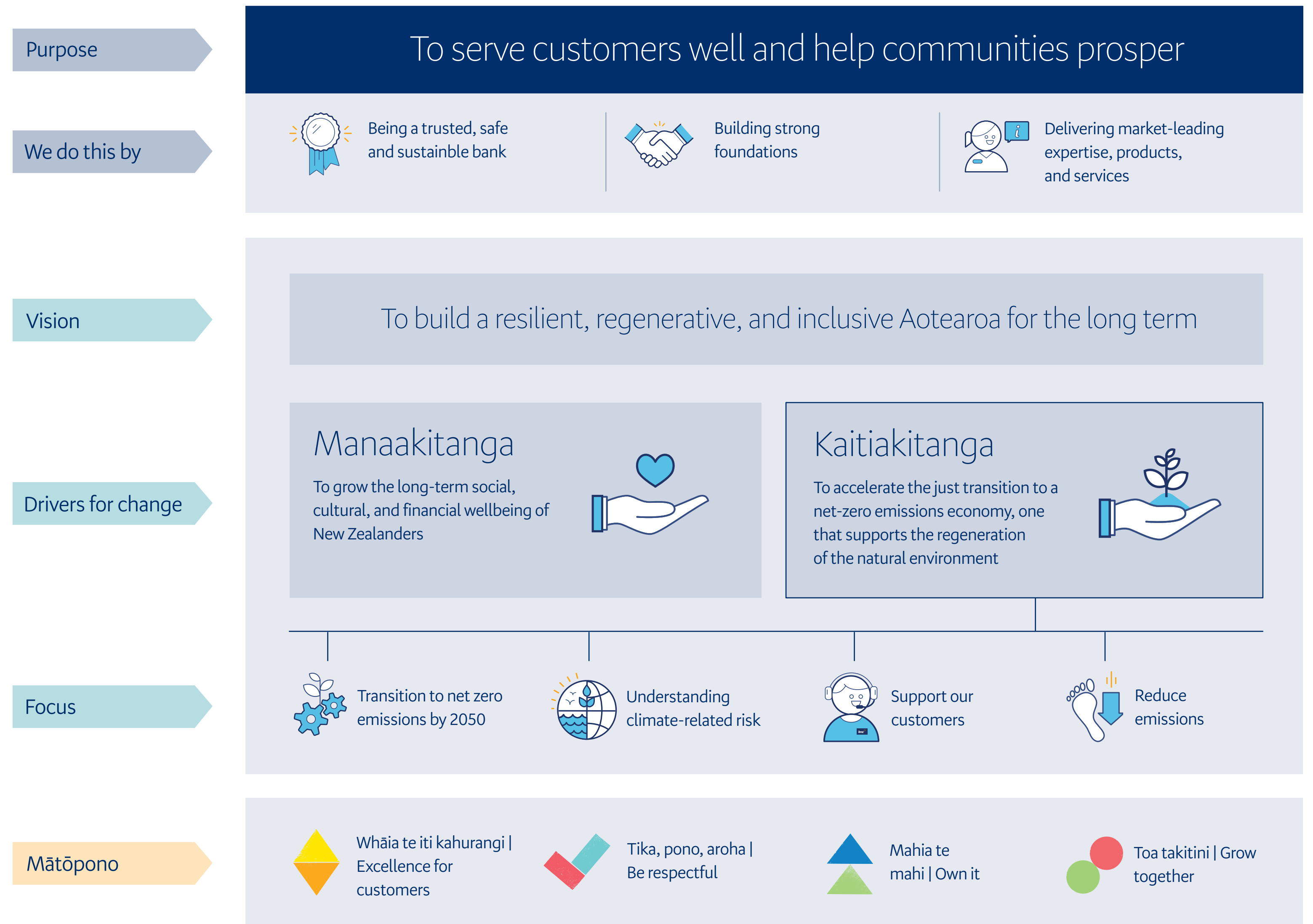
BNZ provides a broad range of banking and financial products and services organised into two major reportable and operating segments:

- Partnership Banking provides financial products and services to retail, small and medium businesses (including agribusiness), and private customers.
- Corporate and Institutional Banking provides financial products and services to large corporate and institutional customers (including property and agribusiness).

BNZ employs over 5,000 people in New Zealand and has 127 branches and Partners Centres across New Zealand.

Figure 2 sets out BNZ's purpose, vision, and Te pae tawhiti - BNZ's sustainability strategy, built around the two main pillars of Kaitiakitanga, and Manaakitanga. BNZ's climate strategy - which shares the same vision as the Kaitiakitanga pillar - is described in the context of BNZ's climate transition planning, in Section 2.6.

Figure 2: BNZ's approach to sustainability



## 2.2 Physical and transition risk approach

A summary of BNZ’s approach to climate-related physical and transition risk identification and analysis is set out below, and further detail is provided in Appendix B.

Table 1: Physical and transition risk analysis approach

	Physical risk	Transition risk		Physical risk	Transition risk
Risk description	Risks related to the physical impacts of climate change. Physical risks from climate change can be event-driven (acute), such as increased severity of extreme weather events. They can also relate to longer-term shifts (chronic) in rainfall and temperature and increased variability in weather patterns, such as sea level rise.	Risks related to the transition to a low-emissions, climate-resilient global and domestic economy, such as policy, legal, technology, market, and reputation changes associated with the mitigation and adaptation requirements relating to climate change. The External Reporting Board’s (XRB) Aotearoa New Zealand Climate Standards (Climate Standards) describe transition risk as policy and legal, technology, market, and reputation risks.	Current impacts <sup>1</sup> (Section 2.3)	from the Ministry for Primary Industries - Manatū Ahu Matua (MPI) adverse events and the National Emergency Management Agency Te Rākau Whakamarumarū.	Quantitative transition risk analysis: BNZ used financed emissions intensity data to self-assess the relative emissions intensity of its lending as high, medium or low as a proxy to identify sensitivity to transition risk.
How could this impact BNZ or its customers?	Customers may experience damage to their properties; this could impact the cost and availability of insurance and reduce property values (which may impact their ability to obtain financing). Physical risks, such as supply chain disruption, may also impact productivity and profitability for customers, which could impact their ability to repay loans. Severe adverse weather also has the potential to directly disrupt BNZ operations e.g. branch and office access or access to cash.	Customers may have assets, business strategies, employment, and livelihoods affected by emerging regulation, changes in technology, or increased requirements to continue to access markets. Some industries may thrive while others are no longer viable as we transition to a low carbon, resilient economy. BNZ is also directly exposed to transition risks including reputation risk and the changing legislative environment (legal risk).	Anticipated impacts (Section 2.4)	<p>Qualitative scenario analysis: BNZ scenario analysis covered both physical and transition risks across three temperature outcomes: 1.5°C, 2.1°C and 3.4°C.</p> <p>Quantitative physical risk analysis<sup>3</sup>: BNZ used third party climate model projections to assess potential exposure of the following physical risks, under differing future temperatures:</p> <ul style="list-style-type: none"> <li>• Acute - coastal inundation, fluvial/pluvial flooding, adding drought, and heat stress for its rural portfolio.</li> <li>• Chronic - sea level rise.</li> </ul> <p>BNZ used three Shared Socio-economic Pathways (SSP) described in Appendix B, and four exposure percentiles to capture a fuller range of risk exposure. Physical risk data was provided by a third-party using climate model projections, overlaid with geocoded BNZ titles. The methodology, limitations, and assumptions are provided in Appendix B.</p>	Qualitative scenario analysis: As for physical risk.
Current impacts <sup>1</sup> (Section 2.3)	BNZ identified current climate-related physical impacts affecting BNZ and its customers through a screening of adverse weather events in FY24, externally sourced -	BNZ determined current transition impacts through a workshop with BNZ Risk colleagues, discussing RBNZ examples <sup>2</sup> of how transition risk can compound existing BNZ risk types.			

Continued on the following page

Table 1: Physical and transition risk analysis approach continued

	Physical risk	Transition risk
Scope of analysis	<p>Qualitative scenario analysis: BNZ assessed the impact of scenarios on the following sectors Agriculture – livestock, Agriculture - horticulture, Commercial real estate, Residential real estate<sup>4</sup>, and Power generation (and distribution).</p> <p>Quantitative physical risk analysis (Anticipated impacts): BNZ assessed physical risk exposure across the Total Committed Exposure (TCE) of Gross Loans and Advances to Customers<sup>5</sup> (totalling \$120,211 million in FY24). This assessment included only the loans secured by geocoded titles, to enable location-specific analysis. Geocoded residential properties assessed comprise 54% of total TCE, geocoded commercial properties assessed are 14% of total TCE, and geocoded rural properties assessed are 12% of total TCE. Personal lending is excluded. This means that physical risk analysis focused on 80% of BNZ's TCE of Gross Loans and Advances to Customers. Data is as at 30 September 2024. For details of the percentage of TCE assessed for each specific climate variable refer to Table 6.</p>	<p>Qualitative scenario analysis: As for physical risk.</p> <p>Quantitative transition risk analysis (Current impacts): BNZ assessed transition risk exposure across the TCE of Gross Loans and Advances to Customers (totalling \$120,211 million in FY24), which are industry-related loans classified by sector (Industry-related Loans). Home loans and other personal lending are excluded. This means that BNZ's transition risk analysis of industry-related emissions intensity assessed 48% of BNZ's FY24 TCE of Gross Loans and Advances to Customers. Data is as at 30 September 2024.</p>

<sup>1</sup> BNZ is developing its approach to determine current financial impacts of physical and transition impacts for disclosure in FY25.

<sup>2</sup> Reserve Bank of New Zealand – Te Pūtea Matua (26 March 2024) [Managing climate-related risks. Guidance for prudentially regulated entities.](#)

<sup>3</sup> BNZ is also assessing BNZ properties against flood, sea level rise and coastal inundation.

<sup>4</sup> BNZ did not exclude elements of each sector's value chain, except for Residential real estate. Given the significant extent of that sector's value chain, it was limited to the immediate activities that could impact the ability of a customer to service a loan and impact the integrity of collateral held (for example, flooding, as opposed to downstream economic impacts from climate, such as job losses).

<sup>5</sup> Total Committed Exposure (TCE) and Gross Loans and Advances to Customers are defined in the glossary.

## Time horizons considered for climate risk and opportunity identification

BNZ considered the following short-, medium- and long-term horizons when conducting its physical and transition risk analysis. Where BNZ has quantified outputs of its physical risk analysis, these Statements present these outputs as at both 2030 and 2050.

### Short term

2025 to 2030  
(0 to 6 years)

[Link to BNZ strategic planning horizons and capital deployment plans](#)

Short term is aligned to lending timeframes for current short-term loans. It also aligns with interim NZBA emission reduction targets (Section 4.4), forecast spending on climate-related data, and external resource to continue to build internal skills (e.g. relating to FY25 work quantifying the financial impact of climate-related risks and opportunities).



### Medium term

2031 to 2040  
(7 to 16 years)

[Link to BNZ strategic planning horizons and capital deployment plans](#)

Medium term provides a data point in between our short and long term horizons (which are aligned to lending timeframes for short-term loans and home loans respectively), to inform our analysis. The medium term horizon is not itself linked to our strategic planning horizons or capital deployment plans. Although internal quantitative physical risk analysis covers 2040 in addition to 2030 and 2050, for simplicity of reporting only 2030 and 2050 outputs are included in these climate statements.



### Long term

2041 to 2050  
(17 to 26 years)

[Link to BNZ strategic planning horizons and capital deployment plans](#)

Long term is broadly aligned to lending timeframes for home loans which aligns with BNZ's long-term strategic horizon and capital deployment plans. Long term is also aligned to the New Zealand legislative net zero target in the Climate Change Response (Zero Carbon) Amendment Act 2019, global net zero goals in the United Nations Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016), and the 2050 NZBA emission reduction net zero target commitment.



## 2.3 Current physical and transition impacts

This section sets out the current view of physical and transition climate-related impacts identified or experienced by BNZ.

### Current climate-related physical impacts

BNZ did not experience material climate-related physical impacts in FY24 in respect of its operations or as a result of impacts to its customers.

Not all adverse weather events experienced in New Zealand translate into material climate-related physical impacts for BNZ. Table 2 shows adverse weather events experienced in New Zealand during FY24 (refer to Table 1 for data sources). In FY24, adverse weather events did not have a material impact on BNZ’s operations (e.g. branch and office access) to a degree that triggered an internal crisis management response in line with its internal Business Continuity Management programme.


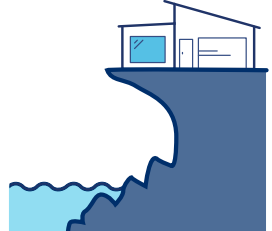



While these adverse events have potential to impact BNZ customers, and impact their ability to service BNZ loans, this was not on a scale that then materially impacted BNZ. BNZ has sought to provide support for impacted customers, for example, following

the Hawke’s Bay severe weather in June – July 2024, BNZ announced the immediate availability of a range of targeted assistance options for affected customers on a case-by-case basis, from access to temporary overdrafts for both personal and business customers to the ability to review home lending facilities.<sup>7</sup>

<sup>6</sup> At 30 September 2024, per the MPI adverse event classification.

<sup>7</sup> [BNZ offers support for East Coast and Hawke's Bay customers impacted by severe weather - BNZ Debrief.](#)

Table 2: Adverse weather events occurring during FY24

	Weather event or impact	Date (all 2024)	Description of impact
	Flooding – West Coast	19 to 20 January	Heavy rainfall led to high river levels including the Waiho River at Franz Josef, and a state of emergency declared. State Highway 6 was closed overnight between Ross and Makarora. Media reported minor property damage.
	Coastal erosion – Southland	8 February to 8 March	A State of Local Emergency was declared due to coastal erosion (exacerbated by heavy rain and sea swells) at Bluecliffs. The declaration enabled prioritisation of protection of life and property from erosion and the landfill, which is eroding into the sea.
	Wildfire – Canterbury	14 February to 8 March	A State of Local Emergency was declared for Christchurch City and Selwyn District due to the impacts of a large fire in the Port Hills. The fire spread over 700 hectares, forcing the evacuation of more than 100 properties and destroying one home.
	Extreme Dry Conditions – multiple regions	24 February to current	Beginning at the top of the South Island in February, the extreme dry conditions had varied impact across affected regions in both the North and South islands. Low levels of rain impacted farmers and growers’ ability to feed stock and produce food. This has resulted in impacts on production, animal welfare, and people. Certain regions of New Zealand are still experiencing extreme dry conditions <sup>6</sup> .
	Coastal inundation – Hawke’s Bay	24 June to 3 July	A State of Local Emergency was declared for Haumoana and Wairoa following floods caused by heavy rain and coastal inundation. Several state highway closures, residents evacuated, and some properties and infrastructure damaged.

# Current climate-related transition impacts


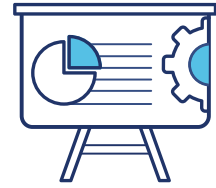

The table below summarises the FY24 transition impacts identified or experienced by BNZ<sup>8</sup>.

Table 3: Current transition impacts

Transition risk compounding existing risk types	Description of current impact on BNZ	Transition risk compounding existing risk types	Description of current impact on BNZ
 <p>Credit risk</p>	<ul style="list-style-type: none"> <li>As a result of credit risk, BNZ now develops policies and processes to manage certain transition risks that may be realised in the current financial year or in the future. This includes understanding the sectors which are most exposed to transition risk (see quantitative analysis regarding high-emissions sectors immediately below), and consideration of transition plans. BNZ manages the risk of stranded assets through its internal policies (refer to Section 3.1).</li> <li>Due to there being increasing concerns about fewer options for insurance availability for physical properties for certain higher risk geographical areas or less climate-resilient buildings, BNZ now closely monitors insurance retreat and its associated impacts. An example of this is BNZ’s contribution to the New Zealand Banking Association’s submission to the Inquiry into Climate Change Adaptation.</li> <li>Through BNZ’s work with large corporate customers, including the evaluation of transition plans of high-emitting customers, BNZ sees opportunities to support customers' emission reduction investments.</li> </ul>	 <p>Operational risk</p>	<ul style="list-style-type: none"> <li>BNZ continues to evolve the way it does business considering climate-related risks and opportunities. FY24 examples include the installation of satellite communications to provide more resilient communication services to some branches and Partners Centres following the experience during Cyclone Gabrielle and updating its internal Colleague Support Framework – Disruptive Events which provides guidelines for people leaders of the support available for colleagues in extreme weather.</li> </ul>
 <p>Market risk</p>	<ul style="list-style-type: none"> <li>As net zero and other emissions reduction commitments become more widespread across different countries and industries, pressure on associated supply chains will increase. This includes the growing number of countries, including New Zealand’s major trading partners, with either mandatory or proposed climate reporting regimes. Exporting customers are increasingly facing pressure from global customers to decarbonise operations to retain supplier contracts, as discussed by AgriZeroNZ in the context of the New Zealand agriculture sector during FY24<sup>9</sup>.</li> </ul>	 <p>Insurance risk</p>	<ul style="list-style-type: none"> <li>See credit risk to the left.</li> </ul>
		 <p>Liquidity risk</p>	<ul style="list-style-type: none"> <li>No current evidence of impacts. BNZ considers the risks of any immediate impacts as part of its existing liquidity risk monitoring in place. For example, stress testing and early warning indicators reflect potential climate-related risks. The Internal Liquidity Adequacy Assessment (ILAA), updated annually, considers whether climate-related risk impacts are onshore or offshore, and immediate versus prolonged. The key concern would be an immediate, severe, New Zealand weather event.</li> </ul>

Continued on the following page

Table 3: Current transition impacts continued

Transition risk compounding existing risk types	Description of current impact on BNZ
 <p>Reputational risk</p>	<ul style="list-style-type: none"> <li>Like other large financial institutions, BNZ experiences external criticism for decisions around its emission reduction approach, for moving too soon, and conversely for not doing enough. BNZ recognises the challenges around cost-of-living related issues as a parallel challenge that needs to be balanced. As a result, BNZ has carefully considered the methodologies, technology and data it applies for its climate-related risk and opportunity identification, financed emissions analysis, and Net Zero Banking Alliance target setting. Since 2020, BNZ has also undertaken materiality assessments when preparing its annual sustainability reporting. This involves engaging with key stakeholders to understand BNZ’s most significant impacts on the economy, environment, and people. Through this process, BNZ can identify areas that may impact its business, inform where BNZ may shift its focus, and define where BNZ can best support the long-term resilience of BNZ’s customers and New Zealand communities.</li> </ul>
 <p>Strategic risk</p>	<ul style="list-style-type: none"> <li>The need to respond to climate change risk and opportunity is driving government consultations, legislative and policy change, and wider sectoral requirements. New Zealand has committed to climate targets in the Climate Change Response (Zero Carbon) Amendment Act 2019 and New Zealand’s Nationally Determined Contribution under the Paris Agreement, as well as more recently introducing a revised New Zealand climate strategy. A FY24 example of repealed policy is the Clean Car Discount which, when combined with cost-of-living challenges, resulted in a reduction in demand for green loans for electric vehicles (EVs). Repeal of policies can create uncertainty about how banks and their customers will be affected. BNZ is continuing to monitor such change.</li> </ul>
 <p>Legal risk</p>	<ul style="list-style-type: none"> <li>The principles-based nature of the New Zealand climate reporting regime brings significant uncertainty about how a climate reporting entity should meet the mandatory requirements and what investor expectations will be. There has been a cost impact in FY24 as BNZ invested in new processes, systems, data, and upskilling its people, including purchasing climate data, hiring suitably qualified colleagues, upskilling existing colleagues, and engaging third parties with relevant expertise in new areas, such as climate modelling. BNZ considers the risk of ‘greenwashing’ and ‘greenhushing’ when preparing external statements (discussed further in Table 11 Anticipated transition risks and impacts).</li> </ul>

<sup>8</sup>This is a qualitative summary of transition impacts identified or experienced during FY24 rather than the outcome of quantified analysis. RBNZ examples of how transition risk can compound business risks formed the basis for review (refer footnote 2).

<sup>9</sup> AgriZeroNZ is a world-first public-private partnership with an ambition to ensure all farmers in New Zealand have equitable access to affordable, effective solutions to reduce biogenic methane and nitrous oxide emissions, supporting a 30% reduction by 2030 and drive towards ‘near zero’ by 2040. Article ‘From grassroots to global: Maintaining our competitiveness on the world stage’, accessed 8th November 2024. For further information on BNZ activities in AgriZeroNZ go to Section 2.5, page 29 and 30.

## Current lending to emissions-intensive industries

BNZ has identified high emissions-intensive industries to determine which sectors are most exposed to current transition risk. This quantitative analysis assumes that industries with higher emission intensity are more likely to be exposed to transition risks, such as sensitivity to carbon price or regulatory change, than low emission intensive industries. Ministry of Business, Innovation and Employment (MBIE) analysis<sup>10</sup> states ‘that firms in industries that are more emissions-intensive are most likely to have to undergo significant changes in the way that they operate in response to pressures to reduce emissions.’

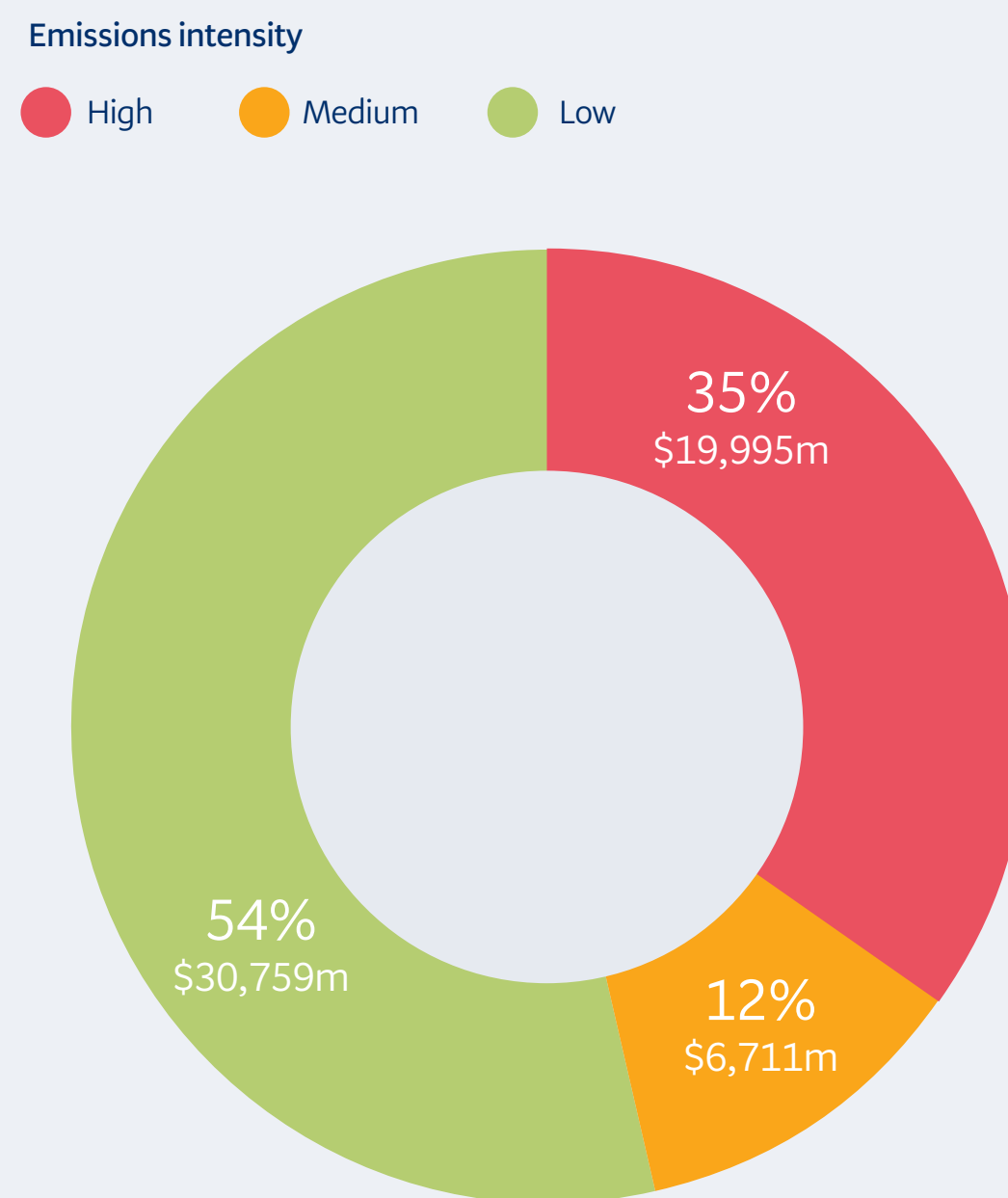
For FY24, BNZ refined its transition risk approach, categorising the emissions intensity (drawing on financed emissions analysis) of the TCE of its Gross Loans and Advances to Customers by High, Medium and Low emissions intensity thresholds. These thresholds are consistent with the MBIE categorisations applied in BNZ’s previous reports, with a consolidation of the ‘Medium-high’ and ‘Medium’ categories for simplification. Refer to Section 4.2 Financed emissions and Appendix B for the methodology.

BNZ assessed transition risk exposure across the TCE of its Gross Loans and Advances to Customers (being \$120,211 million in FY24), which are Industry-related Loans. This excluded loans with no industry classification, e.g. home loans and other personal lending. **Industry-related Loans represent 48% of BNZ’s FY24 TCE of Gross Loans and Advances to Customers.**

BNZ analysis shows that 35% of its Industry-related Loans are categorised with a ‘High’ emissions intensity, representing \$19,995 million in TCE (Figure 3) across BNZ’s Industry-related Loans by sector as shown in Figure 4.

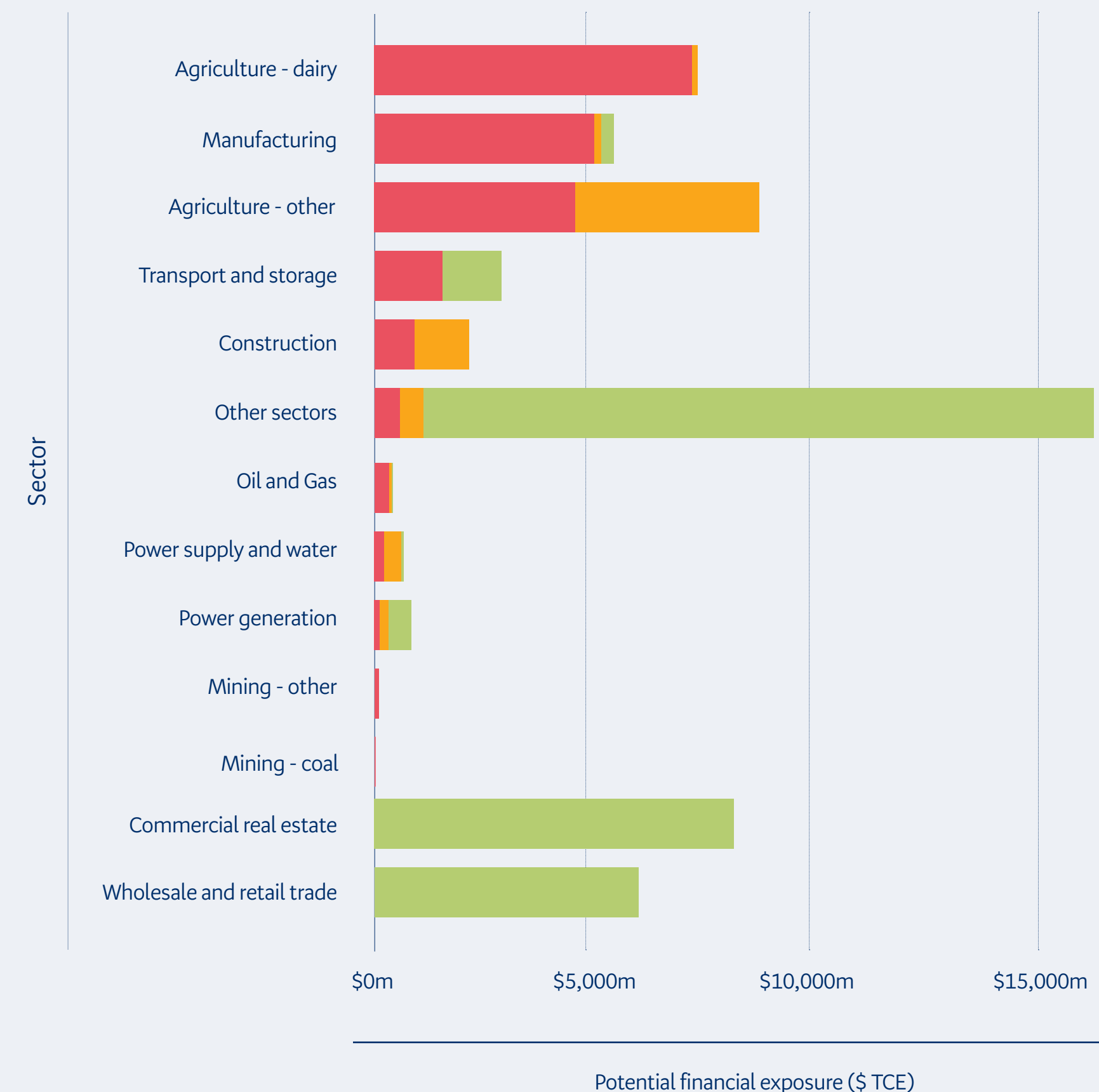
<sup>10</sup> MBIE (2021) Emissions exposure of workers, firms and regions.

Figure 3: FY24 potential financial exposure (TCE) for BNZ’s Industry-related Loans by each emissions intensity category



All amounts have been rounded up. Any discrepancies in % are due to rounding.

Figure 4: FY24 potential financial exposure (TCE) for BNZ’s Industry-related Loans by sector for each emissions intensity category



The potential financial exposure represents the TCE of Industry-related Loans. Although barely visible in the figure, Mining - other and Mining - coal have ‘High’ emissions intensity industries.

## 2.4 Climate scenario analysis

Climate scenario analysis is a forward-looking, structured, strategic tool that considers plausible futures and impacts to the financial resilience of an entity’s business model under different temperature changes and over different time horizons.

While BNZ has previously undertaken climate physical and transition risk analysis and participated in RBNZ stress tests, in FY24 BNZ undertook scenario development of qualitative narratives. This year, BNZ’s climate scenario analysis was undertaken as a separate standalone process with support from external scenario and climate specialist consultants (refer to Appendix B). This incorporated tasks and activities designed to build BNZ’s internal capability to understand climate-related impact, undertake climate scenario development and analysis, and test its strategic resilience to projected climate impacts.

The climate scenarios project was overseen by the ESG EC with the Executive, Commercial Services and Responsible Business as the sponsor. The Board was not directly involved in overseeing and managing the scenario analysis process but did receive updates on the project and its outcomes (refer to Section 1.1).

The climate scenarios focused on BNZ’s key sectors, determined based on a combination of an internal sectoral climate-related risk rating and portfolio lending coverage. The key sectors were Agriculture - dairy and livestock, Agriculture - horticulture, Residential real estate, and Commercial real estate. Power generation (and distribution) was included in the narratives due to the wider focus on energy sector emission reduction. The geographic focus was New Zealand. The physical impacts (e.g. drought and sea level rise) and transition impacts (e.g. policy changes and technology advancements) considered were not limited.

### Climate scenario analysis process

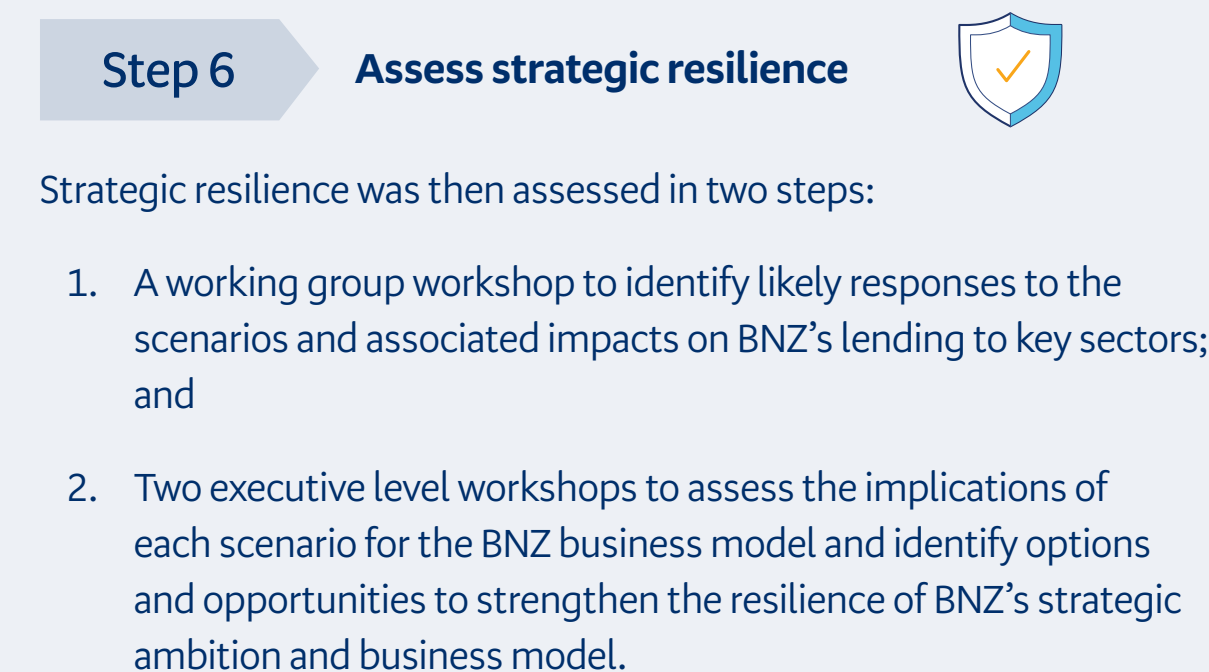
BNZ adopted the six process steps detailed in the XRB’s 2023 Staff Guidance Entity Scenario Development<sup>11</sup>.

<sup>11</sup> External Reporting Board (2023) [Staff Guidance Sector scenario development](#).  
<sup>12</sup> This work took place in 2022 and 2023.

Table 4: Climate scenario analysis process



pathway selection was based on the potential political, regulatory, and geopolitical environments globally that would likely lead to each temperature outcome. The endpoints for each scenario were both time and temperature based.



# Scenario narratives

This section summarises the three scenario narratives, developed and used by BNZ, that present plausible, alternative futures and are not probabilistic predictions. These narratives do not represent a view of the ‘most likely’ outcome(s) of climate change, rather they have been developed and used as scenarios to better understand and prepare for the uncertain future impacts of climate change.

The table right summarises the scenario architecture and assumptions underlying the scenario pathway development. A range of other sources were used for plausibility checks.

Each scenario has been given a name, Ruapehu, Rangitoto and Taupō, selected by the Sector Working Groups that helped develop the scenarios aligned with 1.5°C, 2.1°C and a 3.4°C temperature outcome. The scenario name is characterised by a well-known New Zealand volcano symbolic only by its sheer size and impact if active – the narratives are in no way related to the potential for an eruption.



Table 5: Scenario architecture and assumptions underlying scenario pathway development

	Ruapehu	Rangitoto	Taupō
Scenario	Increase in global average temperature <b>1.5°C</b> 2025-2050 <sup>13</sup>	Increase in global average temperature <b>2.1°C</b> 2025-2050 <sup>13</sup>	Increase in global average temperature <b>3.4°C</b> 2025-2050 <sup>13</sup>
Climate impact and description	There is a discernible increase in extreme weather events – a new normal that much of the globe has adapted to. New Zealand delays its transition, and this has a negative impact on its economy.	New Zealand acted early to transition to a low-carbon economy. However, the rest of the world delayed, and New Zealand faces challenging physical risks.	The planet faces a severe climate emergency, intensifying physical dangers, pushing critical thresholds, and reshaping the foundational ecosystem supporting the global economy.
New Zealand energy pathways	Initial focus on gas for electricity generation (to 2035), then rapid renewable electrification of the energy system (e.g. vehicles, industrial systems, heating) by 2050.	New Zealand energy system is electrified using renewable generation and decarbonised by 2050.	Strong reliance on natural gas for electricity supply, renewables not prioritised.
Policy and socio-economic assumptions	New Zealand delays decarbonisation, then accelerates with supporting policies after 2030. The rapid response hurts the economy and vulnerable groups. The rest of world implemented rapid transition policies to limit warming to 1.5°C.	New Zealand acted early with bold, transformational policies. However, the rest of the world delayed transition policies until early 2030s. New Zealand experiences high cost of living pressures.	Minimal domestic climate response. Urban development extends into risky areas. Global policy not aligned to Paris Agreement. Insurance sector eventually fails. New Zealand closes borders, food insecurity is rife.
Macroeconomic trends	Global market support for transition, including border tariffs. New Zealand credit rating downgraded. Global dairy industry disrupted by technology.	Strong uptake of green tech in New Zealand, especially agricultural tech including low carbon precision protein technology; global capital and knowledge workers attracted. Urban sprawl contained and linked with public transport.	Minimal and mismatched global and New Zealand market responses to climate-related issues. Global trading relationships dwindle, and localised economies emerge. The global insurance sector is constricted.
Data sources used to construct the scenario <sup>14, 15</sup>	Global temperature aligns to lower percentile model outcomes of CMIP 6 <sup>16</sup> , SSP1-1.9 (Sustainability - Taking the Green Road) <sup>17</sup> .	Global temperature aligns to mid percentile model outcomes of CMIP 6, SSP2-4.5 (Middle of the Road).	Global temperature aligns to upper percentile model outcomes of CMIP 6, SSP5-8.5 (Fossil-fuelled Development - Taking the Highway).

<sup>13</sup> While the scenario endpoints (2050) were all defined by the time horizon, additionally the end point is designed to reach the required temperature endpoint.

<sup>14</sup> While no specific modelling was carried out for the scenarios, the global warming temperatures used to align with disclosure requirements were sense-checked with global model outcomes in the Intergovernmental Panel on Climate Change Assessment Report 6 (AR6) for plausibility. Global temperatures in each scenario are aligned to the 2040-2060 mean model output, and relative to pre-industrial (1850-1900) averages, see Table 4.2 Chapter 4 IPCC Assessment Report 6. All climate model outputs contain uncertainty. Uncertainties in the CMIP6 climate models primarily stem from variations in climate sensitivity, internal variability, and differences in model parameterizations and scenarios (Eyring et al 2016). As the scenarios were developed in a qualitative manner there was no specific reliance on carbon sequestration from afforestation, nature-based solutions, and negative emissions technology.

<sup>15</sup> An internal record of evidence points, including media; scientific research papers and reports from government departments, support the justification and reference for the scenario narratives. Sources include Ministry for the Environment (MfE) (2018). [Climate Change Projections for New Zealand: Atmosphere Projections Based on Simulations from the IPCC Fifth Assessment, 2nd Edition](#). Wellington; and MfE (2020). [National Climate Change Risk Assessment for New Zealand – Arotakenga Tūraru mō te Huringa Āhuarangi o Aotearoa: Technical report – Pūrongo whaihanga](#). Wellington.

<sup>16</sup> The Coupled Model Intercomparison Project (CMIP) provides climate projections supported by worldwide climate science, and decision and policy-maker communities. CMIP is a project of the World Climate Research Programme, an organisation that coordinates and facilitates international climate research to develop, share, and apply the climate knowledge that contributes to societal well-being.

<sup>17</sup> Shared Socio-economic Pathways (SSP) are a range of socio-economic futures. SSPs show a range of potential global warming impacts over the coming century. Three different climate models (SSP) are described in Table 23, Appendix B.

# Ruapehu 1.5°C

**Time horizon:** 2025-2050

**Reference scenario:** SSP1-1.9 | Sustainability – Taking the Green Road



## 2025-2030

New Zealand pulls back from climate leadership: domestic policies for urban resilience and electric vehicle subsidies are cut, and departmental resources dedicated to environmental research and innovation are reduced. Major nations fortify commitments to manage the climate threat, emerging as pillars in green technology. Nations commit to implementing the ambitious Methane Pledge and associated sizeable reduction in fossil and agricultural emissions within the decade. The largest companies in the food industry pledge to overhaul sustainability of supply chains and minimise their methane footprint. The New Zealand livestock sector responds by investing in selective breeding and methane reduction technology. Domestic concerns around the pace of change mean the response in other countries is faster than in New Zealand.

To remain viable, the horticulture industry cultivates climate-resilient and premium crops, embracing carbon-efficient farming techniques. They capitalise on cooler climates and lower land prices further south, once home to dairy herds. New Zealand's entry into burgeoning low-carbon markets is hampered by its transport sector, which is yet to make the essential shift to decarbonisation and resilience.

## 2031-2040

Climate-related risks are integrated into country credit ratings and New Zealand is downgraded. Global widespread adoption of emissions tariffs mean New Zealand faces a greater cost of capital and harder access to markets. Early successes in methane reduction saw New Zealand herds being some of the world's most emissions efficient. However, precision fermentation technologies developed overseas undercut traditional dairy prices and disproportionately impact rural communities.

## 2041-2050

As the 2040s kick off, global progress on temperature targets looks positive. The world's economies are still affected by increased extreme weather events, but extensive resilience measures, resulting from business practices and government policies, soften the impact. Countries that acted early forged a distinct trade advantage. With a reduced export industry New Zealand continues to struggle under the weight of debt and a shift of the country's wealth to bankroll a rapid and belated transformation. New Zealand sees a societal divide between those who benefitted from the rapid policy changes of the 2030s and those who didn't.

New Zealand refocuses on climate action including electrification. Clean electricity and transport fuels become the focus, with tax incentives and subsidies to fund the changes required. Foreign ownership restrictions are repealed to attract international investment. An over-reliance on gas means that all sectors and homes are exposed to increased electricity prices.

The physical impacts of climate change are felt across New Zealand: frosts are halved, affecting key crops, especially in the North Island, while summer temperatures grow fiercer.

# Rangitoto 2.1°C

**Time horizon:** 2025-2050

**Reference scenario:** SSP2-4.5 | Middle of the Road



## 2025-2030

The global response to mitigate climate change impacts is slow, however, New Zealand bucks the trend, driven by a devastating extreme weather event. New Zealand’s largest corporations double down on commitments to reach net zero emissions. The world’s largest food and beverage companies announce a pivotal shift towards alternative proteins by 2035, directly impacting New Zealand dairy suppliers.

In response, the Government leans in: foreign capital investment is courted, and a climate resilience fee is levied on all businesses and individuals. Monies are aligned to support resilience across electrification, agri-tech, and urban form, with new policies to ensure property development is banned outside highly resilient transport corridors and in hazard areas.

The livestock sector adopts 2035 as a timeframe to transform into a world-leading clean and green alternative protein sector. The nation’s herd sees a managed downsize to a bespoke organic, high margin offering. Dairy land is converted to native forests, horticultural land, and residential housing. At the heart of this restructure is the establishment of a National Policy Statement for Just Transition.

## 2031-2040

Green-tech incubators and accelerators support startups dedicated to sustainable technology and the nation becomes a beacon for global capital and knowledge workers. Demand for both residential and commercial space soars, with prices curtailed to a degree by urban intensification and the strategic repurposing of farmland.

By 2035, as the globe wrestles with the new normal of frequent extreme weather, countries finally ramp up the resilience of their economies. Demand for zero-carbon technologies and climate-related services surge. Alternative milk proteins reach price and taste parity.

As global agriculture is reshaped, New Zealand capitalises on emerging trends. With a focus on sustainability and innovation,

the nation begins exporting a diverse array of products, ranging from agri-tech through to expertise in climate-resilient farming practices.

While New Zealand’s proactive policies have them well placed for resilience, there are limits to how much they could foresee. In 2038, a year-long drought culminates with an unprecedented heatwave. Electricity systems buckle causing brownouts. The ageing population is particularly affected, with hospitals witnessing a surge in heat-related ailments.

## 2041-2050

By 2040, New Zealand has established itself as a global leader in agricultural and climate technology and is advancing towards the infrastructure and affluence needed to withstand hardships posed by climate change. Regardless of its economic boom, throughout the decade, extreme weather events see the rise of an economy focused on infrastructure resilience. Some areas are deemed too costly to salvage.

While New Zealand fares better than many countries in coping with increasing extreme weather events, the country faces soaring living costs and an expensive housing market, leading to a lower standard of living for some. Tourism is limited to affluent holidaymakers drawn to the country’s high-end tourism offerings.

# Taupō 3.4 °C

**Time horizon:** 2025-2050

**Reference scenario:** SSP5-8.5 | Fossil-fuelled Development – Taking the Highway



## 2025-2030

Europe’s green transition is delayed as inflationary woes and geopolitics seed local political turmoil. Big oil is the sponsor of COP29 and the US pulls out of the Paris Agreement for a second time. Despite geo-political turmoil, the markets are reassured by reinsurance giants and actuarial reserves remaining adequate. Economic growth is prioritised to the detriment of the environment. In New Zealand, politicians fixate on the near-term, removing climate considerations perceived as obstacles to business. Urban development extends into at-risk areas to free up land for struggling families in a housing crisis. The early support of the expansion of gas exploration proved both economically and politically prescient. During South Island droughts, the natural gas electricity generation plants support a faltering hydro sector when water is scarce. As the decade closed, rains return, limiting losses amongst dairy and livestock farms.

highlights the true cost of unfinanced recovery. Local councils attempt to reign in expensive recovery efforts and tighten development controls - too late for tens of thousands of properties already damaged and lost. Those in rural areas or at the end of an electricity transmission line are last to have power reinstated. Opportunities to build resilience into the electricity system, such as solar panels and batteries, had been ignored in the earlier decade.

## 2041-2050

More than half of southern Europe’s agricultural production is wiped out by rising temperatures and evaporation of water resources. Australia endures a ten-year drought and an increase in wildfires. In New Zealand, the South Island endures a two-year drought. Once thriving hubs for horticulture and forestry are decimated by wildfires, dealing a severe blow to local industries and communities.

## 2031-2040

Global temperatures see a 1.6°C rise above pre-industrial levels for a fourth year and New Zealand’s producers see increased demand for exports, as global food systems are hampered by extreme weather events. A building material shortage ensues from demand to rebuild homes, exacerbated by shipping disruptions. New Zealand’s population hits 6.5 million, stressing resources and infrastructure, and increasing homelessness.

Local food shortages and costs challenge the export market. As improvement and repair costs spiral and shipping costs increase, the nation’s sheep and beef herd shrinks, relegated to luxury, niche exports for the global rich. Grass-fed livestock takes a backseat to artificially cooled industrial feedlots. The nation’s dependence on imports is impacted as shipping disruptions and protective border measures strain supply chains, slowing the re-build of homes, businesses, and infrastructure. Prices of essential goods and commodities remain high. Nations look inwards, focusing on building resilience over emissions reduction as the thresholds of climate tipping points are breached.

Intense rainfall and hail causes damage nationwide, washing out infrastructure and disrupting transportation routes. This is especially challenging for agricultural produce transportation from rural locations. Scorching temperatures heighten health risks for communities and ecosystems in warmer regions and prolonged droughts wreak havoc in others, resulting in severe water restrictions. Agricultural, commercial, and residential sectors, and the natural environment compete for water. A powerful cyclone strikes the North Island causing widespread destruction. Rebuilding is slow as a decade of insurance retreat

## 2.5 Anticipated impacts of climate-related risks and opportunities

BNZ has applied two approaches to identify anticipated impacts of climate-related risks and opportunities:

1. Quantitative physical risk analysis, which comprises overlaying third-party climate model projections with BNZ's secured lending to estimate the anticipated impact of climate change for BNZ and its customers, based on the specific model.
2. Identification of broader physical and transition risks, and opportunities via the FY24 climate scenario analysis.

An overview of the approach to each and FY24 findings is provided below with further details in Appendix B.

### Quantitative physical risk analysis

#### Approach

BNZ estimated the impacts of certain climate variables on loans secured by geocoded properties, representing 80% of the TCE of Gross Loans and Advances to Customers (defined in the glossary). To support this, a range of climate variables were analysed to establish risk exposure thresholds for reporting and provide insights to drive decision making. Although in some cases New Zealand-wide impacts of various events were considered, data and figures in these Statements relate only to BNZ's portfolio and customers.

BNZ used climate change models to support its assessment of climate-related physical risks. Climate models use sound scientific principles to show how GHG emissions will drive physical environmental changes. The extent of underlying GHG emissions is based on a range of socio-economic futures, known as Shared Socioeconomic Pathways (SSPs)<sup>18</sup>. SSPs show a range of potential global warming impacts over the coming century.

The three climate models used for BNZ's physical risk analysis are:

**SSP1** - 2.6, Sustainability – Taking the Green Road;

**SSP2** - 4.5, Middle of the Road; and

**SSP5** - 8.5, Fossil-fuelled Development – Taking the Highway.




All data disclosed in these Statements uses SSP5 - 8.5, Fossil-fuelled Development and 99th percentile (unless stated otherwise), as this highlights the outlier model risk of BNZ's potential exposure to physical risks. Refer to 'Understanding the percentiles of climate models' in Appendix B for further information.

Physical risk analysis is undertaken by property type (residential, commercial, or rural) rather than customer sector because physical risks of climate change are most usefully understood when assessed against the physical attributes of a property. As set out in Table 1, geocoded residential properties assessed comprise 54% of total TCE, geocoded commercial properties assessed are 14% of total TCE and geocoded rural properties assessed are 12% of total TCE. Of this, the percentage of TCE assessed for each physical risk climate variable is as outlined in Table 6.

<sup>18</sup> For an explanation of SSPs refer to [Intergovernmental Panel on Climate Change SSP-RCP scenarios](#) | Ministry for the Environment, and Appendix B.

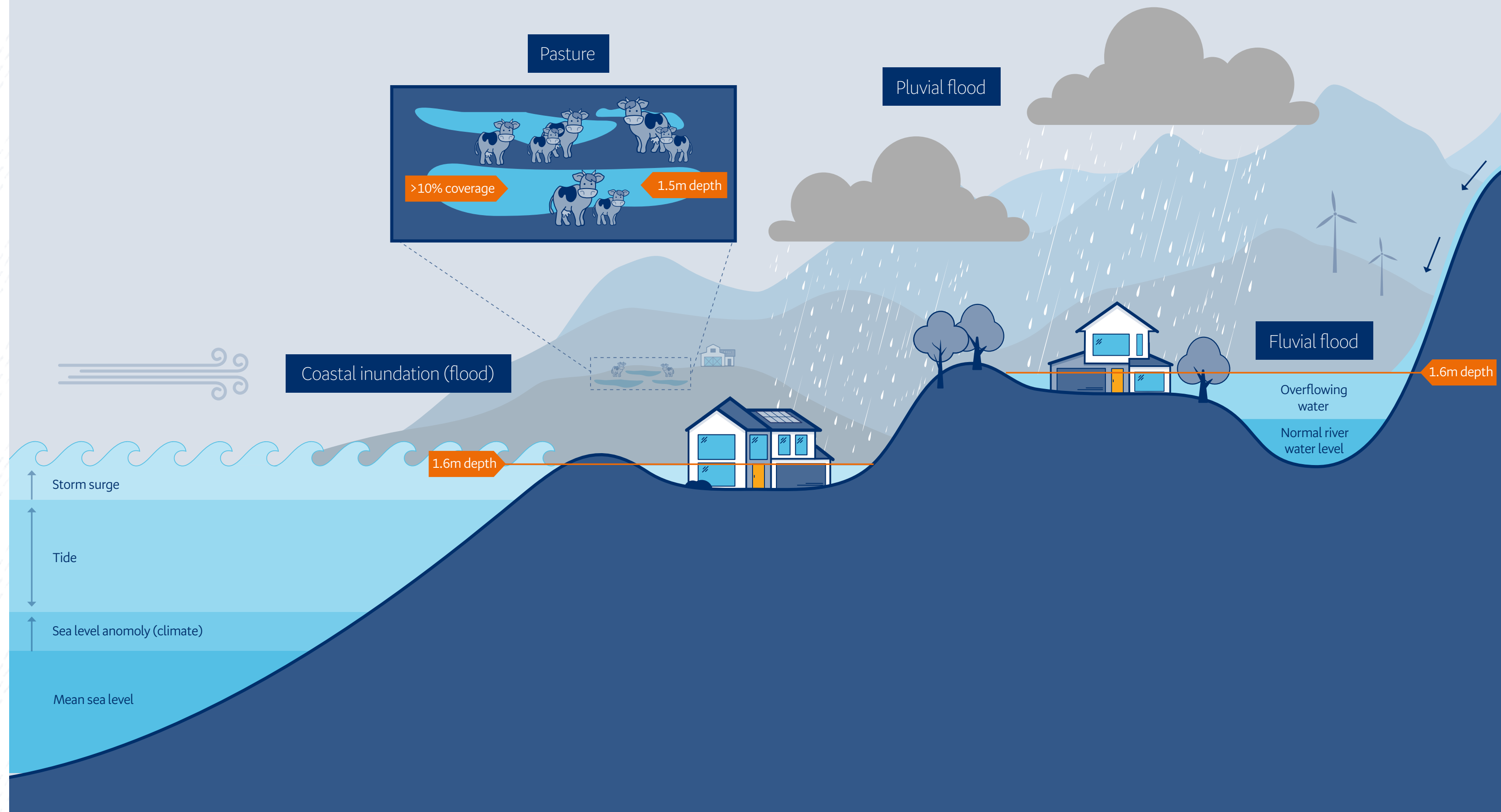
<sup>19</sup> Percentage values of less than 100% due to data refresh lag in Toitū Te Whenua Land Information New Zealand (LINZ) dataset used for geocoding and spatial analysis. No property type exclusions made.

Table 6: Percentage of in-scope (refer to Table 1) TCE assessed, by property type and physical risk climate variable

	Residential property	Commercial property	Rural property
 Flood, Coastal inundation, Sea level rise <sup>19</sup>	100%	97%	97%
 Heat stress	-	-	44% (analysis is on Dairy Farms and Sheep & Beef Farms only)
 Drought	-	-	41% (analysis is on Dairy Farms only)

The methodology used, including important limitations and disclaimers, is in Appendix B.

Figure 5: Illustration of fluvial and pluvial flood and coastal inundation



### Residential property lending portfolio

The impacts of flood, coastal inundation, and sea level rise on residential properties can lead to temporary and permanent displacement of people, impacting the financial security, health, and wellbeing of the residents. These impacts can also result in damage to property used to secure loans, reducing the value of that asset.

For flood and coastal inundation, impact was measured on the basis that Moderate impact damage would occur at >0.2m depth inundation, and Severe impact would occur at depths of >1.6m.

**Moderate impact**  
is where there is repairable structural damage

**Severe impact**  
is where there is irreparable structural damage that could result in a complete write-off of asset.

The exposure thresholds were then applied, which considered the percentage of properties subject to Moderate impact and Severe impact within the residential lending portfolio at 2030, 2040 and 2050. Given the chronic nature of sea level rise risk, any (>0m) sea level rise inundation is considered 'exposed' for the purposes of this (and commercial and rural) analysis.

Figure 5 illustrates the physical risk climate variables assessed for flood and coastal inundation.

The use of flood/flooding refers to temporary flooding caused by rivers overflowing (fluvial) and an extreme rainfall event (pluvial).

Table 7 shows the percentage of total residential properties (i.e. geocoded residential properties used for secured lending with BNZ), categorised by flood impact severity bands. As set out in Table 1, physical risk analysis focused on 80% of the TCE of total Gross Loans and Advances to Customers, of which residential lending comprises 54%.

Coastal inundation at a Moderate and Severe exposure threshold, by 2050, impacts 2% of current residential properties used for secured lending with BNZ; sea level rise, by 2050, impacts only a minimal percentage of residential properties used for secured lending with BNZ loans.

### Commercial property lending portfolio

BNZ assessed the commercial lending portfolio’s exposure to flooding, which includes warehousing, industrial, manufacturing, offices, retail, hotels, and vacant land.

Financial impacts can occur due to structural damage and risk to contents, lack of customer access to the buildings, or damage to key building infrastructure. For example, the Auckland Anniversary Weekend floods in 2023 resulted in damage to lifts in Auckland high rises, including apartment buildings, hotels, hospitals, and malls.

Table 8 shows the percentage of total commercial properties (i.e. geocoded commercial properties used for secured lending with BNZ), categorised by flood exposure severity bands. As set out in Table 1, physical risk analysis focused on 80% of the TCE of total Gross Loans and Advances to Customers, of which BNZ’s commercial lending comprises 14%.

Coastal inundation at Moderate and Severe exposure levels, by 2050, impacts 3% of current commercial properties used for secured lending with BNZ (compared to 1% at present). From BNZ's assessment of sea level rise, BNZ consider only a minimal percentage of commercial properties securing BNZ loans are exposed by 2050.

<sup>20</sup> Regional drought data and livestock heat stress are both considered at the 50th percentile in this disclosure (other climate variables are reported at the 99th percentile), refer to Appendix B for details.

### Rural property lending portfolio

Climate change will affect what, where, and how much New Zealand farmers and producers can grow or harvest. Analysis considered the impacts of flood, sea level rise, coastal inundation, drought, and heat stress for rural properties currently used for secured lending with BNZ. Exposure to flood, sea level rise, and coastal inundation impacts were assessed using a combined metric of 10% pasture coverage with depths at 1.5m or greater considered Severe exposure.

Table 9 shows exposure of current rural properties used for secured lending with BNZ to flood exposure. As set out in Table 1, physical risk analysis was focused on 80% of the TCE of Gross Loans and Advances, of which BNZ’s rural lending comprises 12%.

Greater than >10% pasture coverage from coastal inundation (any depth), by 2050, impacts 2% of current rural properties used for secured lending with BNZ (compared to 1% at present). From BNZ's assessment of sea level rise, 1.4% of rural properties securing BNZ loans are exposed by 2050.

BNZ has developed internal approaches to analyse rural drought and heat stress:

- Drought analysis considered the annual probability of current (non-irrigated) dairy cattle, and sheep and beef properties used for secured lending with BNZ experiencing a 3-month drought. In 2050, the regions with the highest proportion of properties exposed to a 20% or greater probability of drought are Waikato, Manawatu-Whanganui and Canterbury<sup>20</sup>.
- Many factors contribute to heat stress, which can impact milk productivity, livestock health and reproduction. Livestock heat stress analysis considered the current dairy cattle properties used for secured lending with BNZ that may be subject to severe levels of temperature and humidity for both more than one day, and more than an increase of one day from current over time. By this definition, the regions with the highest proportion of properties exposed to Severe heat stress at 2050 are Waikato, Northland, and Canterbury.

Table 7: Exposure to flooding assessed as percentage of **residential properties**




Flood depth		2030	2050
	Not exposed	88% properties	85% properties
	Moderate impact (>0.2m depth)	10% properties	12% properties
	Severe impact (>1.6m depth)	2% properties	3% properties
<b>Total assessed properties</b>		<b>100%</b>	<b>100%</b>

Table 8: Exposure to flooding assessed as percentage of **commercial properties**







Flood depth		2030	2050
	Not exposed	78% properties	73% properties
	Moderate impact (>0.2m depth)	17% properties	21% properties
	Severe impact (>1.6m depth)	4% properties	7% properties
<b>Total assessed properties</b>		<b>100%</b>	<b>100%</b>

Table 9: Exposure to flooding assessed as percentage of **rural properties**

Flood depth		2030	2050
	Not exposed	46% properties	42% properties
	Moderate impact (>10% parcel inundation, <1.5m depth)	48% properties	50% properties
	Severe impact (>10% parcel inundation, and flood depths >1.5m)	5% properties	8% properties
<b>Total assessed properties</b>		<b>100%</b>	<b>100%</b>

Any discrepancies in the Total assessed properties (100%) are due to rounding.

## Anticipated impacts of physical and transition risks and opportunities

During FY24, BNZ identified actual or potential climate-related risks through various tools and methods such as stress testing and scenario analysis. The anticipated impacts summarised in the following tables, were identified through these processes. For more details refer to Section 2.4, Climate Scenario Analysis and Section 3.3, Risk Management.

All risks and opportunities identified, and reasonably anticipated impacts of those risks, are experienced within New Zealand and are described without the mitigants that BNZ may implement to manage and reduce the impact. The impacts may eventuate earlier or later than time horizons stated here.

Table 10: Anticipated climate-related physical risks and impacts







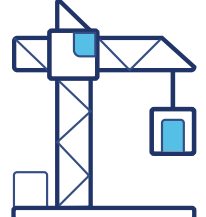













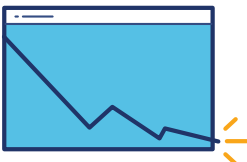

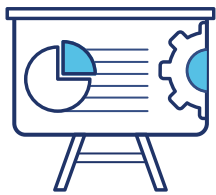



Physical risk type	Physical risk description	Anticipated impact to BNZ	Time horizon
 <p>Credit risk – physical impacts to residential properties securing home loans</p>	Chronic and acute climate-related physical risks including more frequent or intense flooding, and coastal inundation may result in damage such as landslips/subsidence or water damage to properties securing loans provided by BNZ.	Impacts to customers' assets may flow through to their ability to pay back lending provided by BNZ. Damage to the underlying property securing lending provided by BNZ may result in reduced value of the asset used as security for that lending.	 <p>Short, medium and long term</p>
 <p>Credit risk – physical impacts on rural properties securing lending</p>	Chronic and acute climate-related physical risks such as more frequent or intense extreme weather events directly impacting agricultural properties and crops and livestock, and increased pests and diseases may result in damage to properties or livestock used to secure lending from BNZ, or impacts to associated infrastructure, such as transport networks.	Impacts to customers' returns (e.g. lower milk production due to heat stress) may flow through to a customer's ability to pay back lending provided by BNZ. Damage to property securing lending provided by BNZ may result in reduced value of the asset used as security for that lending.	 <p>Short, medium and long term</p>
 <p>Credit risk – physical impacts on Commercial real estate securing lending</p>	Physical risks such as flooding may result in damage to assets, and business interruption because of increased incidence and/or magnitude of extreme weather events. Other examples include flooding of below ground levels, such as car parks, and critical building infrastructure, such as elevator mechanisms.	Impacts on customers' cashflow (e.g. if they are unable to secure tenants) may flow through to their ability to pay back lending provided by BNZ. Damage to property securing lending provided by BNZ may result in reduced value of the asset used as security for that lending.	 <p>Short, medium and long term</p>
 <p>Credit Risk - physical impacts to customer supply chains</p>	Global extreme weather events have potential to disrupt the supply chain of New Zealand organisations, for example a drought impacting the Panama Canal and, therefore, global shipping.	This supply chain disruption could impact the receipt by New Zealand organisations of required imports or the export of New Zealand goods to customers in global markets. This could impact the ability of BNZ customers to operate profitability or repay loans.	 <p>Long term</p>
 <p>Operational risk – physical impacts to BNZ properties and operations</p>	Physical risks such as those referred to in these Statements (e.g. flooding) could directly impact BNZ properties including offices and third-party data centres.	This could result in the temporary closure of, or damage to, properties, network outages, and disruption of processes, such as cash deliveries. Such events would trigger an internal crisis management response in line with BNZ's Business Continuity Management programme.	 <p>Short, medium and long term</p>

Table 11: Anticipated climate-related transition risks and impacts

Transition risk type	Transition risk description	Anticipated impact	Time horizon
 <p>Credit risk – market access impacts customers’ ability to repay debt</p>	<p>As net zero commitments become more widespread across different countries and industries, pressure to decarbonise supply chains will increase. This can materialise through a New Zealand exporter being required to supply climate-related information and demonstrate emissions reductions to retain contracts with an overseas customer that is subject to mandatory climate disclosures, or through carbon pricing, e.g. a carbon border adjustment mechanism, in an overseas market or through local regulation.</p>	<p>A failure by organisations to provide their customers with climate-related information or demonstrated emissions reductions could result in a loss of contracts. Slow (relative to other nations) emission reduction of key sectors, such as agriculture, could result in increased costs and loss of access to markets (domestic or overseas). Each example could lead to inability of some customers to service BNZ debt. There is a credit risk to BNZ in being over-exposed to customers that lose access to key markets or customers.</p>	 <p>Short, medium and long term</p>
 <p>Reputational risk - failure to meet external commitments</p>	<p>BNZ has set, and published sector emission reduction targets for its portfolio, using credible, science-aligned pathways. Meeting emission reduction targets depends on a number of factors, including factors outside of BNZ’s direct control, such as governmental policy, regulatory and economic factors, and the actions of customers.</p>	<p>A failure to meet published emission reduction targets may carry reputational risk for BNZ. This may manifest in various ways, such as loss of existing or potential customers, shareholder impacts for the NAB Group, or access to its own international funding.</p>	 <p>Short, medium and long term</p>
 <p>Market risk – climate change-related loss</p>	<p>Increased sovereign credit risk/additional government bond issuance may be required, for example, to implement or upsize climate-related risk mitigation strategies. The imposition of any domestic carbon pricing and associated increase in input costs and prices may have interest rate implications.</p>	<p>A failure to adequately manage the impacts of climate change induced higher inflation or deteriorating credit quality could result in losses, including impact on liquidity value from a fall in value of assets held within the liquidity book.</p>	 <p>Short, medium and long term</p>
 <p>Credit risk – transition risk related sector loan losses</p>	<p>As noted above (page 17, Current lending to emissions-intensive industries), customers in emissions intensive sectors may have assets, business strategies, employment, and livelihoods impacted by the transition to a low carbon economy, for example, emerging regulation or changes in technology.</p>	<p>Exposure to customers in high emission intensive industries is more likely to present transition risk, such as sensitivity to carbon price or regulatory change or access to international markets, than low emission intensive industries. This could result in a credit risk to BNZ because of an inability of loans to be repaid.</p>	 <p>Short and medium term</p>

Continued on the following page:

11: Anticipated climate-related transition risks and impacts continued

Transition risk name	Transition risk description	Anticipated impact	Time horizon
 <p>Credit risk – insurance retreat related loan losses</p>	<p>Home insurance is a condition of a BNZ home loan. There is a risk of insurance retreat from certain higher risk areas due to increased incidence and magnitude of some hazards (e.g. flood, sea level rise, coastal inundation, wildfire). Similarly, significant increases in insurance premium costs could result in insurance becoming unaffordable for some customers. There is reputational and credit risk to banks if insurers ‘retreat’ out of sync with local authorities and banks.</p>	<p>Impacts could include:</p> <ul style="list-style-type: none"> <li>• Inability to lend on properties that are not insurable, leading to a reduction in properties where lending is available.</li> <li>• Reduction in value of properties below outstanding bank lending leading to losses if the property can only be sold at a price lower than the remaining loan value or the property is unable to be sold.</li> <li>• If commercial premises are not insurable and business operations are affected, this may lead to an inability for a customer to service debt.</li> <li>• Risk of losses if BNZ holds security over a significant portion of properties in a higher risk area, subject to insurance retreat or increasing insurance premiums.</li> </ul>	 <p>Short and medium term</p>
 <p>Funding/liquidity risk</p>	<p>Elevated concern about New Zealand climate-related economic risk leads to loss of offshore investor appetite for BNZ debt issuance.</p>	<p>BNZ would be reliant on other forms of funding (e.g. domestic deposits), a potential higher cost of funding, and/or a potential lack of local market funding capacity.</p>	 <p>Short, medium and long term</p>
 <p>Credit risk – disorderly transition leads to potential loan losses</p>	<p>A disorderly transition (global or domestic) reduces the ability of organisations to plan and make forward-looking business decisions.</p>	<p>A disorderly transition could lead to widespread business failures and loss of employment impacting the ability of BNZ customers in multiple sectors to repay their loans.</p>	 <p>Short term</p>
 <p>Reputation / litigation risk - greenwashing risk</p>	<p>Like other financial institutions, BNZ discloses sustainability related information both in New Zealand and as part of the NAB Group. This can include information about products, operations, and internal policies. BNZ carefully considers the methods it applies to support and evidence any sustainability claims. It seeks internal and external review and assurance of such, to avoid misleading or unsubstantiated claims. However, the risk of ‘greenwashing’ and conversely ‘greenhushing’ and associated climate litigation remains.</p>	<p>Impacts could include significant reputational harm (described as above), and result in litigation, regulatory investigation, fines, and penalties.</p>	 <p>Short, medium and long term</p>

## Anticipated impacts of climate-related opportunities

Responding to climate change provides opportunities for the banking sector as the entire economy moves towards a low emissions, more climate resilient era. These opportunities may emerge from resource efficiency and cost savings, the development of new products and services, access to new markets, technological advances, or building resilience across the supply chain. The table below summarises the climate-related opportunities identified by BNZ to date, relevant to all sectors, unless stated otherwise.

### Capital deployment and funding

The climate-related risks and opportunities identified through various risk assessment processes, including climate scenario analysis, stress testing, and case-by-case customer assessment (for example via the ESG Policy and sector emission reduction targets), are considered indirectly as part of the Bank’s internal capital deployment and funding allocation process. For example, BNZ may adjust its strategy for the medium-long term in a way that supports New Zealand’s transition by supporting customers to build more financially robust and environmentally sustainable businesses (to help them achieve their long-term growth and emission reduction objectives). Other examples include allocating resource to engage with certain BNZ customers on their transition plans, investments in partnerships such as AgriZeroNZ, as well as lower interest rates on Green Business Loans. Further information is in Section 4.3.

Table 12: Summary of climate-related opportunities identified during the FY24 climate scenario analysis



Climate-related opportunity	Customer impact	Anticipated impact for BNZ	Time horizon
<p><b>New lending opportunities e.g. financing customers emission reduction and resilience to climate change</b></p> <p>Physical</p> <p>Transition</p>	<p>Opportunities for customers to enter new markets, product lines or services, enhance brands via increased sustainability credentials, diversify current business models, and realise operational cost savings from investing in operational efficiencies, such as solar power.</p>	<ul style="list-style-type: none"> <li>• Potential for lending growth to customers to decarbonise, including energy-efficient equipment, small-scale renewables, fuel-efficient vehicles, and nature-based solutions. This could mean seeking new customers who fit these criteria, enabling activities, such as solar installation companies, and developing new products and services that create new revenue streams. Provision of finance for mitigation, e.g. to improve energy inefficient building stock and adaptation e.g. to improve drainage or raise floor levels for flood prone properties, is also an opportunity.</li> <li>• Increased sustainable or transition finance lending opportunities to organisations to decarbonise, to support external requirements and commitments, as well as to help larger corporate customers to support their customers and meet their own emission reduction goals or set supplier expectations.</li> <li>• Agriculture sector: Potential for new lending where customers have identified geographic areas that have become viable locations for varied agricultural production due to a changing climate.</li> </ul>	<p></p> <p>Short and medium term</p>
<p><b>Developing expertise in emerging areas to expand growth sectors and lending opportunities</b></p> <p>Physical</p> <p>Transition</p>	<p>Opportunity for customers to diversify into, and benefit from, new revenue sources, e.g. carbon farming and renewable energy generation (solar and wind). There is also opportunity to support new customers (e.g. startups) where BNZ can understand the risk.</p>	<p>Agriculture sector:</p> <ul style="list-style-type: none"> <li>• There is an opportunity for BNZ to provide banking products and services to emerging ‘green’ sectors. For example, supporting New Zealand’s agricultural technology sector to assist with transition (e.g. cultivating climate-resilient and premium crops, selective breeding, and methane reduction technologies) and export this technology from New Zealand to the rest of the world.</li> <li>• If New Zealand experiences relatively less severe physical impacts than other global food producing countries and, as a result, less damage to crops and produce, there may be increased demand for New Zealand agricultural products.</li> <li>• Opportunity for BNZ to develop leading expertise relating to use of genetic technology in relation to the food and fibre sector, understanding the associated environmental impacts and risks.</li> </ul>	<p></p> <p>Short and medium term</p>

Table 12 continued on the next page

Table 12 continued

Climate-related opportunity	Customer impact	Anticipated impact for BNZ	Time horizon
<p><b>Developing new solutions, collaborating with partners, increasing BNZ’s reputation as sustainable lender of choice</b></p> <p>Transition</p>	<p>BNZ investment in, and collaboration with, external parties seeking to develop innovative solutions to climate change is key to supporting customers/sectors in retaining market access as global customers increase expectations on their supply chain.</p>	<ul style="list-style-type: none"> <li>External partnerships, such as BNZ’s partnership with CarbonTrail, to help customers measure, report, and help reduce their carbon emissions. There will continue to be opportunities for BNZ to partner with others to advance emission reduction solutions for customers and the wider economy.</li> </ul> <p>Agriculture sector:</p> <ul style="list-style-type: none"> <li>In FY24, BNZ invested \$4 million and joined other private sector companies backing AgriZeroNZ, alongside government, to get emissions reduction tools into Kiwi farmers’ hands sooner<sup>21</sup>.</li> <li>Opportunity for BNZ to support food companies and growers that are leading on alternative proteins. This could mean seeking new customers who fit these criteria, as well as BNZ entering partnerships with industry bodies looking to deliver solutions in this space.</li> </ul>	 <p>Short and medium term</p>
<p><b>Efficiencies and opportunities within BNZ’s own operations</b></p> <p>Transition</p>	<p>-</p>	<ul style="list-style-type: none"> <li>Decreased operational costs due to investment in building-based energy efficiency and onsite generation of electricity e.g. rooftop solar on branches/retail outlets and data centres.</li> <li>Decreased fuel costs from full utilisation, i.e. regular electric vehicle battery charging to reduce fuel usage of hybrid energy-efficient fleet vehicles.</li> <li>Increased colleague satisfaction and colleague retention due to BNZ’s climate-related initiatives, such as joining the Net Zero Banking Alliance.</li> <li>Ability for BNZ to win business where ‘green’ credentials are a factor in banking tenders.</li> </ul>	<p>Ongoing</p>

<sup>21</sup> Shares in AgriZeroNZ are held by National Australia Group (NZ) Limited, BNZ’s holding company.

# 2.6 Transition Planning

## Climate Strategy

As mentioned in Section 2.1, the Kaitiakitanga pillars of the BNZ Sustainability Strategy and Climate Strategy have the same ambition: to accelerate the just transition to a net zero emissions economy, one that supports the regeneration of the natural environment and builds climate resilience.

Ongoing work to understand how climate-related impacts may materialise for BNZ and its customers continues to inform the evolution of BNZ's Climate Strategy and response to climate change. BNZ's climate action is illustrated in Figure 6.

Key actions in FY24 are:

- BNZ's inaugural climate scenarioanalysis and;
- setting a sector emissions reduction target for Residential real estate.

Work towards ensuring BNZ deploys capital to address climate-related risk and accelerate the just transition to a low-emissions, climate-resilient economy is summarised below against the four objectives of the Climate Strategy:

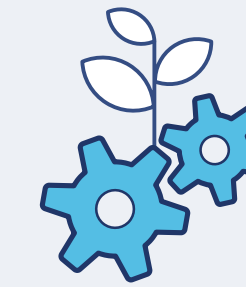
Figure 6: Progress on BNZ's climate strategy

### Transition to net zero emissions by 2050

#### Transition BNZ's investment and lending portfolios to net zero emissions by 2050

Progress against BNZ's first round of sector emissions reduction targets and the action plans setting out how BNZ continues to drive progress, are detailed in Section 4.4, Metrics and Targets, as well as Residential real estate sector emissions reduction target, developed during FY24.

Table 12 discusses working with CarbonTrail to support SME customers to measure, manage, and report on their carbon emissions.



### Support our customers

#### Understand BNZ climate-related risk across BNZ portfolios and support BNZ customers to adapt and build resilience

BNZ has developed a framework to support customers to decarbonise. BNZ's approach to sustainable finance and progress toward BNZ's sustainable finance target is set out in Section 4.3, Climate-related metrics.



### Understanding climate-related risk

#### Support BNZ customers to transition to low-emissions, climate-resilient business models

Physical and transition risk analysis can be found in Sections 2.5 and 2.6, while BNZ's approach to integration of climate risk in the Risk Management Framework is in Section 3.



### Reduce emissions

#### Continue to actively reduce BNZ emissions across BNZ operations and supply chain

BNZ's approach to reduction of emissions across its operations and supply chain is discussed in Section 4.1, Metrics and Targets.



# Climate progress

Figure 7: Climate action to date

- Committed to exit all lending to thermal coal mining by the end of 2025 and all remaining lending to coal mining by the end of 2030. We are likely to have residual performance guarantees in place beyond 2030. These funds will be used for environmental rehabilitation of existing thermal coal mining assets.
- Te pae tawhiti: BNZ's Sustainability strategy.

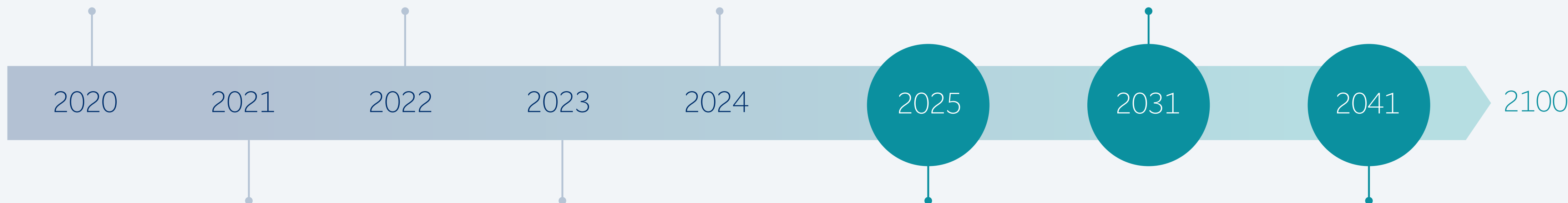
- Achieved Toitū Net carbonzero certification.

- Collaborated with CarbonTrail to support SME customers measure and reduce their emissions.
- Set to publish first mandatory climate-related disclosures.
- Invested \$4million in AgriZero.\*\*

## Medium term (2031-2040)\*

### 2030 Targets

- Exit all lending to coal mining by 2030.
- 21% absolute reduction in Oil and Gas emissions, from a 2021 baseline. Limited to upstream Oil and Gas industries.
- 11% emission intensity reduction in Agriculture-dairy, from a 2022 baseline.
- 74% emission intensity reduction in Power generation, from a 2021 baseline.
- 34% emission intensity reduction in Residential real estate, from 2023 baseline.



- Signed up to UNEP Finance Initiatives Principles of responsible Banking as part of the NAB Group since 2019.
- Signed up to the Net Zero Banking Alliance (NZBA).
- Partnered with Sustainable Business Network to launch the Climate Action Toolbox.

- Published first set of reduction targets aligned to NZBA.
- Set supply chain engagement target.
- Committed to being a Leading Partner of The Aotearoa Circle.
- Published third voluntary climate report.

## Short term (2025-2030)\*

### 2025 Targets

- Exit all thermal coal mining.
- 60% reduction in operational greenhouse gas (GHG) emissions by 2025 from a 2019 baseline.
- \$10 billion of sustainable finance delivered.
- Support 50% of BNZ SME customers to actively measure and reduce their emissions by 2025.

## Long term (2041-2050)\*

### Net zero by 2050

- Transitioned our operations and lending portfolios to net zero greenhouse gas (GHG) emissions by 2050.

\*These time horizons align broadly with those used for the quantitative physical risk analysis, decarbonisation targets, and to lending timeframes for different products provided by BNZ to its customers.



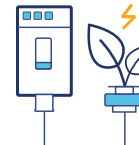




\*\*Shares in AgriZeroNZ are held by National Australia Group (NZ) Limited, BNZ's holding company.

## Sector emission reduction targets

BNZ intends to contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5°C above pre-industrial levels, and New Zealand’s legislative commitment to net zero by 2050. To support this using a globally recognised framework, BNZ became a member of the Net Zero Banking Alliance (NZBA) in 2021 and, through tracking the level of financing to various companies and sectors and setting targets for financed emissions in its material portfolios, can better allocate capital towards the transition to a low emissions economy.

BNZ is setting targets for the financed emissions attributable to its lending portfolio for certain 'carbon-intensive' sectors defined by the United Nations Environment Programme Financial Institutions (UNEP FI)– NZBA Guidelines<sup>22</sup>. NZBA signatories are required to prioritise sectors based on GHG emissions, GHG intensities, and financial exposure. BNZ has taken a pragmatic approach to target setting, focusing on those sectors where available data, pathways, and methodologies permit the development of meaningful targets for sectors most material to BNZ. Data availability and accuracy has been a key issue for the development of sector targets. BNZ will continue to work on the development of targets for remaining NZBA sectors, where appropriate, or setting emissions-related controls for emissions intensive sectors with immaterial TCE to BNZ, ensuring relevant sectors are managed within the intent of the NZBA commitment. BNZ NZBA emission reduction targets cover 59% of BNZ’s Gross Loans and Advances to Customers.

Table 13: BNZ sector emission reduction targets

Target sector	Target
<b>Target set in FY23</b>	
 Agriculture – dairy	11% reduction in financed biological emissions intensity (kgCO2e/kgMS) by 2030, against a 2022 baseline. See page 49 for target overview.
 Oil and Gas (upstream)	21% reduction in absolute financed emissions by 2030, against a 2021 baseline. See page 51 for target overview.
 Power generation	74% reduction in financed emissions intensity (kgCO2e/MWh) by 2030, against a 2021 baseline. See page 53 for target overview.
 Coal mining	Committed in 2020 to full exit of lending to this sector by 2030. See page 55 for target overview.
<b>Target / controls set in FY24</b>	
 Residential real estate	34% reduction in financed emissions intensity (kgCO2e/square metre) by 2030, against a 2023 baseline. See page 56 for target overview.
 Aluminium; Cement; Iron and Steel; Transport – aviation; Transport - shipping	Internal emissions controls in place.
<b>Target / controls not yet set</b>	
 Agriculture - sheep & beef; Commercial real estate; Transport – road	Targets or internal emissions controls to be developed in FY25, where data permits.

## Existing sector emission reduction targets

In May 2023, BNZ published its first round of emissions reduction targets for the following NZBA identified priority sectors: Agriculture – dairy, Oil and Gas, Power generation, and Coal mining. These sectors were chosen because of their emissions intensity, the relative availability of emissions data, and/or the relative amounts that BNZ lend to these sectors. Both intermediate and long-term targets have been set to support meeting the 1.5°C temperature goal of the Paris Agreement, using science-based decarbonisation pathways, relevant to New Zealand. A detailed description of Agriculture - dairy, Oil and Gas, Power generation, and Coal mining sector targets, including the context of the industry in New Zealand and the respective sector contribution to GHG emissions in New Zealand, is available at [Sustainability reports - BNZ](#).

Progress against each published emissions reduction target, including material sector information, will be reported annually in these Statements (Section 4.4, Metrics and Targets), using the relevant target metric for the sector. Annual consistent linear progress is not anticipated to be made between now and meeting each sector target: significant uncertainty remains around how and when each sector will decarbonise, impacted by changes to policy, technology, and market preferences.

BNZ is currently progressing towards meeting its interim 2030 targets without the use of offsets, as required by the NZBA. BNZ recognises that offsets may play a role for remaining hard to abate emissions to reach

the target of net zero emissions for lending portfolios by 2050, depending, for example, on market developments and stakeholder expectations.

## Remaining NZBA sector targets

In FY24, BNZ focused on the development of an emission reduction target for its Residential real estate portfolio, its most material sector based on TCE (52.2%). A detailed description is provided in Section 4, Metrics and Targets.

Due to data limitations, BNZ did not set targets in FY24 for Commercial real estate, Agriculture - sheep and beef, and Transport - road.

The following NZBA carbon intensive sectors represent 0.2% of the TCE of BNZ’s Gross Loans and Advances to Customers (as at 30 September 2024): Aluminium; Cement; Iron and steel; Transport – aviation and Transport - shipping. Internal processes and controls have been established to manage exposure to these sectors. The controls include a range of preventative and detective controls, incorporating ‘Restricted’ ANZSIC codes for which escalation to a credit risk customer assessment team is required, enhanced monitoring, and customer transition plan evaluation and monitoring.

<sup>22</sup>The UNEP FI Guidelines require that, where data and methodologies allow, targets shall be set for all, or a substantial majority of the following carbon-intensive sectors: aluminium; cement; coal; commercial and residential real estate; iron and steel; oil and gas; power generation; and transport. BNZ has separated commercial and residential real estate into individual sectors in its target setting.

## Operationalising the targets – transition plan framework

As part of BNZ’s NZBA commitment, high level transition plans are required, providing an overview of proposed actions to undertake to meet sector emission reduction targets. BNZ has used the Glasgow Financial Alliance for Net Zero (GFANZ) and Transition Plan Taskforce (TPT) guidance on transition planning to inform the framework of sector transition plans. The following outlines the overarching elements of these sector transition plans, which will be assessed annually.

### Foundations:

Articulates BNZ objectives for the sector, outlining sector context, specifics on the net zero target, and any limitations.

### Implementation strategy:

- Products and services – sets out BNZ products and services that support financing strategies that, in turn, support portfolio emission reduction. BNZ has a target to arrange \$10 billion in Sustainable Finance by 2025, a portion of which is intended to fund or support customers to decarbonise. BNZ’s [Sustainable Finance Framework](#) is regularly assessed to ensure it remains aligned to market standards and remains fit for purpose;
- high emission sectors policies and controls - BNZ has appropriate controls to ensure monitoring of high emitting sectors (Section 3, Risk management); and
- technology and data requirements – BNZ ESG data requirements are managed centrally and BNZ continues to improve integration, efficiency, and quality of data for decision-making and reporting.

### Colleague training and development:

In addition to the core ESG risk module, a mandatory training module, BNZ is developing a broader, bank-wide training programme on climate foundations. Training continues to be delivered to colleagues on BNZ’s NZBA commitments, and its sustainable finance framework and application.

### Engagement strategy:

Beyond the products and services offered, BNZ supports customers by providing insights through industry relevant customer events and communications covering topics such as transition planning and peer benchmarking. BNZ actively participates in relevant industry forums, is a Founding Partner of Toitū Tahua: Centre for Sustainable Finance, a Leading Partner of the Aotearoa Circle, and the current Chair of the New Zealand Banking Association, including the Climate Change and Sustainability Working Group.

### Governance and accountability:

BNZ’s sector targets and operationalisation have been reviewed and approved by the ESG EC and Board. BNZ’s governance of sector targets is discussed further in Section 1, Governance.

High level summaries of sector transition plans, including planned actions, are provided in Section 4.4, Metrics and Targets.

# 3. Risk Management

# 3. Risk Management

BNZ defines climate-related risk as the potential risks that may arise from climate change or from efforts to mitigate climate change, their related impacts, and their economic and financial consequences for BNZ and its customers or suppliers. This is assessed, to the extent possible, based on the data available (further detail is outlined in Section 2, Strategy).

BNZ includes climate-related risk within "Sustainability Risk", which has been identified as a material risk category across the NAB Group. Sustainability Risk is the risk that Environmental, Social or Governance (ESG) events or conditions negatively impact the risk and return profile, value, or reputation of BNZ or its customers and suppliers, or its ultimate parent company, NAB.

BNZ considers climate-related risks over the short term to 2030 (0 to 6 years), medium term to 2040 (7 to 16 years), and long term to 2050 (17 to 26 years), aligning to the time frames identified for the physical and transition risk analysis in Section 2, BNZ's emission reduction targets (described in Section 4.1), New Zealand's statutory emissions budgets, and, broadly, to lending timeframes for different products provided by BNZ to its customers (such as a home loan or commercial lending term). The Strategy section of these Statements presents analysis as at both 2030 and 2050.

When identifying and assessing risks, the following aspects of the value chain were excluded in FY24:

- Scenario analysis: Given the significant extent of the Residential real estate sector's value chain, consideration was limited to the immediate activities that could impact the ability of a mortgagor to service a loan and impact the integrity of any collateral held (for example, the direct impacts of flooding, as opposed to downstream economic impacts from climate, such as job losses).

- Elements of the GHG emissions inventory as noted in Section 4.
- Some balance sheet items, as specified in Section 4.3.

BNZ manages climate-related risk within its wider Risk Management Framework (RMF). BNZ's more detailed Sustainability Risk Management Framework details how climate-related risk is integrated into its RMF.

The Board approves the overarching RMS, including the RMF, and the Risk Appetite Statement (RAS), following receipt of a recommendation from the BRCC. Climate-related risk is integrated into these processes through its inclusion in the material risk category of Sustainability Risk (and other material risk categories as appropriate) under both the RMS and the RAS.

The RAS is a key component of the RMF, setting out BNZ's risk tolerances, including capturing those climate-related risks for which we have sufficient data.

BNZ's policies use a classification framework of prohibited, through to lower risk sectors (which includes industries with climate-related risk factors) to guide its on-boarding, lending and other customer-facing decisions.

Both the RAS settings and BNZ's ESG Policy are implemented through Risk Appetite Metrics and Matrices and ESG checklists to ensure these are appropriately rolled out to, and applied by, frontline bankers and support functions making customer-facing decisions.

The BNZ Sustainability Risk Management Framework sets out how BNZ manages climate-related risk by setting out how BNZ identifies, evaluates, and manages climate-related risk in accordance with its wider RMF (as shown in Figure 8).

Figure 8: Integration of climate-related risk within BNZ's overall Risk Management Framework



# 3.1 Risk Identification

BNZ uses risk identification tools and methods to understand emerging climate-related risks (see right for examples of these tools and methods). BNZ also monitors and assesses current risks to manage these effectively within BNZ’s risk appetite. BNZ continues to make progress on the use of tools and methods, as they become available, to integrate climate-related risk into its overall risk identification process.

Climate-related risks can be different to other material risk categories set out in BNZ’s RMS due to the extended and multi-year timeframes, interdependencies, and levels of uncertainty about the potential impacts of climate change on BNZ and its customers. The characteristics that make climate-related risks different from other risk categories are incorporated into the risk identification processes set out in BNZ’s Sustainability RMF, which builds on and enhances existing processes within BNZ’s RMF.

Below are some examples of climate-related risk factors that BNZ has incorporated into risk assessments for certain customers, industry sectors, and BNZ’s operations:

- Vulnerability to extreme weather events (including supply chain disruption and disruption to business activities);
- level of scope 1, 2 and 3 GHG emissions (refer to GHG emissions as noted in Section 4); and
- exposure to high levels of transition risk, such as potential exposure to changes in climate-related policy or technology.

Figure 9

## Tools and methods used to identify climate-related risk

Examples of tools and methods BNZ uses to identify the scope, size, and potential impact of climate-related risk include:

### Customer engagement:



BNZ completes ESG checklists to identify risks including climate-related risk for customers who fall within defined sector criteria. These requirements apply at various points including when lending applications are received. BNZ increasingly assesses transition approaches for customers in defined sectors, or with individually significant carbon footprints, at annual reviews.

### GHG inventory:



BNZ’s GHG inventory summarised in Section 4, Metrics and Targets, includes BNZ’s operational and financed emissions, enabling BNZ to identify climate-related risks arising from GHG emissions data (subject to the exclusions noted above and the data constraints noted in Section 4, Metrics and Targets).

### Scenario analysis:



During FY24, BNZ carried out qualitative scenario analysis as summarised in Section 2, Strategy.

### Physical climate data:



As part of the annual physical risk analysis summarised in Section 2, Strategy, physical climate data is overlaid against BNZ exposures to identify areas of climate-related risk.

### Regulatory change monitoring:



The need to respond to climate change risk and opportunity is driving government consultations, new legislation, policy change, and wider requirements. BNZ follows its existing regulatory change process for monitoring, identifying, and analysing regulatory change related to climate-related risk on an ongoing basis and embedding that change into its business.

### Credit risk - sector monitoring:



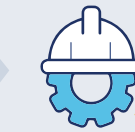
BNZ conducts ad hoc portfolio analysis of key sectors and the market dynamics impacting those sectors, including climate-related risks (both physical and transition risks).

### Transitional risk factors:



As part of the annual transition risk analysis summarised in Section 2, Strategy, transition risk factors are considered against BNZ exposures to identify areas of climate-related risk.

### Stress testing:



BNZ participated in RBNZ’s 2023 Climate Stress Test, which took place over FY23 and FY24. RBNZ has published an aggregated summary of the climate stress test (see [2023 Climate Stress Test results - Reserve Bank of New Zealand - Te Pūtea Matua \(rbnz.govt.nz\)](https://www.rbnz.govt.nz/2023-climate-stress-test-results-reserve-bank-of-new-zealand-te-putea-matua)). Regulatory climate stress tests are conducted at the regulator’s request. During FY24, BNZ developed and tested an internal market risk climate stress test for its banking book. Stress test results are incorporated into the development of BNZ’s Internal Capital Adequacy Assessment Process (ICAAP) which is used to ensure that the bank has adequate overall capital in relation to its risk profile.

## 3.2 Risk Assessment

BNZ’s wider RMF uses stress testing and scenario analysis to assess risk, understand vulnerabilities, and inform risk assessments and decision-making.

BNZ conducts periodic enterprise-wide macroeconomic stress testing. Physical and transition risk assessments are conducted on an annual basis (as summarised in Section 2). In FY24, BNZ developed tools to enable monthly assessment of BNZ exposures against physical risk and financed emissions data. BNZ is prudentially regulated by RBNZ and has established processes and documentation for prioritising relative risks, such as the ICAAP which includes climate-related risk. Climate-related risks have been increasingly incorporated within BNZ’s Risk Register and linked to other risks, for example, credit and market risk, which informs the prioritisation of climate-related risk within other material risk categories.

## 3.3 Risk management

Some risk management options we use to manage climate-related risks include:

Figure 10: Example of how we manage climate-related risk



# 4. Metrics and Targets

BNZ sets climate-related metrics and targets and discloses them annually in these Statements. BNZ’s key existing metrics and targets are discussed in this section.

BNZ has taken an ‘operational control’ consolidation approach to account for emissions. BNZ’s organisational boundary encompasses the entities owned or controlled by BNZ. On 30 April 2024, BNZ completed the sale of BNZISL to FirstCape, at which point BNZISL ceased to be a wholly owned controlled entity of the Bank. Only operational emissions arising from BNZISL prior to its sale to FirstCape are included in these Statements.

Organisational boundaries and emissions measurement are set in accordance with the methodology and guidance of the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (revised edition) (GHG Protocol), the Greenhouse Gas Protocol Corporate Value Chain (scope 3) Standards<sup>23</sup>, Toitū Envirocare (Toitū) net carbonzero certification requirements<sup>24</sup>, and the Partnership for Carbon Accounting Financials (PCAF) standard, where possible. Refer to Appendix C for a summary of BNZ’s measured and reported emissions sources and the adoption exemptions applied, and Appendix E for financed emissions methodologies and assumptions.

# 4.1 Operational emissions

## Reducing operational emissions

BNZ is focused on reducing our emissions across our operations through emissions avoidance and reduction. BNZ currently measures the following as part of our current operational emissions boundary: scope 1 and 2 emissions, and scope 3 emissions from our operations as outlined in Table 24 and Table 25, Appendix C.

BNZ has an absolute operational emissions reduction target to reduce our gross operational emissions by 60% by FY25, from a FY19 baseline. This aligns with our commitment to net zero emissions by 2050, or sooner, and is consistent with limiting warming to 1.5 degrees above pre-industrial levels. In contrast to our operational emissions boundary above, this target covers all scope 1 and 2 emissions and baseline scope 3 emissions but excludes emissions from employee commute, courier, postage, and freight, and upstream purchased fuel and electricity, which are additional operational emissions sources added to the inventory since the target was set. During FY24, BNZ had a reduction of gross operational emissions (excluding the additional sources) of 49% against the FY19 baseline, compared to 51% in FY23. Refer to Table 14 for further information.

In FY24, total gross operational emissions are 11,452 tonnes of CO2 equivalent (tCO2e), a 2.4% increase from FY23. In FY24, BNZ colleagues increasingly returned to the office resulting in a decrease in working from home emissions but an increase in employee commute emissions. Increase in Business travel has also contributed to the rise in scope 3 emissions. Specific increases in sources related to BNZ’s scope 1 and scope 3 emissions can be seen in Table 14 and Figure 11.

Colleague business travel and the transition of the BNZ vehicle fleet continue to be key focus areas for operational emissions reduction and avoidance. BNZ is managing air travel emissions through various measures, such as setting business unit carbon emissions targets, an air travel emissions dashboard, and regular reporting at the senior management level to ensure colleagues are travelling only when it meets business requirements. In FY24, all but one of the BNZ fleet vehicles are either plug-in hybrid vehicles (PHEV), electric vehicles (BEV), or hybrid vehicles (HEV). To support the electrification of fleet and pool vehicles, BNZ has expanded its charging infrastructure at BNZ sites to 22 standard chargers and four fast chargers located in Tauranga, Taupo, Hamilton, and Timaru.

BNZ plans to review its operational emissions target in FY25.

<sup>23</sup> World Resources Institute and World Business Council for Sustainable Development, the ‘GHG Protocol Corporate Accounting and Reporting Standard’ (2004 and revised 2015) and its supplement, the ‘GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard’ (2011).

<sup>24</sup> BNZ is a Toitū net carbonzero certified organisation. This voluntary carbon certification programme requires adherence to a set of standards and rules on an annual basis, focusing on measuring and reducing greenhouse gas emissions according to International Organisation for Standardisation 14064-1: 2018 standards.

Table 14: BNZ FY24 operational GHG emissions by scope – measured against BNZ’s 2025 target (tCO2e) (Refer to Appendix C for further information on BNZ’s measured and reported emissions source.)

	FY19 Baseline	FY22	FY23	FY24	FY25 target
Scope 1 (tCO2e)	3,791	1,498	1,528	1,605	n/a
Scope 2 (tCO2e)	1,612	1,410	857	834	n/a
Scope 3 – baseline categories (tCO2e)	6,323	2,088	3,401	3,588	n/a
<b>Total gross operational emissions against 2019 baseline (tCO2e)</b>	<b>11,726</b>	4,996	5,786	<b>6,027</b>	<b>4,690</b>
Scope 3 - new emissions sources: Employee commute, Courier, postage and freight, Upstream fuel and electricity. (tCO2e)	1,415	1,169	5,403	5,425	n/a
<b>Total gross operational emissions incl. new scope 3 emissions sources excluding financed emissions. (tCO2e)</b>	<b>13,141</b>	6,165	11,189	<b>11,452</b>	<b>n/a</b>
<b>GHG emissions intensity (tCO2e/\$millions)</b>					
Operating Income (Gross tCO2e incl. new scope 3 emission sources/\$million)	4.95	1.97	3.20	3.17	n/a

Intensity is calculated as gross tCO2e divided by Total Operating Income.

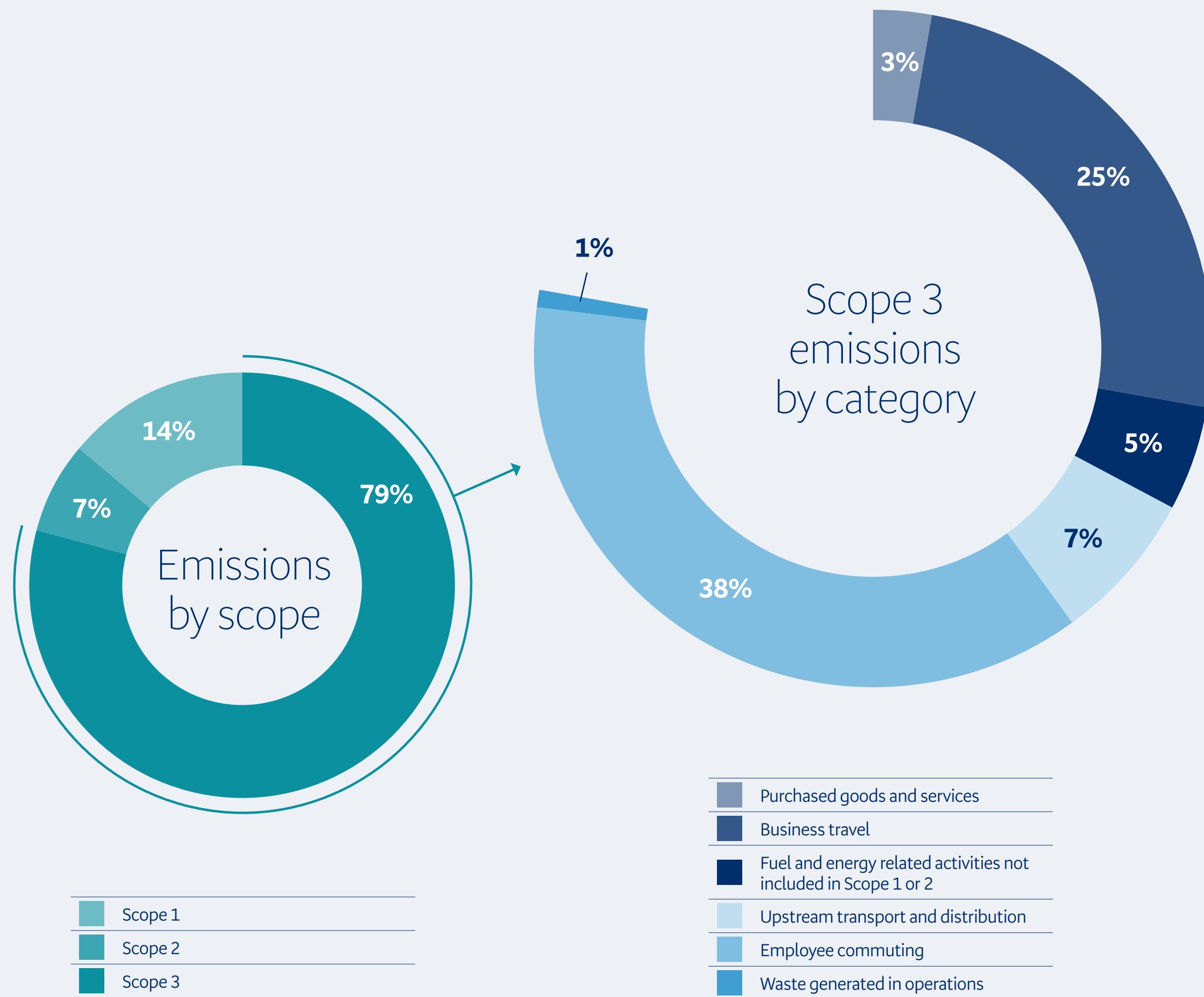
Emissions from electricity purchased for remote ATM's owned and controlled by BNZ has been reassessed and reclassified from scope 3 to scope 2 in all reported years.

FY25 target and baseline emissions (tCO2e) have been realigned from June to September balance dates. FY25 target emissions have changed from 4,548 tCO2e to 4,690 tCO2e due to emissions differences between June and September baseline years. The FY25 target of a 60% reduction in operational emissions against baseline categories is unchanged.

Employee commute & upstream fuel & electricity emissions sources are not reported prior to FY23.

Baseline categories include all scope 1, scope 2, and scope 3 emission sources that were captured and measured at the time of setting BNZ’s baseline of FY19 and excludes the following additional scope 3 emissions sources: employee commute; upstream purchased fuel and electricity; courier, postage & freight.

Figure 11: Scope 3 gross operational GHG emissions by category (Refer to Appendix C for further information on BNZ’s measured and reported emissions source.)



### Restatements due to year end change

For the year ended 30 September 2024, BNZ has applied the requirements of NZ CS 3, to prepare its climate-related disclosures for the same reporting period as its annual financial statements. Previously, operational emissions have been reported on the 1 July to 30 June period to align with NAB’s regulatory environmental reporting period. Historic balances and baseline targets have been restated in the FY24 Climate Statements to the financial statement reporting period. Operational targets have been set on a consistent basis with only a period change being applied.

### Supplier engagement target

In 2023, BNZ set a supplier engagement target that 67% of BNZ suppliers, by emissions, would have set science aligned targets by 2028. Evidence gathering for in-scope suppliers commenced in FY24 and BNZ has begun to identify those suppliers with a Science Based Target Initiative (SBTi) approved target, as published on the [SBTi website](#)<sup>25</sup>. In FY25, BNZ intends to develop a plan to engage its in-scope suppliers.

### Toitū net carbonzero certification

BNZ continues to hold [Toitū net carbonzero certification](#)<sup>26</sup> which means BNZ has met the criteria required for compliance with measuring these emissions to Toitū requirements; managing and reducing emissions against Toitū requirements; and offsetting remaining net emissions, to the Toitū minimum boundary. This minimum boundary covers net emissions associated with all scope 1 and 2 emission sources, and scope 3 - transmission and distribution losses from upstream fuel and electricity, waste to landfill, business travel (excluding hotel stays), and courier, postage and freight emissions.

### BNZs approach to carbon offsets

BNZ does not rely on carbon credit offsets to achieve its operational emissions reduction target. BNZ is focused on avoiding and reducing gross emissions across its operations.

In FY24, BNZ purchased credits for 5,223 tCO<sub>2</sub>e of net operational emissions through the Toitū carbon programme to meet its Toitū certification requirements. Toitū’s due diligence standards for vetting carbon credit projects can be found [here](#). Offsets were purchased from a mixture of on and offshore projects, including a [Gold Standard large solar energy project](#) in India, a Gold Standard, [Fairtrade project](#) in Ethiopia, and an onshore Permanent Forest Sink Initiative (PFSI) project that supports biodiversity in NZ. We note that BNZ purchases offsets to the Toitū minimum boundary definition, which does not cover all operational emissions.

<sup>25</sup> BNZ notes that some SBTi targets for suppliers are at global group level, not a local subsidiary level and targets will require BNZ validation.

<sup>26</sup> BNZ is a Toitū net carbonzero certified organisation. This voluntary carbon certification programme requires adherence to a set of standards and rules on an annual basis, focusing on measuring and reducing greenhouse gas (GHG) emissions according to ISO 14064-1: 2018 standards. 2024 [Toitū Envirocare Assurance Report](#) see [here](#).

# 4.2 Financed emissions

## Measuring financed emissions

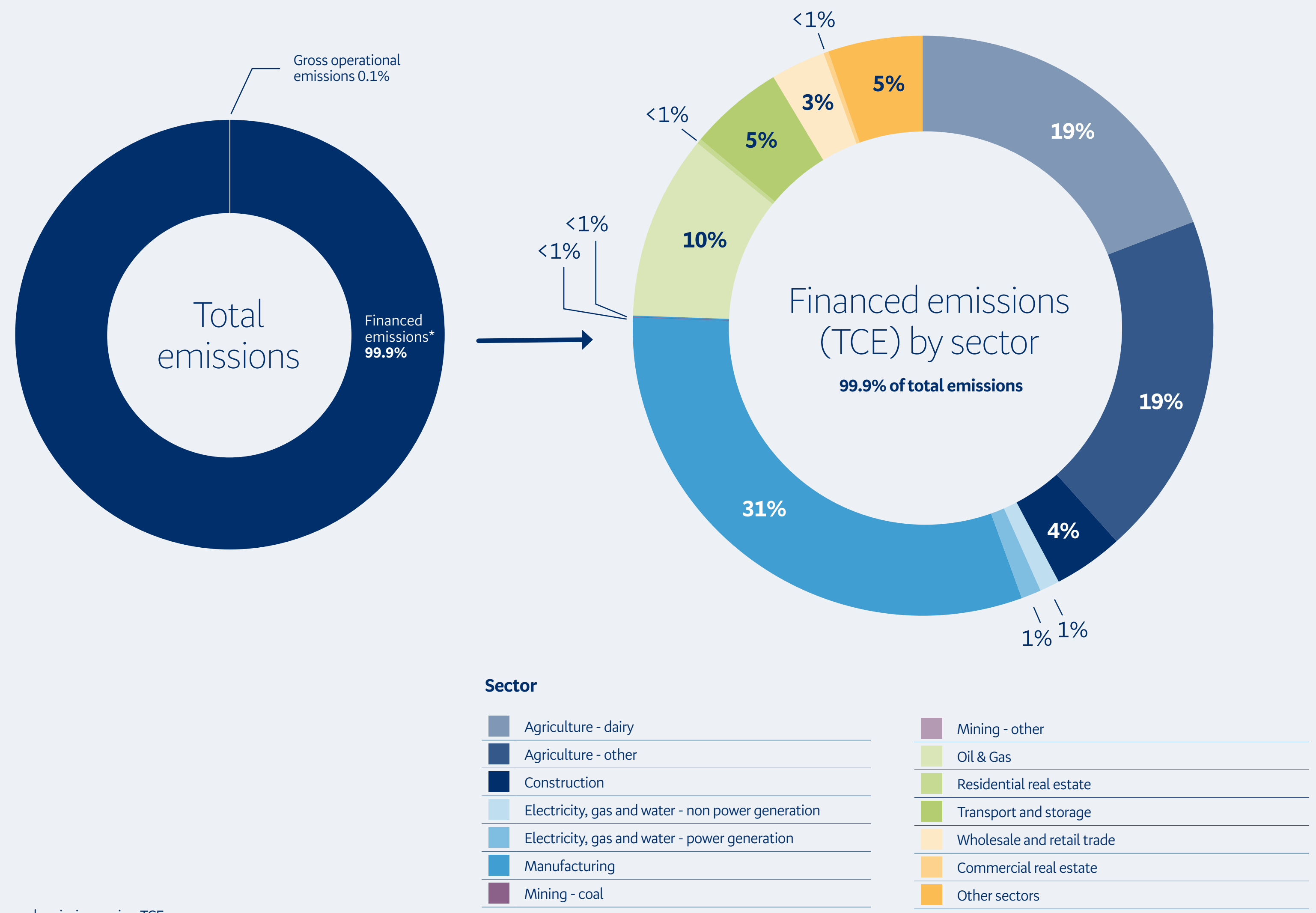
BNZ is committed to accelerating the transition to a low emissions economy and supporting its customers to transition. Understanding the emissions associated with the financing it provides to its customers, known as financed emissions, helps BNZ to do this.

Financed emissions fall within scope 3, category 15 (investments) of the GHG Protocol and are the most significant part of BNZ’s GHG Inventory. BNZ measures financed emissions in accordance with the Partnership for Carbon Accounting Financials (PCAF) standard, where possible. BNZ applies PCAF asset class measurement methods, where applicable, and discloses financed emissions by sector to align with the sector-based emission reduction targets approach. Further information on financed emissions methodology, including scope, assumptions and limitations are provided in Appendix E.

BNZ currently reports financed emissions on Gross Loans and Advances to Customers, excluding personal lending (99.3% of Outstanding Amount (OA) Gross loans and Advances and 99.2% of Total Committed Exposure (TCE) Gross Loans and Advances<sup>27</sup>. NZ CS adoption provision 4 has been applied to all other balance sheet items including listed equity and corporate bonds and sovereign debt. BNZ has not calculated financed emissions on derivatives or personal loans, where PCAF has not prescribed a methodology.

<sup>27</sup> Gross Loans and Advances to Customers, Outstanding Amount (OA) and Total Committed Exposure (TCE) are defined in the glossary.

Figure 12: BNZ Financed emissions



\*Financed emissions using TCE

## Progress on our financed emissions

BNZ's absolute in-scope financed emissions for FY24 have decreased from FY23, which is mainly reflective of an overall decrease in emissions intensity of gross loans and advances to customers (based on OA and TCE).

BNZ's FY24 financed emissions reporting focus has been on increasing the accuracy of the application of each sector methodology, including increasing the granularity of the application of industry data and improving the process of reporting. Improving the granularity of data has resulted in reported emissions that are more reflective of the underlying sector. BNZ intends to constantly assess this process as information sources improve and reporting matures.

## Total Committed Exposure and Outstanding Amount





BNZ calculates and reports financed emissions based on both the OA of loans, as required by PCAF, and the TCE as reflected in Table 15 and 16. Reporting TCE is a deviation from the approach recommended by PCAF and provides alignment with reported targets. TCE provides a more stable number for the purposes of calculating how we are tracking against an emissions reduction target. Where possible, BNZ estimates absolute emissions based on scope 1, 2, and 3 emissions attributable to its lending. Both OA and TCE exposures included in these calculations are as at the BNZ balance date specified in Tables 15 and 16.

Table 15: Estimated financed-emissions (tCO2e) – based on outstanding amount (OA)

Sector	September 2023					September 2024				
	Gross Loans and Advances to Customers	Financed Emissions (tCO2e)			Emission intensity	Gross Loans and Advances to Customers	Financed Emissions (tCO2e)			Emission intensity
	OA(\$m)	Scope 1 & 2	Scope 3	Total	(tCO2e/\$m)	OA(\$m)	Scope 1 & 2	Scope 3	Total	(tCO2e/\$m)
Agriculture - dairy	6,525	1,641,041	278,501	1,919,542	294	6,728	1,697,943	262,898	1,960,841	291
Agriculture - other	7,794	1,565,927	540,182	2,106,109	270	7,871	1,388,776	513,714	1,902,490	242
Construction	1,560	54,655	283,898	338,553	217	1,602	47,892	250,305	298,197	186
Electricity, gas and water - non power generation	250	51,199	21,163	72,362	289	407	53,147	26,791	79,938	196
Electricity, gas and water - power generation	211	12,822	2,768	15,590	74	173	9,503	3,595	13,098	76
Manufacturing	3,523	469,061	1,845,069	2,314,130	657	3,546	356,607	1,808,203	2,164,810	611
Mining - coal	0.5	47	34	81	162	0	3	2	5	162
Mining - other	78	7,296	5,328	12,624	162	80	7,988	4,902	12,890	162
Oil & Gas	247	83,776	340,250	424,026	1,718	250	97,803	429,368	527,171	2,017
Residential real estate	57,746	57,887		57,887	1	60,102	62,215		62,215	1
Transport and storage	1,891	292,157	153,717	445,874	236	2,007	274,550	135,171	409,721	204
Wholesale and retail trade	4,413	39,927	193,050	232,977	53	4,781	36,852	182,475	219,327	46
Commercial real estate	6,898	35,997		35,997	5	7,155	35,462		35,462	5
Other sectors	10,536	92,296	372,321	464,617	44	11,321	78,563	356,128	434,691	38
<b>Total in-scope portfolio assessed</b>	<b>101,672</b>	<b>4,404,088</b>	<b>4,036,281</b>	<b>8,440,369</b>		<b>106,023</b>	<b>4,147,304</b>	<b>3,973,552</b>	<b>8,120,856</b>	

All amounts have been rounded to the nearest million dollars or tCO2e except where otherwise indicated. Any discrepancies in calculated intensity rates are due to rounding.

Table 16: Estimated financed-emissions (tCO2e) – based on Total committed exposure (TCE)\*

Sector	September 2023					September 2024				
	Gross Loans and Advances to Customers	Financed Emissions (tCO2e)			Emission intensity	Gross Loans and Advances to Customers	Financed Emissions (tCO2e)			Emission intensity
	TCE(\$m)	Scope 1 & 2	Scope 3	Total	(tCO2e/\$m)	TCE(\$m)	Scope 1 & 2	Scope 3	Total	(tCO2e/\$m)
 Agriculture - dairy	6,972	1,749,050	297,597	2,046,647	294	7,146	1,800,523	279,140	2,079,663	291
 Agriculture - other	8,494	1,689,874	587,375	2,277,249	268	8,500	1,491,381	554,295	2,045,676	241
 Construction	1,973	72,768	365,410	438,178	222	2,087	72,615	338,542	411,157	197
 Electricity, gas and water - non power generation	408	71,809	29,820	101,629	249	643	71,726	36,960	108,686	169
 Electricity, gas and water - power generation	571	46,824	28,613	75,437	132	817	104,506	35,419	139,925	171
 Manufacturing	4,980	656,135	2,678,044	3,334,179	670	5,294	546,564	2,795,136	3,341,700	631
 Mining - coal	1	57	42	99	162	0	11	7	18	162
 Mining - other	93	8,737	6,380	15,117	162	93	9,315	5,717	15,032	162
 Oil & Gas	459	149,758	879,655	1,029,413	2,244	411	145,073	970,248	1,115,321	2,715
 Residential real estate	60,451	61,789		61,789	1	62,746	66,205		66,205	1
 Transport and storage	2,702	366,251	198,630	564,881	209	2,804	337,881	170,375	508,256	181
 Wholesale and retail trade	5,642	50,822	248,489	299,311	53	5,836	44,687	223,653	268,340	46
 Commercial real estate	8,009	37,769		37,769	5	7,941	37,075		37,075	5
 Other sectors	15,361	114,447	466,254	580,701	38	15,895	96,159	441,237	537,396	34
<b>Total in-scope portfolio assessed</b>	<b>116,115</b>	<b>5,076,090</b>	<b>5,786,309</b>	<b>10,862,399</b>		<b>120,211</b>	<b>4,823,721</b>	<b>5,850,729</b>	<b>10,674,450</b>	

All amounts have been rounded to the nearest million dollars or tCO2e except where otherwise indicated. Any discrepancies in calculated intensity rates are due to rounding.

\*The TCE per sector used for financed emissions will differ from that used for physical and transition risk in instances where the conglomerate methodology is applied for conglomerate customers, refer Appendix E for further details of the Conglomerates methodology. In total, the TCE used for financed emissions and physical and transition risk is the same.

### Data enhancements and changes for FY24

BNZ has been focused on improving the reporting of financed emissions for Gross Loans and Advances to Customers, excluding personal lending in FY24. Details on limitations and assumptions in calculating financed emissions have been outlined in Appendix E. Due to improvements in the methodology application and granularity, FY23 has been restated to provide a comparable view. Key points are identified below:

1. Sector average data has been expanded to include scope 2 and 3 emissions. This has resulted in an increase in financed emissions in FY23 and FY24.
2. Sector average allocations have been applied at greater granularity, improving the allocation of emission intensity to lending.
3. Commercial real estate lending for non-owner-occupied commercial lending secured by a commercial property has been reported as a separate sector. The PCAF commercial real estate asset class methodologies have been applied. Previously Commercial real estate was reported as part of other lending sectors.
4. The conglomerate approach has been further refined to simplify the approach (refer to Appendix E).
5. Remaining sectors<sup>28</sup> have been re-aligned and combined into a category called “other sectors” to simplify reporting and concentrate on material areas.
6. Agriculture – dairy sector financed emissions approach has been refined, improving the link between emission data and customer data. This has resulted in a large restatement of FY23 Agriculture – dairy financed emissions numbers.
7. A financed emissions intensity metric for each sector as per CS 1 (22 (b)) has been added. The financed intensity metric has been calculated by dividing financed emissions by OA or TCE. Intensity ratios express GHG emissions impact per unit of economic output. A declining intensity ratio over time will reflect a positive performance improvement.

### Limitations and assumptions

There are inherent uncertainties in the estimation of financed emissions with considerable variability in data quality. BNZ has applied data from third parties for financed emissions calculations, BNZ does not independently audit or verify third party information. Customer-related financials and emissions data balance dates may vary from the BNZ balance date. BNZ uses closest available preceding customer data.

To estimate financed emissions, loans are allocated to a specific sector based on ANZSIC codes. BNZ calculates emissions for a customer based on their allocated sector. Where a customer is diversified across business activities and sectors, the estimate of the customer’s emissions may be under or overstated.

### Data quality

BNZ follows the PCAF guidance for estimating and reporting the data quality of financed emissions. A score of one (1) is best, reflecting verified and disclosed customer emissions. A score of five (5) is worst reflecting the highest level of uncertainty (e.g. using sector average emissions). BNZ’s 2024 overall PCAF data quality scores for scope 1 and 2 are 4.4 for both TCE and OA, scope 3 are 4.9 for OA and 4.8 for TCE. These scores reflect the significant challenges with sourcing customer level emissions data and a lack of a nationwide programme that generates suitable publicly available emissions metrics for higher data quality financed emissions reporting. Further detail on assumptions and limitations in calculating financed emissions have been outlined in Appendix E.

Table 17 shows BNZ’s financed emissions data quality scores per sector.

<sup>28</sup> Accommodation, restaurants, culture and recreation; Communications, Financial, investment and insurance; Government, education, health and community services; Property, business and personal services.

Table 17: Financed emissions data quality scores per sector

Emissions intensity	September 2023				September 2024			
	PCAF score				PCAF score			
	OA data quality		TCE data quality		OA data quality		TCE data quality	
Sector	Scope 1 & 2	Scope 3	Scope 1 & 2	Scope 3	Scope 1 & 2	Scope 3	Scope 1 & 2	Scope 3
Agriculture - dairy	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Agriculture - other	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Construction	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Electricity, gas and water - non power generation	4.7	4.7	4.6	4.6	4.8	4.8	4.8	4.8
Electricity, gas and water - power generation	2.0	2.2	1.5	1.6	2.5	2.7	1.5	1.5
Manufacturing	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Mining - coal	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Mining - other	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Oil & Gas	3.4	3.4	3.0	3.0	3.1	3.1	2.9	2.9
Residential real estate	4.0		4.0		4.0		4.0	
Transport and storage	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Wholesale and retail trade	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Commercial real estate	4.8		4.8		4.8		4.8	
Other sectors	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
<b>Total in-scope portfolio assessed</b>	4.4	4.9	4.4	4.9	4.4	4.9	4.4	4.8

## 4.3 Climate-related metrics

### Percentage of TCE vulnerable to physical and transition risks

BNZ has calculated the percentage of TCE vulnerable to physical and transition risks. BNZ’s quantitative physical and transition risk analysis focuses on BNZ’s Gross Loans and Advances to Customers (being \$120,211 million in FY24). Physical risk is more likely to be present where there is a physical asset securing lending with a longer tenure such as a home loan, or in the case of transition risk where lending is associated with Industry-related Loans to higher emissions intensive sectors. See page 65 for an explanation of the scope of assessment of vulnerability to physical risk. BNZ selected the percentage of Industry-related Loans with a High emissions intensity (detail on page 17) as a proxy for vulnerability to transition risk.

**5%**

Percentage of TCE of properties exposed to one or more physical risk (flood, coastal inundation, sea level rise or livestock heat stress).

**35%**

Percentage of TCE of loans to ‘High’ emissions-intensive industries

**Notes:**

BNZ is at an early stage of understanding climate-related impacts on BNZ. There are many uncertainties around physical and transition risk assessment approaches, including climate science and the policy response to emission reductions. For this reason, it is possible that all BNZ’s business activities have potential vulnerability to physical and transition risk.

Total balance sheet items not currently assessed include cash and liquid assets, derivative financial instruments, and trading assets. For the full list, refer to BNZ’s Disclosure Statement.

As most direct physical risk impacts are likely to be related to BNZ loans secured by geocoded property titles, the

quantitative physical risk analysis focused on 80% of BNZ’s TCE of Gross Loans and Advances to Customers. Additionally, there are methodologies and data available that enables BNZ to undertake this analysis (refer to Section 2.2 and Appendix B). BNZ assessed transition risk exposure across the TCE of Gross Loans and Advances to Customers. The quantitative transition risk assessment was on Industry-related Loans, and home loans and other personal lending were excluded. This means that BNZ’s transition risk analysis of sector industry emissions intensity assessed 48% of BNZ’s FY24 TCE of Gross Loans and Advances to Customers.

The approach is detailed in Appendix B.

## Climate-related opportunities – sustainable finance

In FY20, BNZ made a commitment to deliver \$10 billion in sustainable finance by FY25, in accordance with its Sustainable Finance Framework. In FY24, BNZ categorised a further \$4.0b<sup>29</sup> in sustainable finance, totalling a cumulative \$8.8b against its \$10b target. This commitment is significant and acknowledges the even more significant shift required in capital flows to achieve a net zero emissions economy.

In FY24 BNZ reviewed and updated its [Sustainable Finance Framework](#) to better align with updated market standards, products, and customer expectations. The update clarifies the scope of eligible social finance activities to include social bonds by offshore supranational, sovereign, and agencies where BNZ has been a joint lead manager in the Debt Capital Markets. These facilitation activities total \$3.3b since the target was announced in FY20. The original target was intended to include offshore issuances, recognising the range of ways finance can support sustainable activities, not just environmental, and BNZ’s support for customers who raise capital in New Zealand but are active globally, but has not previously been included in BNZ’s progress towards the target. Prior to the decision to report these in these Statements, a comprehensive review was undertaken to ensure robustness, relevancy, and alignment with BNZ ambition and internal policies. Additionally, independent assurance was sought. The EY Sustainable Finance Limited Assurance Report is available [here](#).

### Capital deployment

Capital deployment and funding are used to help with the management of climate-related risks and opportunities, and to address climate considerations. In FY24, BNZ has invested \$7.4m in capital towards managing climate-related risks and opportunities. These funds have been deployed toward partnerships, to accessing climate data and climate-related third party service providers, and operational properties e.g. installation of satellite communications for more resilient communications.

As part of BNZ’s continued support for customers to adopt a more sustainable approach BNZ offers lower interest rates on selected green lending offerings.

### Internal emissions price

BNZ does not currently apply an internal emissions price to climate-related risks or opportunities.

### Management remuneration

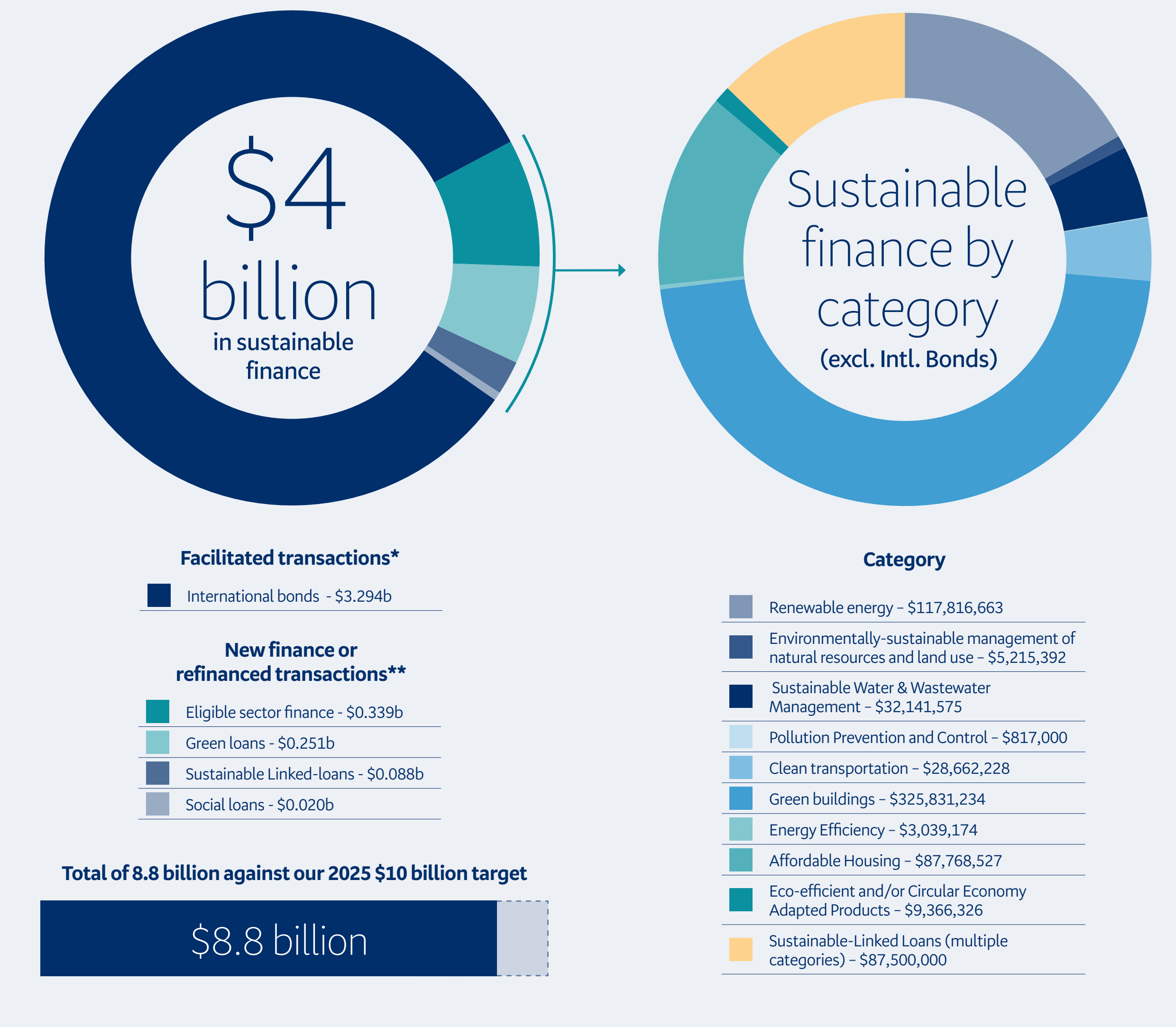
Please refer to Section 1.2 Management remuneration.

<sup>29</sup> This value includes \$0.910 b of activities from the year ended 30 September 2023, \$1.266 b of activities from the year ended 30 September 2022, and \$1.206 b of activities from the year ended 30 September 2021 which were categorised as sustainable finance transactions during the year ended 30 September 2024.

\*This value includes \$0.824b of facilitated bonds from the year ended 30 September 2023, \$1.266b of facilitated bonds from the year ended 30 September 2022 and \$1.204b of facilitated bonds from the year ended 30 September 2021.

\*\*These values include \$0.015b of green loans and \$0.071b of eligible sector finance from the year ended 30 September 2023, \$0.071m of green loans from the year ended 30 September 2022, and \$0.002b of eligible sector finance from the year ended 30 September 2021.

Figure 13: Sustainable Finance categorised in FY24



## 4.4 Net Zero Banking Alliance sector emission reduction targets

BNZ published Net Zero Banking Alliance (NZBA) emissions reduction targets for Oil and Gas, Power generation, Mining - coal and Agriculture - dairy sectors in 2023. This section provides an update on how BNZ is tracking and high-level transition plan actions for each sector. As required by the NZBA, these targets will be reviewed within five years of the targets being set. Accordingly, these will be reviewed on or before FY28.

In FY24, BNZ set an emissions reduction target for the Residential real estate sector, with further detail outlined in this section and Appendix D. This will also be reviewed on or before FY28 to align with the Power generation sector target.

In addition, all targets will be kept under assessment in the next 12 months. Refer to page 33 for an overview of BNZ's approach to sector decarbonisation.

## Agriculture – Dairy

### Target overview

The dairy sector contributes approximately 22.7% of New Zealand’s gross emissions and approximately 46% of agricultural emissions<sup>30</sup>. Methane is the primary GHG emitted by the dairy sector, accounting for approximately three quarters of all dairy emissions. BNZ’s Agriculture – dairy target is an 11% reduction in financed scope 1 biological emissions intensity (kgCO<sub>2</sub>e/kg milk solids (MS)) by 2030 against a FY22 baseline. The scope of this target for the agriculture-dairy sector includes dairy cattle farming and only covers on-farm biological emissions.

The methodology and approach to the setting of this target is provided in the [BNZ NZBA 2023 target disclosure](#). For an overview of BNZ’s commitment to NZBA refer to page 33.

### Progress towards target

BNZ has seen a minor drop in financed biological emissions intensity (kgCO<sub>2</sub>e/kgMS) in FY24, with total progress towards target at 0.60% reduction against the 2022 baseline. Emissions reductions in an agricultural setting are unlikely to follow a linear trend, due to factors like annual seasonal variations and the time necessary for development and adoption of lower emission practices and technologies. BNZ expects to see a downward trend in emissions intensity with potential step changes associated with sector advancements.

### Adopting the CCC Demonstration Pathway

The Demonstration Pathway is the Climate Change Commission (CCC) scenario that underpins the CCC’s advice to Government on New Zealand’s emissions budgets. The CCC’s analysis shows that its recommended emissions budgets set New Zealand on track to reach net zero for all long-lived greenhouse gases before 2050, meeting New Zealand’s 2050 targets and legislative requirements.<sup>31</sup>

The Demonstration Pathway does not achieve the reduction targets required by the NZBA guidance by 2030. However, it achieves net zero emissions for New Zealand significantly before 2050<sup>32</sup>. In accordance with the Climate Change Commission’s advice, this reflects New Zealand’s emissions profile which differs significantly from the basis of the Intergovernmental Panel on Climate Change (IPCC) pathways and provides a pathway to show that New Zealand’s emissions budgets can be achieved in a just and equitable way. This approach aligns with a target being ambitious yet achievable and only relying on technological developments that can reasonably be expected to become available within the target period. It also provides a pathway to meet the Government’s legislated 10% biogenic methane emissions reduction from a 2017 baseline. Biogenic methane primarily comes from the agriculture and waste sectors.

<sup>30</sup> New Zealand’s Greenhouse Gas Inventory: Snapshot 1990 - 2021. Available at [New Zealand’s Greenhouse Gas Inventory: Snapshot](#)

<sup>31</sup> He Pou a Rangi the Climate Change Commission Ināia tonu nei: a low emissions future for Aotearoa, at 5.1.4, paragraph 38

<sup>32</sup> The Demonstration Pathway is a low overshoot scenario, with reductions in agricultural methane sitting just outside the IPCC’s interquartile range at 2030, but within the IPCC interquartile range by 2050. See He Pou a Rangi the Climate Change Commission Ināia tonu nei: a low emissions future for Aotearoa, at 9.4.2, paragraph 37.

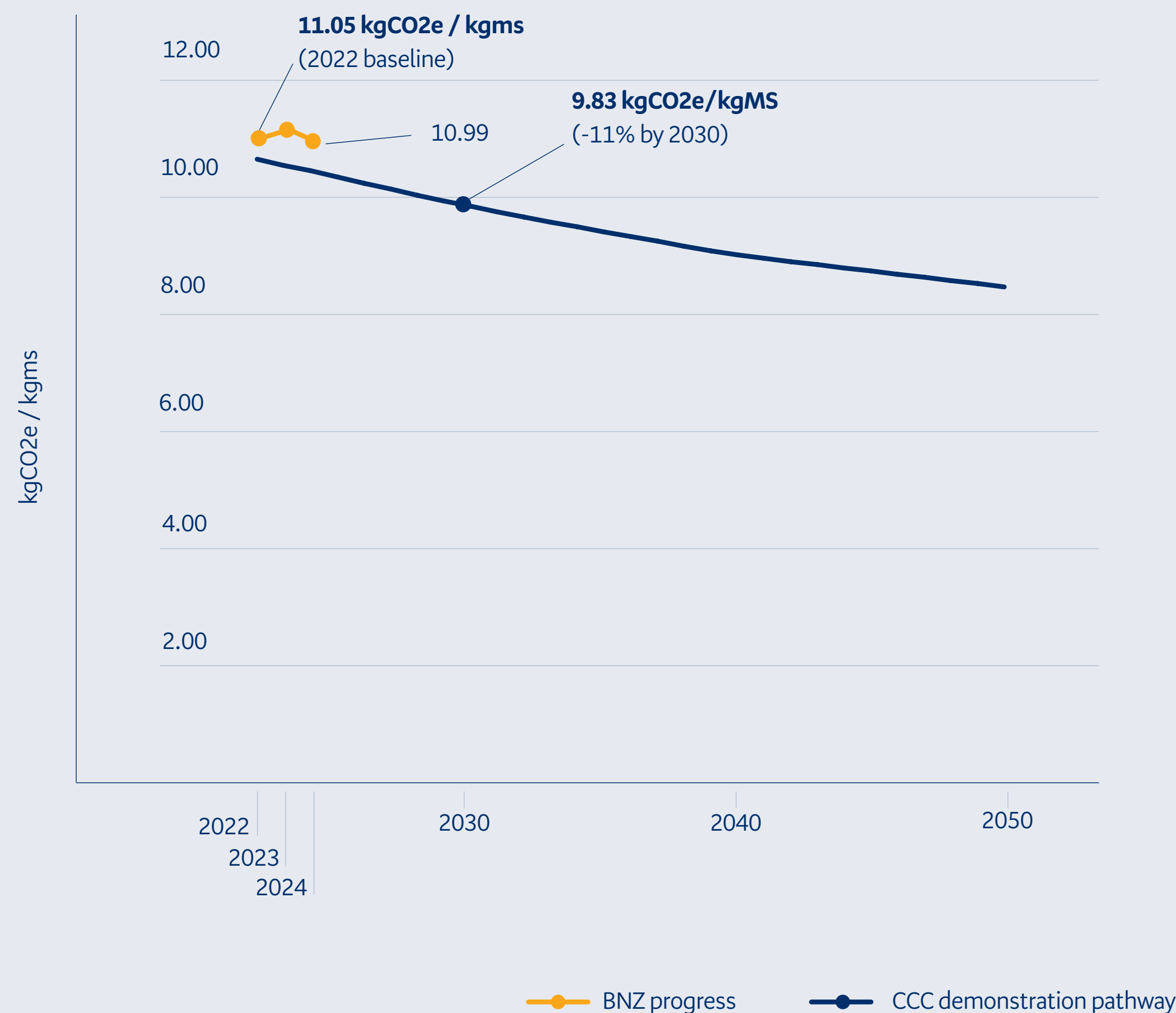
Table 18: Agriculture – dairy sector key elements and approach selected

Key target elements	Approach selected
2022 baseline	11.05 kgCO <sub>2</sub> e/kgMS
2030 target	9.83 kgCO <sub>2</sub> e/kgMS (-11% by 2030)
Sector coverage (based on 1993 ANZSIC)	All customers in ANZSIC industry ‘Class’ code 0130
Reference scenario	CCC Demonstration Pathway (May 2021)
Emissions scope	Scope 1 biological emissions only (non-biological emissions being a negligible proportion of the sector’s emissions)
Target metric	kg CO <sub>2</sub> e/kg milk solids (kgCO <sub>2</sub> e/kgMS)
Financing scope	Total Committed Exposure excluding derivatives and bonds or guarantees associated with environmental rehabilitation.
PCAF data quality score	4.5



## Agriculture – Dairy

Figure14: Agriculture – dairy sector target and reference scenario



### Key actions to deliver BNZ’s 2030 Agriculture - dairy target

The dairy sector is exposed to both physical and transitional climate-related risks highlighting the significance of having a climate resilient, efficient sector to support future success. BNZ is committed to supporting the dairy sector’s emission reductions. Section 2.6 - ‘Operationalising the targets – transition plan framework’ outlines transition plan actions common to all sector targets, including target governance oversight and the BNZ products and services available to support customers to reduce emissions. The following are specific implementation and engagement actions to deliver the Agricultural - dairy target.

#### Implementation strategy

BNZ is focused on supporting customers adapting to a changing regulatory environment and market shifts, while maintaining and enhancing the natural capital they rely on for business sustainability.

- Products and services - BNZ’s suite of products and services, including sustainable finance offerings, are being used to support customers’ emission reductions. BNZ has a standardised Green Business Loan offering that can be used by farming customers to help support their investment in green assets and projects on farm. More information is available in [BNZs Sustainable finance framework](#) and [2023 target disclosure](#).
- Customer transition maturity - BNZ has developed a framework for evaluating climate transition maturity.
- Colleague training and development - A sub-group of Agribusiness colleagues has been established as Natural Capital Champions of which a number have undertaken the Chartered Banker Institute’s Green & Sustainable Finance Certificate. BNZ supports colleagues supporting the dairy

sector to develop capability and sector expertise, through internal training, industry related courses, conferences, and seminars.

#### Engagement strategy:

- The AgriZero NZ partnership is a groundbreaking public-private partnership with an ambition to provide all farmers in New Zealand access to affordable, effective solutions to reduce biogenic methane and nitrous oxide emissions, with a goal of supporting a 30% reduction by 2030 and enabling development and adoption of solutions to drive towards ‘near zero’ by 2040. BNZ has invested \$4 million in this partnership, alongside the government and other private sector entities, to assist with the development of emissions reduction tools for New Zealand farmers.
- BNZ is actively involved with relevant industry forums and regularly has colleagues attending and participating in industry conferences and seminars.

### Key assumptions and limitations

Key assumptions associated with the CCC Demonstration Pathway have been outlined in detail in its [2023 target disclosure](#), page 10.

There are data limitations impacting the specificity of reporting on this sector as BNZ receives emissions data from a third party that is aggregated at regional level. BNZ then relies on assumptions in the application of this data to its customer base. While these data limitations are known and acknowledged, the target is managed at a portfolio level, not at the level of individual customers and work continues to improve these data limitations.

## Oil and Gas (upstream only)

### Target overview

Reducing the emissions of New Zealand’s economy is dependent on reducing demand for oil and gas products across many sectors, including transport, power generation and industry. The Oil and Gas sector emissions reduction target is a 21% reduction in absolute financed emissions by 2030, from a FY21 baseline. The target is limited to upstream Oil and Gas sector; those that primarily explore or extract Oil and Gas. The target covers scope 1, 2 and reported scope 3 emissions. BNZ disclosed its Oil and Gas emissions reduction target in 2023. The methodology and approach to the setting of this target was provided in its [2023 target disclosure](#).

### Progress towards target

When compared with FY23, absolute financed emissions increased slightly in FY24 with total progress at 14% reduction against the 2021 baseline. Fluctuations of this nature are expected given volatility in New Zealand’s energy sector. Forecasts continue to remain on track to meet the 2030 target. The 2030 target will be reviewed on or before FY28, in line with NZBA requirements.

### Adopting the IEA NZE 2050 Pathway

For the Oil and Gas sector, BNZ adopted the IEA NZE 2050 pathway, which is NZBA compliant and consistent with the goals of the Paris Agreement.

Table 19: Oil and Gas sector key elements and approach selected

Key target elements	Approach selected
2021 baseline	1.14MtCO <sub>2</sub> e
2030 target	0.90MtCO <sub>2</sub> e (-21% by 2030)
Sector coverage (based on 1993 ANZSIC)	120001 Gas, Natural Extraction 120002 L.N.G. Production At Wellhead 120003 Liquefied Petroleum Gas Production (Not At Refineries) 120004 Natural Gas Separation At The Wellhead 120005 Oil Shale Mining 120099 Oil And Gas Extraction 151101 Petroleum Exploration (Own Account) 151201 Natural Gas Exploration On Contract 151202 Petroleum Exploration On Contract 151299 Petroleum Exploration Services 152001 Contract Mining Services 152002 Oil and Gas Field Services 152099 Other Mining Services
Reference scenario	IEA NZE 2050 (May 2021)
Emissions scope	Scope 1, 2, and reported Scope 3
Target metric	Absolute emissions, tCO <sub>2</sub> e
Financing scope	Total Committed Exposure, excluding derivatives and bonds or guarantees associated with environmental rehabilitation
PCAF data quality score	2



## Oil and Gas (upstream only)

Figure 15: Oil and Gas sector target and reference scenario



### Key actions to deliver BNZ’s Oil and Gas target

Section 2.6 outlines BNZ’s approach to transition planning and the common transition plan actions across all sector targets, including products and service offerings to support customers to reduce emissions, governance oversight of targets, and BNZ’s commitment to colleague training and engagement. The following outlines specific transition plan actions to deliver the Oil and Gas target.

#### Implementation Strategy

Policies and conditions - Internal ESG policies have been updated to manage BNZ exposure to the Oil and Gas sector.

#### Engagement Strategy:

Customer Transition Plans - Subject to normal credit appetite considerations, BNZ is committed to supporting its existing upstream Oil and Gas customers, who are committed to transitioning their business in alignment with a 1.5 degree pathway, by supporting customers to reduce emissions in their existing production and transition away from reliance on fossil fuel activities.

### Key assumptions and limitations

Key assumptions and limitations associated with the IEA NZE 2050 scenario are outlined in detail in BNZ's [2023 target disclosure](#), page 6.

BNZ sources emissions data directly from Oil and Gas sector customers. The data provided includes emissions data which has not been independently verified. Refer to Financed emissions methodology, Appendix E for more information on data sources, methodologies and approach to conglomerates which is relevant for the Oil and Gas and Power generation sectors.

# Power generation

## Target overview

The Power generation sector is key to New Zealand transitioning to a low emissions economy, with a significant increase in renewable power generation capacity required by 2030 to support electrification of parts of the economy currently reliant on fossil fuels, such as transportation.

BNZ’s Power generation target is a 74% decrease in emissions intensity (kgCO<sub>2</sub>e/MWh) by 2030, against a FY21 baseline. The sector scope includes electricity generation from fossil fuels and renewable sources. BNZ disclosed its Power generation emissions reduction target in 2023. The methodology and approach to the setting of this target is provided in BNZ’s [2023 target disclosure](#). For an overview of BNZ’s commitment to NZBA refer to page 33.

## Progress towards target

BNZ’s Power generation portfolio has seen an increase in emissions intensity in 2024, primarily driven by dry hydrology conditions resulting in reduced hydro-generation. Coupled with shortages in gas generation, this has resulted in an increased reliance on coal fired generation. Dry years and non-linear progress towards the target, influenced by weather changes, were anticipated at the time the target was set.

Despite this, the emissions intensity of the Power generation portfolio has seen a 31% reduction against the 2021 baseline and ongoing reductions in emissions intensity are still anticipated over time, as NZ’s electricity grid becomes more reliant on renewable generation year on year.

BNZ continues to support investment in renewable generation; due to the ongoing nature of these projects, the benefits may not be immediately reflected in its intensity target. The 2030 target will be reviewed on or before FY28, in line with NZBA requirements.

## Adopting the CCC Tailwinds pathway

BNZ adopted the CCC’s Tailwinds scenario for setting its Power generation target, which considers New Zealand’s largely renewable power generation mix. BNZ adopted the CCC’s Tailwinds scenarios as the assumptions underpinning it are ambitious but achievable and reliant on existing technology deployment, rather than new technological developments. This is supported by government policy, including the current government’s commitment to double renewable energy by 2050, the emission reduction roadmap prepared by the [Boston Consulting Group](#) and analysis of the plans of its power generation customers.

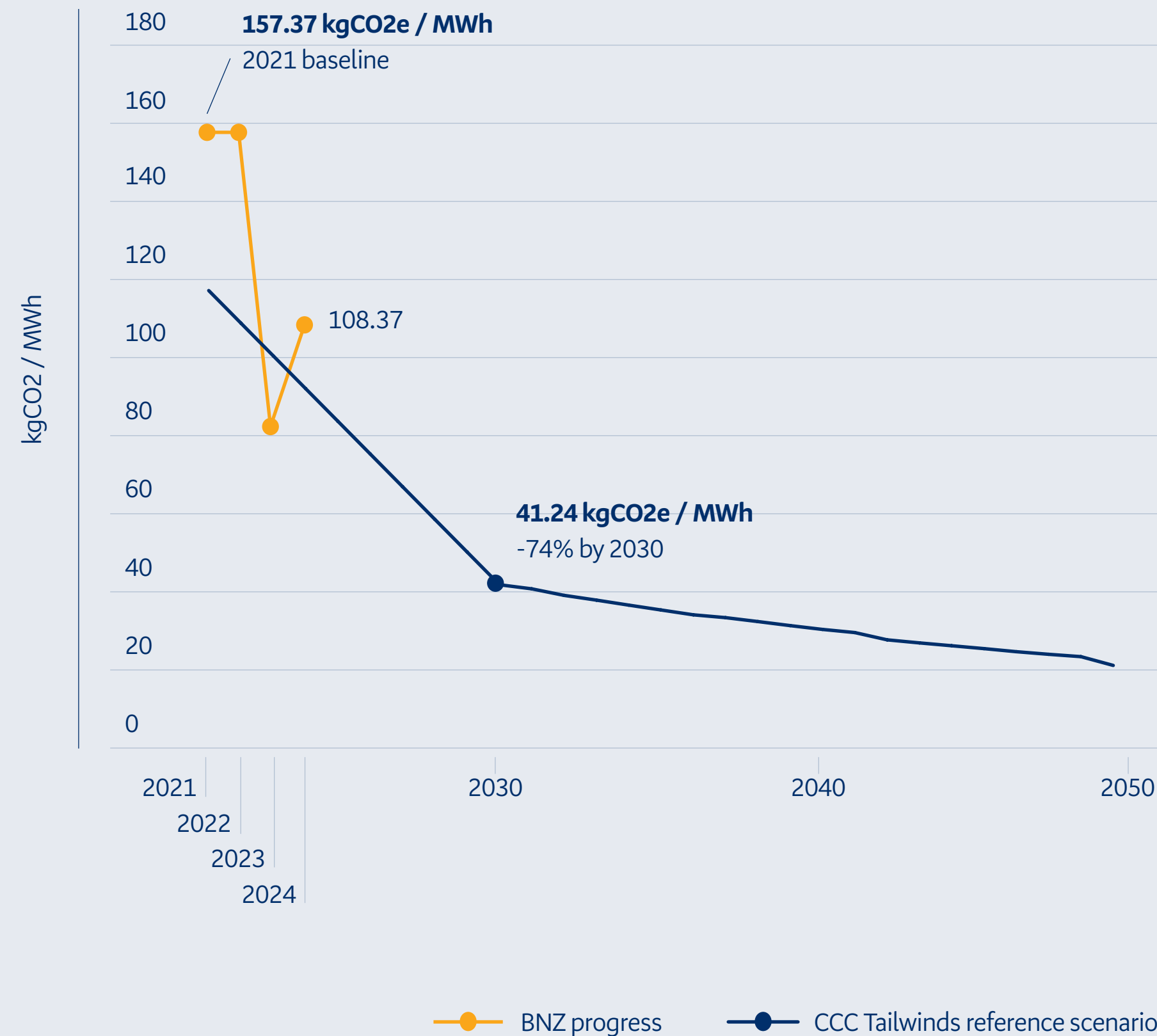
Table 20: Power generation sector key elements and approach selected

Key target elements	Approach selected
2021 baseline	157 kgCO <sub>2</sub> /MWh
2030 target	41 kgCO <sub>2</sub> /MWh (-74% by 2030)
Sector coverage (based on 1993 ANZSIC)	361002 Electricity Generation 361004 Hydroelectric Power Generation 361007 Electricity Generation using Coal 361008 Electricity Generation using Gas 361010 Wind Farms 361011 Renewable Energy
Reference scenario	CCC Tailwinds scenario (May 2021)
Emissions scope	Scope 1 and 2
Target metric	kgCO <sub>2</sub> e/MWh
Financing scope	Total Committed Exposure, excluding derivatives and bonds or guarantees associated with environmental rehabilitation
PCAF data quality score	1.3



# Power generation

Figure 16: Power generation sector target graph and reference scenario



## Key actions to deliver BNZ’s Power generation target

The following outlines specific transition plan actions to deliver BNZ’s Power generation target.

### Implementation Strategy

- Energy sector strategy – BNZ is focused on providing financing to both established generator retailers (“gentailers”) and independent developers of renewable energy generation, as well as supporting further development of infrastructure and technologies e.g., transmission, distribution, and energy storage.
- Products and services – BNZ continues to invest in its long-established project finance capability and services aimed at supporting customers’ emission reduction objectives. Green finance and Sustainability Linked Lending can finance renewable energy projects or can be arranged to support emission reduction and renewable energy investment.
- Colleague capability – BNZ intends to continue to support colleagues working in the sector to develop the requisite technical capability to support the 2030 emissions reduction target. Training has already been delivered to Corporate and Institutional bankers on BNZ’s Net Zero Banking Alliance commitments and targets, and BNZ’s Sustainable Finance Framework and how it is applied in practice. BNZ plans to continue to support colleagues working in the sector to develop the requisite technical capability and sector expertise to meet customer demand for financing products and services in electricity generation, transmission, and distribution.

### Engagement Strategy:

- Customer transition plans - BNZ has developed a framework for evaluating climate transition plans for high emitting customers and has begun undertaking assessment of those plans for relevant Corporate and Institutional banking customers. Subject to normal credit appetite considerations, BNZ will look to work with emissions intensive Power generation customers who are committed to transition their business in alignment with a 1.5 degree pathway.
- Customer insights - Supporting customers with insights (around transition planning, peer benchmarking) and organising industry relevant customer events helps to increase understanding and awareness of relevant industry issues.

## Key assumptions and limitations

Key assumptions associated with CCC Tailwinds scenario are outlined in detail in BNZs [2023 target disclosure](#), page 8.

The emissions and generation data used for setting the Power generation baseline was sourced primarily from customer reporting. The data provided includes emissions data which has not been independently verified. Refer to Appendix E for more information on data sources, methodologies and approach to conglomerates which is relevant for the Oil and Gas and Power generation sectors.

# Mining - coal

## Target overview

BNZ's Mining - coal target is a total exit of all lending to thermal coal mining by the end of 2025, and all remaining lending to coal mining by the end of 2030. Since FY21, BNZ's committed lending to this sector has decreased by 98%. In BNZ's 2023 [Climate Report](#) the FY21 baseline was restated from \$8.2m to \$4.32m to reflect only irrevocable lending commitments (TCE) to the coal sector.

Figure 17: Mining - coal sector target

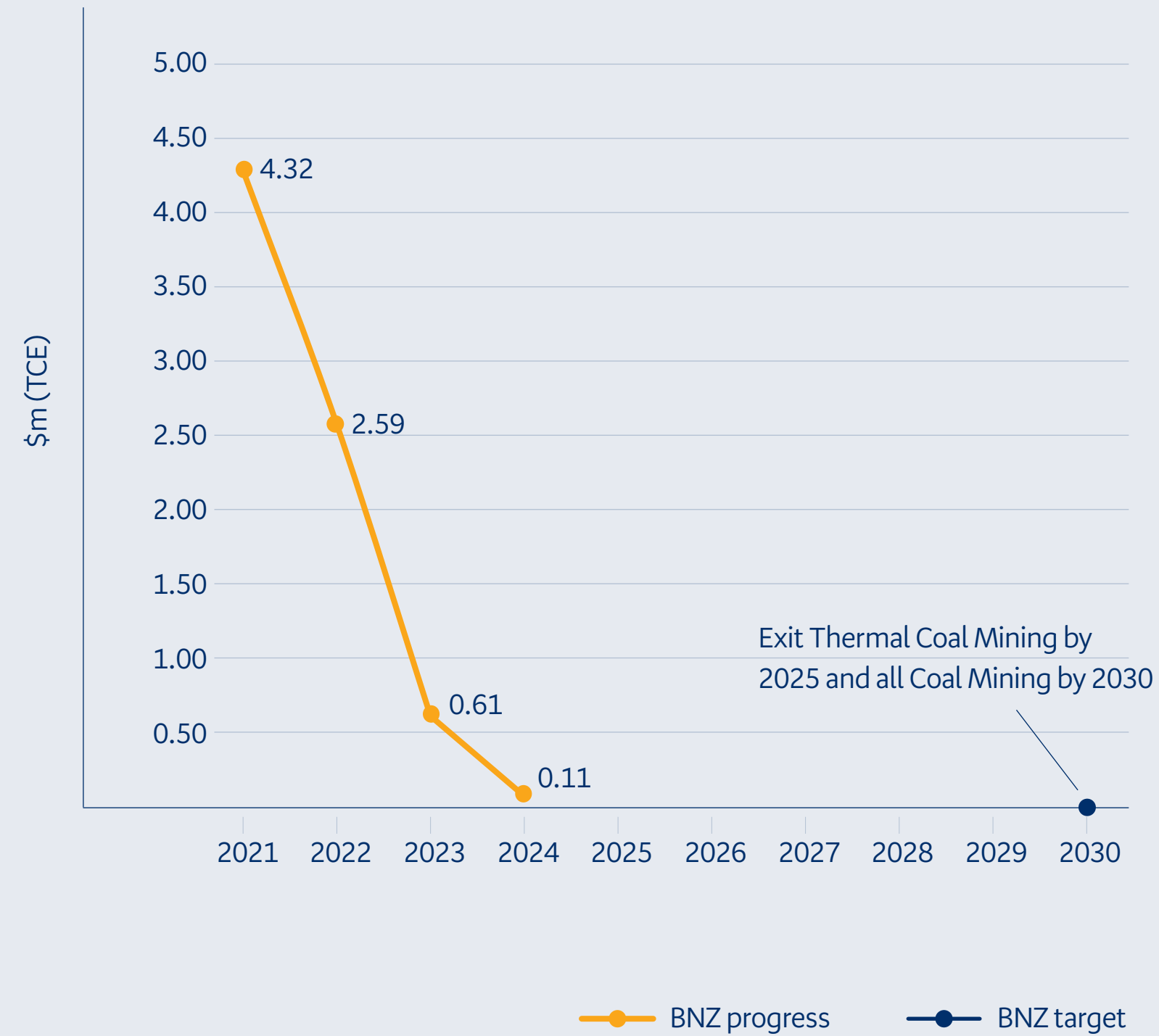


Table 21: Mining - coal sector key elements and approach selected

Key target elements	Approach selected
2021 baseline	\$4.32 million
2030 target	\$0
2050 target	\$0
Sector coverage (based on 1993 ANZSIC)	110101 Black Coal Mining - Coking 110102 Black Coal Mining - Steaming 110201 Brown Coal Mining 110202 Lignite Mining 110203 Peat Cutting
Reference scenario	Not applicable
Emissions scope	Not applicable
Target metric	Not applicable
Financing scope	Total Committed Exposure, excluding derivatives and bonds or guarantees associated with environmental rehabilitation
PCAF data quality score	Not applicable



## Residential real estate

### Target overview

The Residential real estate sector in New Zealand comprises over 2 million properties of which approximately 30-35% have mortgages. Residential households are responsible for around a third of the country’s electricity demand and 31% of New Zealand’s domestic economy emissions<sup>33</sup>. Of the energy delivered to households, approximately 26% are Scope 1 emissions, primarily from residential gas use, and approximately 74% are Scope 2 emissions from electricity consumption. BNZ's lending (TCE) to the Residential real estate sector totals \$62.7 billion representing around 40% of total BNZ TCE as at 30 September 2024.

BNZ has set an emission reduction target for its Residential real estate sector portfolio of a 34% decrease in emissions intensity (CO<sub>2</sub>e/m<sup>2</sup>) by 2030, against a 2023 baseline.

A physical emissions intensity target is a target which measures the amount of emissions produced per unit of production. Physical emissions intensity targets focus on improving the emissions efficiency of production processes. Where appropriate, they support growing a sector in a way that reduces absolute emissions overall.

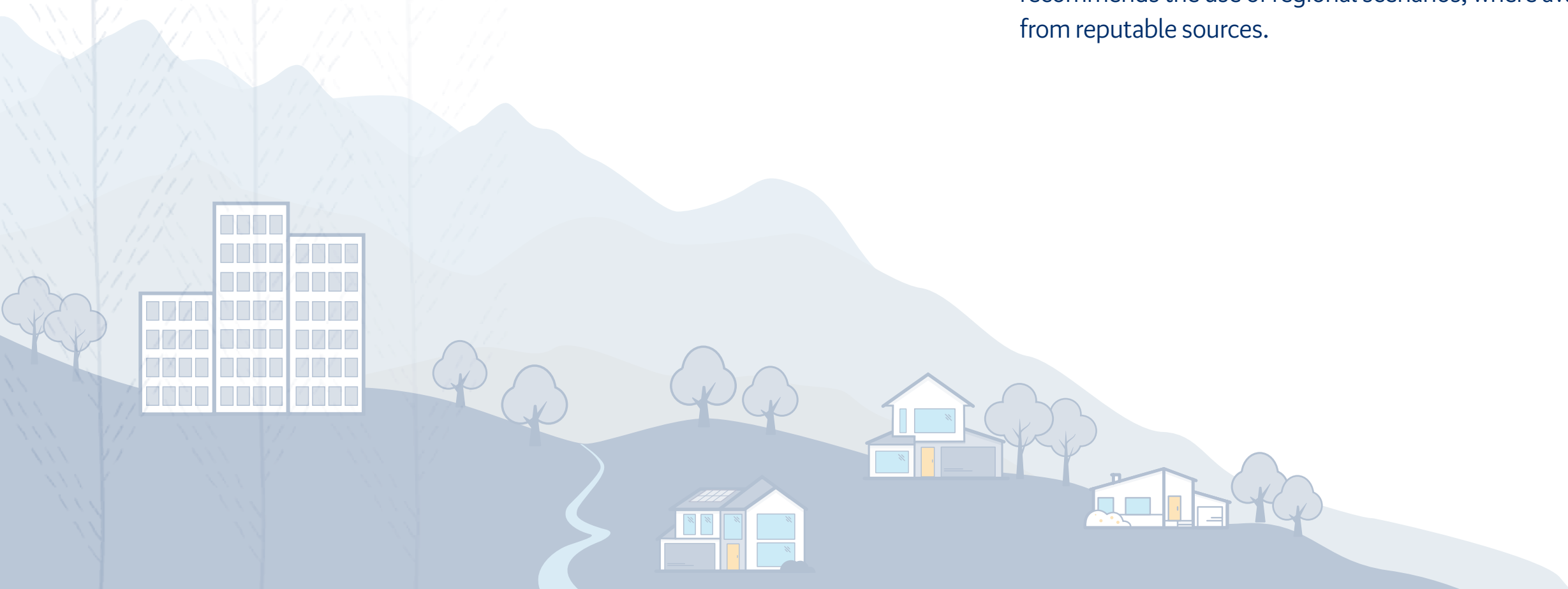
The impact of high rainfall resulting in increased hydro-generation, coupled with one of the warmest winters on record in 2023, resulted in a lower emissions intensity baseline for its Residential real estate portfolio. This is in contrast to 2024, which had higher emissions intensity than previous years. The interrelationship between weather changes impacting Power generation and Residential real estate energy use is likely to see the emissions intensity for both the Power generation sector target and the Residential real estate sector target fluctuate year on year with a downward trend towards its 2030 target. For an overview of BNZ's commitment to NZBA refer to page 33.

### Adopting the CCC Tailwinds Pathway

BNZ has adopted Climate Change Commission’s (CCC) Tailwinds pathway as its reference scenario for the Residential real estate sector then added floor area-related data to enable a target denominated in a physical intensity metric (CO<sub>2</sub>e/m<sup>2</sup>). Refer to Residential real estate target methodology in Appendix D for further detail. Tailwinds was considered the most appropriate scenario due to its applicability to New Zealand and transparency around its data and assumptions. There were no suitable local or global alternative pathways available to BNZ at the time of developing the target. The NZBA recommends the use of regional scenarios, where available, from reputable sources.

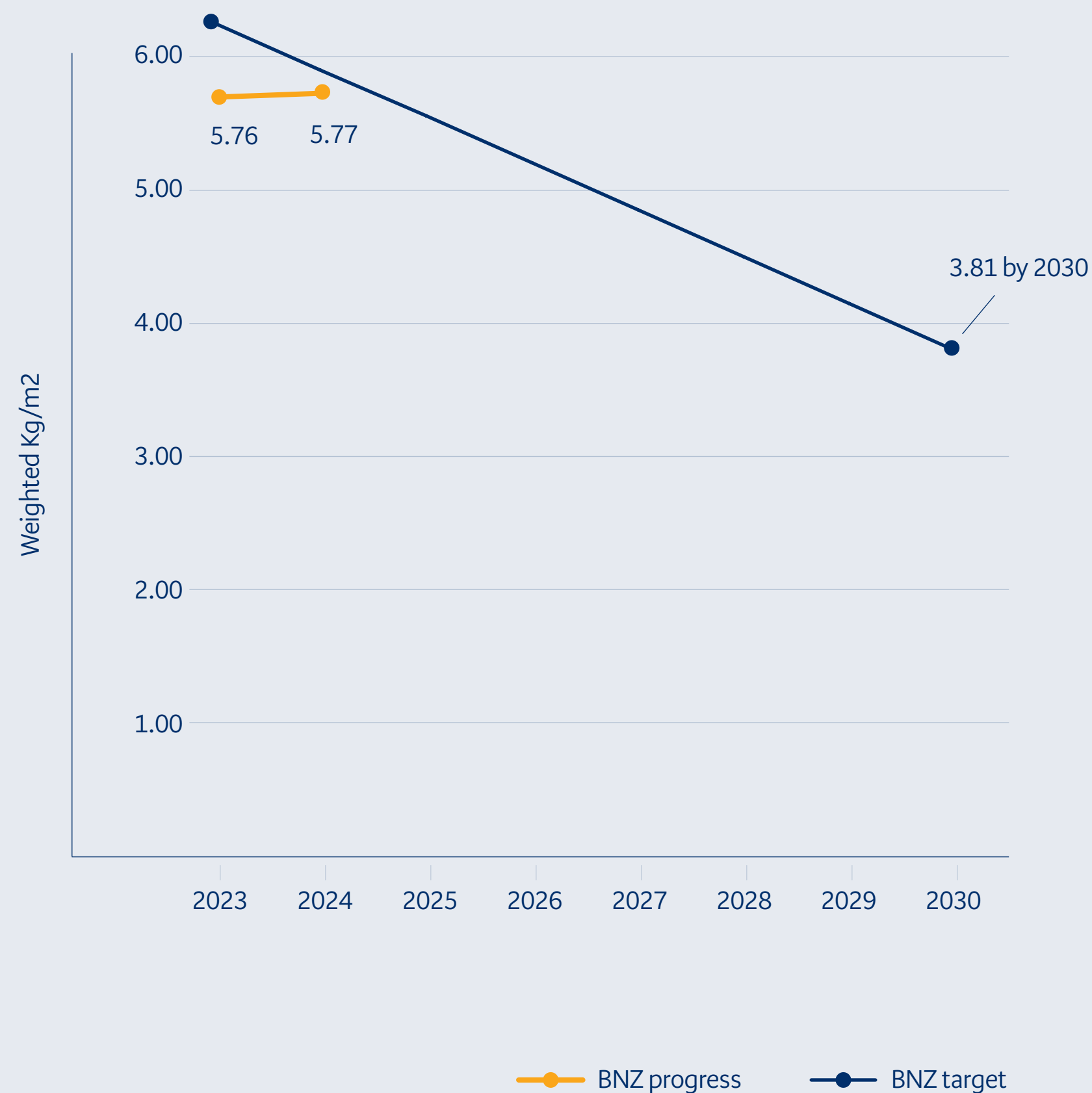
Table 22: Residential real estate sector key elements and approach selected

Key target elements	Approach selected
2023 baseline	5.76kg CO <sub>2</sub> e/m <sup>2</sup>
2030 target	3.81 kg CO <sub>2</sub> e/m <sup>2</sup> (-34% by 2030)
Sector coverage	All consumer lending products secured by a residential property
Reference scenario	CCC Tailwinds scenario (2021)
Emissions scope	Scope 1 and 2
Target metric	kg CO <sub>2</sub> e/m <sup>2</sup>
Financing scope	Total Committed Exposure
PCAF data quality score	4.04



## Residential real estate

Figure 18 : Residential real estate sector target graph and scenario reference



### Key scenario assumptions and dependencies

Key assumptions underpinning the CCC Tailwinds pathway for the Residential real estate sector include:

- Grid emission reductions – The CCC Tailwinds pathway relies on significant grid emission reductions between 2023 and 2030. Reducing emissions of New Zealand’s Power generation sector is integral to the delivery of the Residential real estate target. See details of the Power generation on page 56.
- Improving household energy efficiencies - this pathway assumes that heating demand will reduce between 2019 to 2035 through activities such as improved glazing (double or triple) and improved insulation.
- Reducing residential fossil fuel dependency - this pathway assumes that heating via fossil fuel will be phased out entirely for new buildings by 2028 and for existing buildings by 2050.

The Residential real estate target will be reviewed when the Power Generation sector target is reviewed on or before FY28. In addition, the Residential real estate target will be kept under assessment over the next 12 months. Refer to the Appendix D for detailed steps and additional assumptions.

### Sector transition planning underway

BNZ is currently developing a Residential real estate sector transition plan to support target delivery. BNZ does not intend to manage its target by restricting lending but instead by working to support emission reduction of the sector through a range of levers including, but not limited to, expanding existing and/or developing new propositions to support emission

reductions for homes either directly or via partnerships. BNZ’s current green home loan top-up supports reducing emissions for homes by discounted lending to reduce reliance on fossil fuels and improve in-home energy efficiency.

As BNZ provides lending to support the transition of the Residential real estate sector, absolute financed emissions reported in BNZ’s GHG Inventory may fluctuate as the quality and granularity of data improves overtime.

### Sourcing sector data

BNZ has calculated its attributable financed emissions intensity (scope 1 and 2) by aggregating the emissions and floorspace of its Residential real estate portfolio. Floor area data for each property was obtained from a third-party provider. Emissions were estimated at the regional level using externally sourced regional electricity consumption data, heating and cooling data by region, and relevant New Zealand emissions factors. Property-level data quality and composition are likely to improve over time.

<sup>33</sup> Domestic emissions are emissions that support our domestic economy, as opposed to trade emissions that are counted towards New Zealand’s emissions budget, yet turn out to be emissions that are associated with creating our exports for other countries (reference: [Electric Homes - Rewiring Aotearoa - March 2024.pdf \(storage.googleapis.com\)](#)).

# Appendix

# Appendix A – glossary:

This glossary incorporates the defined terms contained in the Aotearoa New Zealand Climate Standard 1 Climate-related Disclosures (NZ CS 1) issued by the XRB on 14 December 2022 and additional defined terms which are used in this Report.

Term	Definition
<b>2030 target</b>	The target BNZ has set to reach by the year 2030.
<b>ATM</b>	Automatic Teller Machine.
<b>ANZSIC</b>	Australia and New Zealand Standard Industrial Classification (a system enabling categorisation of customers by their principal industry sector).
<b>Baseline year/Base year</b>	An historical datum (a specific year or an average over multiple years) against which an entity’s metric is tracked over time.
<b>BNZ Properties</b>	BNZ Properties means all properties, or lettable spaces within a property, leased or used by BNZ for its operations. This includes corporate offices, branches, customer connection hubs, Partners Centres and ATMs.
<b>Carbon dioxide equivalent / CO2e</b>	The universal unit of measurement to indicate the global warming potential of each of the seven GHGs, expressed in terms of the global warming potential of one unit of carbon dioxide for 100 years. It is used to evaluate releasing (or avoiding releasing) any GHGs against a common basis.
<b>Climate-related opportunities</b>	The potentially positive climate-related outcomes for an entity. Efforts to mitigate and adapt to climate change can produce opportunities for entities, such as through resource efficiency and cost savings, the adoption and utilisation of low-emissions energy sources, the development of new products and services, and building resilience along the value chain.
<b>Climate-related risks</b>	The potential risks that may arise from climate change or from efforts to mitigate climate change, their related impacts, and their economic and financial consequences for BNZ and its customers or suppliers. See also the definitions of physical risks and transition risks.
<b>Climate-related scenario</b>	A plausible, challenging description of how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces and relationships covering both physical and transition risks in an integrated manner. Climate-related scenarios are not intended to be probabilistic or predictive, or to identify the ‘most likely’ outcome(s) of climate change. They are intended to provide an opportunity for entities to develop their internal capacity to better understand and prepare for the uncertain future impacts of climate change.
<b>Climate Standards</b>	Standards issued by the External Reporting Board that comprise the climate-related disclosure framework, available at <a href="#">Aotearoa New Zealand Climate Standards » XRB</a>
<b>Climate statements</b>	Climate statements have the meaning set out in section 5 of the Financial Reporting Act 2013.

Term	Definition
<b>Climate Strategy</b>	BNZ’s Climate Strategy, finalised in June 2022.
<b>Emission factor</b>	A factor allowing GHG emissions to be estimated from a unit of available activity data (for example, tonnes of fuel consumed, tonnes of product produced) and absolute GHG emissions.
<b>Emissions intensity</b>	Intensity ratios express GHG emissions impact per unit of physical activity or unit of economic output. A physical intensity ratio is suitable when aggregating or comparing across entities that have similar products. An economic intensity ratio is suitable when aggregating or comparing across entities that produce different products. A declining intensity ratio reflects a positive performance improvement. Intensity ratios are also often called normalised environmental impact data.  Examples of intensity ratios include product emission intensity (for example, tonnes of GHG emissions per electricity generated); service intensity (for example, GHG emissions per function or service); and sales intensity (for example, emissions per sales).
<b>Emissions scope</b>	The emissions that are in scope of the target. Scope 1, 2 and/or 3 emissions may be in scope of the target.
<b>Facilitated emissions</b>	Facilitated emissions differ from financed emissions in two respects: they are rarely held on a financial institution’s balance sheet (representing services rather than financing); and a financial institution’s association with the transaction is temporary. PCAF views facilitation as a separate but important metric, which exerts a material impact on the direction of capital towards economic activities that will enable the transition to net-zero by 2050.  Definition sourced from <a href="#">PCAF_PartB_DesignDraft_v9b (carbonaccountingfinancials.com)</a>
<b>Financial impacts</b>	The translation of impacts into current or anticipated impacts on financial performance, financial position, and cash flows.
<b>Financing scope</b>	Types of financing and products that are in and out of scope of the target.
<b>FTE</b>	Full-time equivalent (employee).
<b>Global warming potential / GWP</b>	A factor describing the radiative forcing impact (degree of harm to the atmosphere) of one unit of a given GHG relative to one unit of carbon dioxide (CO2).
<b>Governance body</b>	A board, investment committee or equivalent body charged with governance.
<b>Greenhouse gas / GHG</b>	The greenhouse gases listed in the Kyoto Protocol: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), nitrogen trifluoride (NF3), perfluorocarbons (PFCs), and sulphur hexafluoride (SF6).

Term	Definition
<b>Gross emissions</b>	Emissions are the release of GHGs into the atmosphere. Gross emissions are total GHG emissions excluding any removals, and excluding any purchase, sale, or transfer of GHG emission offsets or allowances. Gross scope 2 emissions must be calculated using the location-based method.
<b>Gross Loans and Advances to Customers</b>	Is a specific balance sheet line item in the BNZ Disclosure Statement. Gross Loans and Advances to Customers are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They arise when BNZ provides money or services directly to a customer and has no intention of trading the loan. Gross Loans and Advances to Customers excludes loans due from central banks and other institutions which are presented separately in the Disclosure Statement.
<b>ICAAP</b>	BNZ's conditions of registration (as set by RBNZ) require it to have an internal capital adequacy assessment process (ICAAP) for assessing its overall capital adequacy in relation to risk profile and a strategy for maintaining adequate capital to support risks.
<b>Intensity target</b>	A target defined by a change in the ratio of emissions to a metric over time.
<b>Management</b>	Executive or senior management positions generally separate from the governance body.
<b>NAB</b>	National Australia Bank Limited ABN 12 004 044 937, BNZ's ultimate parent company.
<b>OA</b>	OA refers to the actual outstanding loan amount i.e., the value of the debt that the borrower owes to the lender (i.e., disbursed debt minus any repayments).
<b>PCAF</b>	Partnership for Carbon Accounting Financials.
<b>PCAF data quality score</b>	BNZ follow the Partnership for Carbon Accounting Financials (PCAF) guidance for estimating the emissions data quality BNZ used for calculating financed emissions. A score of one is best and reflects verified and disclosed emissions. A score of five is worst and reflects poor emissions data quality. BNZ recognises that using TCE is an extension of the PCAF methodology, which is a departure from PCAF guidance.
<b>Physical risks</b>	Risks related to the physical impacts of climate change. Physical risks emanating from climate change can be event-driven (acute) such as increased severity of extreme weather events. They can also relate to longer-term shifts (chronic) in rainfall and temperature and increased variability in weather patterns, such as sea level rise.
<b>Reference scenario</b>	This is the scenario BNZ has used as a basis for a target. The year stated in brackets indicates the year the scenario was released.
<b>RBNZ</b>	Reserve Bank of New Zealand – Te Pūtea Matua
<b>Restatement</b>	The meaning of the term 'restatement' when used in these statements is consistent with NZ CS 3, clauses 44-46.
<b>Scenario analysis</b>	A process for systematically exploring the effects of a range of plausible future events under conditions of uncertainty. Engaging in this process helps an entity to identify its climate-related risks and opportunities and develop a better understanding of the resilience of its business model and strategy.
<b>Scope 1</b>	Direct GHG emissions from sources owned or controlled by the entity.
<b>Scope 2</b>	Indirect GHG emissions from consumption of purchased electricity, heat, or steam.

Term	Definition
<b>Scope 3</b>	Other indirect GHG emissions not covered in scope 2 that occur in the value chain of the reporting entity, including upstream and downstream GHG emissions. Scope 3 categories are purchased goods and services, capital goods, fuel-related and energy-related activities, upstream transportation and distribution, waste generated in operations, business travel, employee commuting, upstream leased assets, downstream transportation and distribution, processing of sold products, use of sold products, end-of-life treatment of sold products, downstream leased assets, franchises, and investments.
<b>Target Disclosure</b>	BNZ's Net Zero Banking Alliance targets disclosure, published in May 2023.
<b>Target metric</b>	Targets can be absolute emissions or physical intensity targets. Absolute emissions targets are usually measured in tCO <sub>2</sub> e, whereas physical intensity targets are usually measured in tCO <sub>2</sub> e/unit of production.
<b>TCE</b>	Total Committed Exposure (TCE) refers to the Gross Loans and Advances made to BNZ customers, plus irrevocable commitments to extend credit, and excluding revocable commitments to extend credit. Irrevocable commitments to extend credit are agreements to lend to a customer which can be drawn down at any time before the commitments expire as long as there is no violation of any condition established in the contract. Revocable commitments to extend credit represent those facilities which can be cancelled at any time at the Banking Group's discretion without the risk of incurring significant penalty or expense. These facilities are generally on-demand.  For example, a customer may have \$0.5 million outstanding to the bank, but we have a TCE to the customer of \$2 million, meaning an additional \$1.5 million can be borrowed by that customer if relevant conditions are met.
<b>Transition risks</b>	Risks related to the transition to a low-emissions, climate-resilient global and domestic economy, such as policy, legal, technology, market and reputation changes associated with the mitigation and adaptation requirements relating to climate change.
<b>XRB</b>	External Reporting Board, issuer of the Climate Standards.
<b>Value chain</b>	The full range of activities, resources and relationships related to an entity's business model and the external environment in which it operates. A value chain encompasses the activities, resources, and relationships an entity uses and relies on to create its products or services from conception to delivery, consumption, and end of life. Relevant activities, resources and relationships include those in an entity's operations, such as human resource, those along its supply, marketing, and distribution channels, such as materials and service sourcing and product and service sale and delivery, and the financing, geographical, geopolitical, and regulatory environments in which an entity operates.

# Appendix B – strategy methodology, key assumptions and limitations

This appendix provides further information in relation to the approach for the analysis discussed in the Strategy section of these Statements. BNZ is at an early stage of understanding climate-related impacts on BNZ, and the approach set out below does not cover all risks that may affect BNZ and/or its customers, nor has BNZ yet assessed all risks using the same methodologies. The limitations to BNZ’s approach are discussed below.

- Drafting by the facilitator and an experienced narrative specialist substantially expedited the time required resulting in more efficient allocation and utilisation of both consultant and BNZ time.
- The climate change experts have specialist insight that ensured that the narratives are internally consistent.
- BNZ reviewed the narratives to ensure that the language/framing used is suitable for senior management.

## Limitations – climate scenario analysis

Drafting of the scenario narratives was led by the scenario projects external facilitator, a third-party climate change specialist (Informed.City, supported by Chermack Scenarios). This approach, while different from guidance,<sup>34</sup> was taken for the following reasons:

- The facilitator briefed BNZ on the narration process thus building internal capability and BNZ worked closely with the third parties throughout the process.

The narratives present plausible, alternative futures and are not probabilistic predictions. These narratives do not represent a view of the ‘most likely’ outcomes of climate change, rather they have been developed and used as scenarios to better understand and prepare for the uncertain future impacts of climate change.

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<sup>34</sup> In its most recent guidance the XRB (2023b, p. 38) stipulates that “participants should be involved in the drafting of scenarios, not just the facilitator or consultants”.

## Methodology – physical risk

### Current impacts:

BNZ considered external sources for adverse weather events, including MPI’s adverse event classification system and the National Emergency Management Agency. The MPI classifies adverse events (which includes natural disasters, severe weather, and biosecurity incursions) as either localised, medium, or large-scale events. Event Classification Medium and above were noted. All National Emergency Management Agency events were noted.

### Quantitative physical risk analysis:

#### Climate models

BNZ has used climate change models to support its assessment of climate-related risks and opportunities. Climate models use robust scientific principles to show how GHG emissions are projected to drive physical environmental changes. BNZ used CMIP6 (refer to footnote 14 for a description) climate model projections that show the potential exposure of physical risks under differing future temperatures.

The extent of underlying GHG emissions is based on a range of socio-economic futures, known as Shared Socioeconomic Pathways (SSP<sup>35</sup>). SSPs show a range of potential global warming impacts over the coming century (Table 23). The

results of these models are used by the Intergovernmental Panel on Climate Change (IPCC) and others.

It is important to note that climate models are projections, not predictions, of a future state and do not capture the full extent of physical hazards. Climate models are not linear, and are also independent of each other, which means that SSPs can show different exposures to physical risk over time.

In FY24, BNZ moved to SSP1-2.6 from SSP1-1.9 (the latter being used as the lower bound in FY23 quantitative physical risk analysis) for greater alignment with peers and other industry bodies, and because SSP1-2.6 physical impacts - often used in 1.5°C scenarios - are seen as more plausible.

<sup>35</sup> Riahi K, Vuuren DP van, Kriegler E, Edmonds J, O’Neill BC, Fujimori S, Bauer N, Calvin K, Dellink R, Fricko O, Lutz W, Popp A, Cuaresma JC, KCS, Leimbach M, Jiang L, Kram T, Rao S, Emmerling J, Ebi K, Hasegawa T, Havlik P, Humpenöder F, Silva LAD, Smith S, Stehfest E, Bosetti V, Eom J, Gernaat D, Masui T, Rogelj J, Strefler J, Drouet L, Krey V, Luderer G, Harmsen M, Takahashi K, Baumstark L, Doelman JC, Kainuma M, Klimont Z, Marangoni G, Lotze-Campen H, Obersteiner M, Tabeau A and Tavoni M (2017) ‘The Shared Socioeconomic Pathways and their energy, land use, and greenhouse gas emissions implications: An overview’, Global Environmental Change, 42:153–168, <https://www.sciencedirect.com/science/article/pii/S0959378016300681>

Table 23: Description of SSPs and associated CMIP6 annual mean surface air temperature anomalies (OC)

Pathway (SSP number and corresponding RCP)^	SSP1-1.9	SSP1-2.6	SSP2-4.5	SSP5-8.5
Change in °C for 2041-2060*	1.7°C (1.1 – 2.4°C)	1.7°C (1.3 – 2.2°C)	2.1°C (1.5 – 3.0°C)	2.6°C (1.8 – 3.4°C)
Change in °C for 2081-2100*	1.5°C (1.0 – 2.2°C)	1.8°C (1.3 – 2.4°C)	2.9°C (2.1 – 4.0°C)	4.8°C (3.6 – 6.5°C)
Description	Sustainability – Taking the Green Road	Middle of the Road	Fossil-fuelled Development – Taking the Highway	
Summary of SSP narratives <sup>35</sup>	SSP1: The world shifts gradually, but pervasively, toward a more sustainable path, emphasizing more inclusive development that respects perceived environmental boundaries. Management of the global commons slowly improves, educational and health investments accelerate the demographic transition, and the emphasis on economic growth shifts toward a broader emphasis on human well-being. Driven by an increasing commitment to achieving development goals, inequality is reduced both across and within countries. Consumption is oriented toward low material growth and lower resource and energy intensity.	SSP2: The world follows a path in which social, economic, and technological trends do not shift markedly from historical patterns. Development and income growth proceeds unevenly, with some countries making relatively good progress while others fall short of expectations. Global and national institutions work toward but make slow progress in achieving sustainable development goals. Environmental systems experience degradation, although there are some improvements and overall, the intensity of resource and energy use declines. Global population growth is moderate and levels off in the second half of the century. Income inequality persists or improves only slowly and challenges to reducing vulnerability to societal and environmental changes remain.	SSP5: This world places increasing faith in competitive markets, innovation, and participatory societies to produce rapid technological progress and development of human capital as the path to sustainable development. Global markets are increasingly integrated. There are also strong investments in health, education, and institutions to enhance human and social capital. At the same time, the push for economic and social development is coupled with the exploitation of abundant fossil fuel resources and the adoption of resource and energy intensive lifestyles around the world. All these factors lead to rapid growth of the global economy, while global population peaks and declines in the 21st century. Local environmental problems like air pollution are successfully managed. There is faith in the ability to effectively manage social and ecological systems, including by geo-engineering if necessary.	
Challenges	Low challenges to mitigation and adaptation.	Medium challenges to mitigation and adaptation.	High challenges to mitigation, low challenges to adaptation.	

^ In climate models, the number following ‘SSP’ represents a specific ‘warming level’. In simple terms the higher the number the higher the global warming. It should be noted that the SSPs do not include the impacts of climate change in the models (i.e. they describe projected socio-economic changes, but do not incorporate physical impacts of climate change and associated impacts within the socio-economic system).

\* Denotes the change in annual mean surface air temperature. Displayed are multi-model averages and the numbers in parentheses indicate the 5–95% ranges for selected time periods and SSPs. Change is in annual mean surface air temperature relative to 1850–1900 (pre-industrial levels).

BNZ used ClimSystems Ltd (ClimSystems) to perform the modelling of the climate data and BNZ performed the building overlay analysis. The overlay analysis method uses the spatial layer of a physical risk (e.g. flooding) and overlays it with a layer of the building footprints or land parcel to determine exposed sites.

For ClimSystems to analyse the impacts of sea level rise, 1m resolution LiDAR and 8m resolution Digital Elevation Model (DEM) data was provided by Toitū Te Whenua Land Information New Zealand (LINZ). However, the data covered only parts of New Zealand. For the areas without this data, the 30-meter spatial resolution global remote sensing Digital Terrain Model (DTM) data was applied as an alternative. The components of sea level rise have been calculated at the local area level, by evaluating the normalised monthly sea level rise patterns at the given location applied to the global mean sea level rise for the selected pathway and year, in addition to the Vertical Land Movement values obtained from stations at the studied location. For the global sea level rise, the regional pattern of thermal expansion was approximated using a pattern-scaling method derived from international research and IPCC guidance.

For ClimSystems to analyse the fluvial and pluvial flood depths, a two-dimensional flood simulation approach was used. The fluid model was applied to the ground elevation derived from the DTM using a model grid cell resolution set to 30m, to account for the lowest resolution. Where LiDAR data of a higher resolution was available, sampling was used to provide an average elevation estimate for a 5m grid. The flood model included parameters to represent surface roughness, ground infiltration, natural water levels and extreme rainfall events.

BNZ overlaid the ClimSystems climate files on the LINZ building footprint data and calculated both the mean inundation depth and percentage inundation across all buildings on the site location. BNZ is not able to reliably identify the ‘main’ building on the site and recognises that ‘non-main’ buildings e.g. a standalone garage may still have monetary value. For rural property flooding, BNZ used the entire parcel as it represents the asset at risk. For drought and heat stress analysis of rural properties, BNZ used the parcel centroid as the best estimate of the mean.

### Understanding the percentiles of climate models

Although all climate models use well-established scientific principles, each model uses slightly different approaches that, in turn, produce different outputs. These outputs can be represented using percentiles which denote the threshold of a collection of model results. The 50th percentile is used to show the middle value of the model results and the 99th percentile indicates the potential outlier exposure. For example, the illustrative figure below shows that the TCE of BNZ properties exposed to coastal inundation in 2050 can range from \$2,531m (5th percentile) through to an outlier 99th percentile of \$4,078m (under SSP5-8.5 climate model).

BNZ internally analysed four percentiles (5th, 50th, 95th and 99th) for each climate model. Exploring this range allows BNZ to internally understand the bounds of the model outputs and the extent of BNZ and its customers' exposure to physical risks. However, the results of climate models generate a large range of data. For ease of readability, unless otherwise stated in the text (Section 2.5) and in this appendix, all data disclosed uses SSP5 - 8.5, Fossil-fuelled Development - Taking the Highway and 99th percentile as this highlights the outlier model risk of BNZ’s potential exposure to physical risks.

Figure 19: Illustration of the difference in exposure to coastal inundation under different percentiles of the SSP5 8.5 climate model

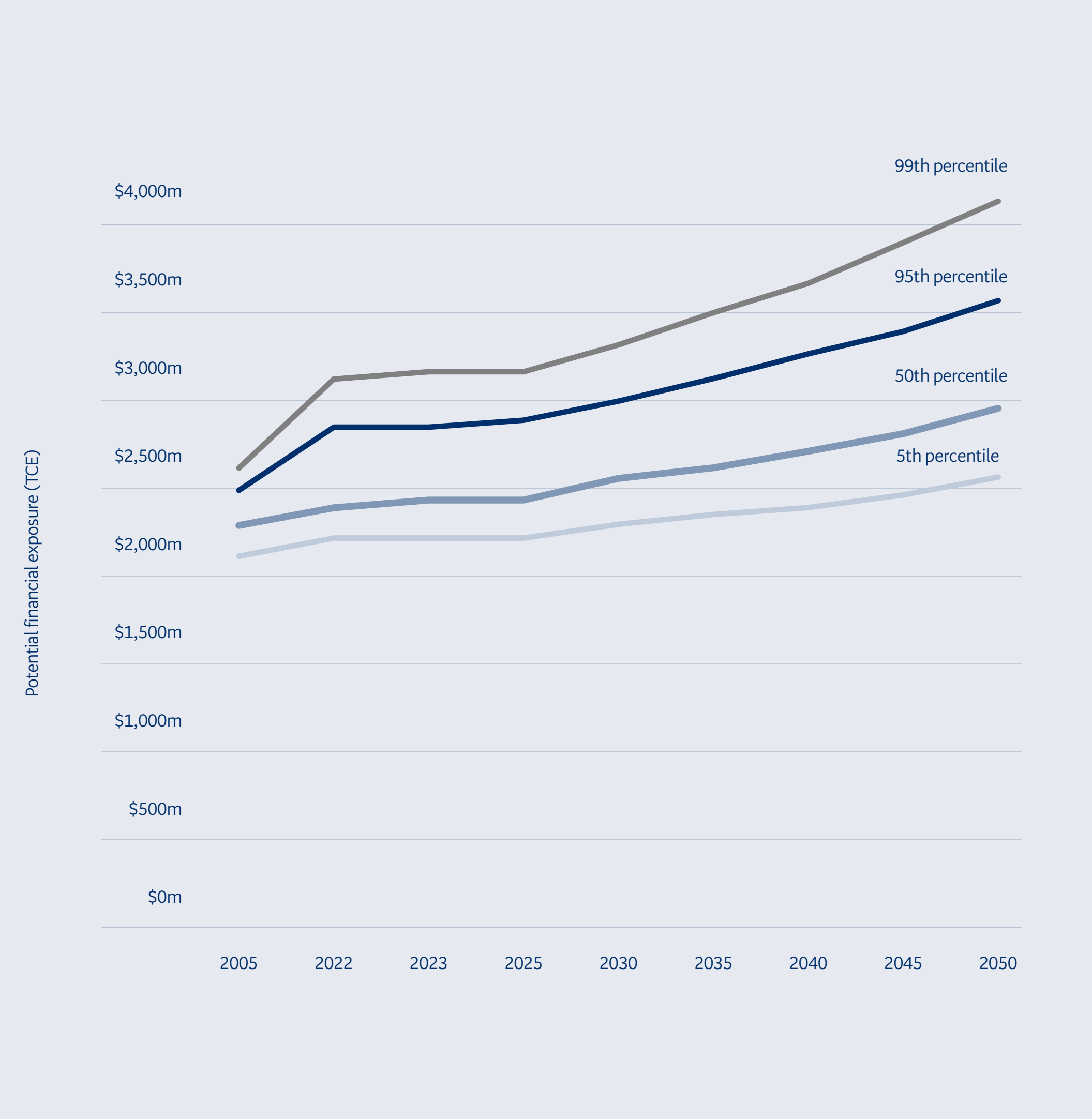
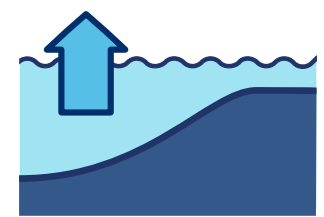



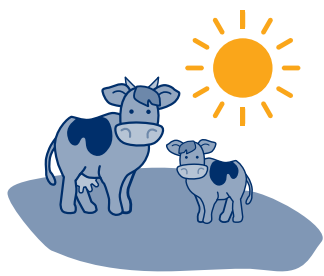


Table 24

Physical risk climate variables		
	Sea level rise inundation	Sea level rise inundation refers to permanent flooding of low-lying coastal land due to a climate change-induced increase in the average height of the sea where it meets the land. This risk considers regional variations in sea level change and projected vertical land movement under different climate models.
	Coastal inundation	Coastal inundation refers to temporary flooding of low-lying coastal land and estuaries due to the combination of a storm tide event, wind and pressure changes, and local sea level rise (including vertical land movement). For coastal inundation, there is an estimated 1-in-100-year chance of coastal inundation occurring on any customer property (1% annual exceedance probability (AEP) <sup>36</sup> ).
	Flooding	Flood refers to temporary flooding caused by rivers overflowing (fluvial) and an extreme rainfall event (pluvial). For this risk, there is an estimated 1-in-100-year chance of flooding occurring on any customer property (1% AEP). The flood model integrates the digital elevation of the land and a storm profile, combined with surface roughness and infiltration, to provide the potential flood risk for different climate models.
	Drought	Drought analysis uses the Standardised Precipitation Evapotranspiration Index (SPEI). SPEI is a multi-scalar drought index which can account for both intensity and duration of droughts. It is modelled using the monthly (or weekly) difference between rainfall and potential evapotranspiration to represent a simple climatic water balance. BNZ analysis shows the annual percentage probability of a given location property experiencing a three month drought.
	Livestock heat stress	Livestock heat stress is measured using the Temperature Humidity Index (THI) for livestock, which accounts for the combined effects of environmental temperature and relative humidity. BNZ analysis shows the expected number of days a property may be subject to various levels (no, mild, severe, extreme, and death) of temperature and humidity.

These physical risk climate variables can cause damage to properties used to secure loans to customers and result in cascading transition risks (e.g. insurance retreat, reduced property value prices, and local government land use restrictions). These physical risks were also chosen as they broadly align with risk analysis BNZ has conducted for stress testing and climate scenario analysis.

Limitations:

- BNZ is aware that there are physical risks that it has not yet considered in this analysis. These include, for example, wildfires, windstorms, landslips, cyclones, saline intrusion of aquifers, extreme heat, and hail. BNZ intends to continue to build on its climate impact assessment across its business.
- BNZ uses TCE throughout these statements to assess climate-related risk and opportunity. The BNZ financial statements use Exposure at Default, and BNZ recognises this as a limitation in terms of comparability between the two reports.
- The FY23 Climate Report performed modelling using the area of the parcel of land which may not reflect the actual building footprint on the property. For FY24, BNZ assessed impacts to the building footprint for Residential and Commercial properties to determine exposed sites. Rural properties are still assessed using the area of the parcel of land. There are other differences including how BNZ presents sectors in the FY24 Climate Statements compared to the FY23 Climate Report, therefore, assessments in the previous FY23 voluntary climate report are not directly comparable with the assessments in the FY24 mandatory Climate Statements.
- For Residential and Commercial properties where BNZ cannot map a building location due to data availability, the exposure of the land parcel is used as a proxy estimate.
- The degree to which the collateral or security for a loan is affected will be determined by the size of the land parcel, proximity to lifeline utilities, and the ability for adaptation actions to be applied. The cascading impacts of physical risks can also lead to broader transition risks e.g. market demand and regulatory changes.

- We expect all thresholds to improve in sophistication as additional data points become available and are included. For example, physical flood impacts are assessed using the building footprint and do not consider floor level height as BNZ does not have floor level height data for the portfolio.

Other limitations or exclusions include:

- the analysis is non-amortised, static (i.e. assumes no increase or decrease) TCE of Gross Loans and Advances to Customers;
- velocity of water and debris within the flood (e.g. forestry slash);
- individual building characteristics and adaption options;
- vulnerability, adaptive capacity, or sensitivity of customers;
- broader market or macroeconomic forces, such as future values of properties, and whether properties are likely to maintain insurability;
- compounding and confluence events, such as a storm surge coinciding with a fluvial or pluvial flooding event; and
- other limitations associated with third party modelling.

All the above limitations or exclusions, if known, would provide more granular insights in relation to the risks analysed and discussed.

<sup>36</sup> Annual exceedance probability (AEP) is the probability of a certain sized flood occurring in a single year. For example, 1% AEP means conditions that are estimated to have a 1-in-100 chance of occurring on a particular property in any given year (and an average likelihood of occurring once every 100 years).

## Residential and commercial property methodology

1. Scope: Residential property type includes Residential Property Freehold and Residential Property Leasehold. The Commercial property type includes Commercial Property Freehold, Commercial Property Leasehold, Industrial Property Freehold, Industrial Property Leasehold. Sub-types include warehousing, industrial, manufacturing, offices, retail, hotels, vacant land.
2. Threshold design:
  - a. Flood: BNZ used flood fragility curves from a NIWA Technical Report<sup>37</sup> for exposure to flooding. Moderate (repairable structural) damage would occur at >0.2m depth inundation, and Severe damage would occur at depths of >1.6m depths or above. Severe exposure is irreparable structural damage that could result in a complete write off of the asset.
  - b. Coastal inundation: Moderate (>0.2 depth) and Severe (>1.6 depth) damage ratios may indicate exposure.
  - c. Sea level rise: Given the chronic nature of sea level rise risk, any inundation by sea level rise is classed as exposure.
3. Percentile: reported at the 99th percentile.
4. Limitations and assumptions:
  - a. A limitation of the flood and coastal inundation analysis is that the same risk fragility thresholds were applied across Residential and Commercial properties. These are described as suitable for residential and commercial buildings like offices and schools, however NIWA<sup>37</sup> notes that industrial and warehouse buildings are structurally different.

## Rural property methodology

BNZ's Rural property type includes the following categories: Sheep Farm, Beef Farm, Orchard, Crop Farm, Dairy Farm, Mixed Farm, Market Garden, Horticultural, Farmlot, Deer Farm, Pig Farm, Forest, Poultry Farm, and Vineyard. 'Lifestyle blocks' fall under Residential and not 'Rural', even though they might be in a rural area. This is because these properties are not dependant on their rural location for a revenue stream and their ability to service debt, in the same way a farm might be.

## Flooding, coastal inundation and sea level rise:

1. Scope: All rural properties.
2. Threshold design:
  - a. Flood: A combined metric of 10% pasture coverage and mean depth bands to measure flood risk. A Severe threshold may be defined by >10% parcel inundation and flood depths 1.5m or greater.
  - b. Coastal inundation: >10% pasture coverage.
  - c. Sea level rise: Any exposure to sea level rise is an appropriate threshold given the significant impacts of permanent inundation.
3. Percentile: 99th.
4. Limitations and assumptions:
  - » For flood and sea level rise, pasture inundation does not consider location of assets, for example, buildings, irrigation systems, roads, and energy systems on the farm.
  - » BNZ anticipates different impacts across agriculture subsectors e.g. horticulture as distinct from livestock farms. In this Statement, BNZ has considered a joint threshold across subsectors.

## Drought:

1. Scope: Non-irrigated dairy and the sheep and beef portfolios.
2. Threshold design: Equal-interval severity bands (<20%, 20-30%, 30-40%, 40-50%, >50%) to measure change in portfolio exposure. These bands represent the percentage probability of a short-term drought occurring in a given year (short term drought is defined by a three month hydrological drought). At this stage no single band has been selected as an exposure threshold.
3. Percentile: Incorporating climate model uncertainty, by continuing to consider outlier risk (99th) at the portfolio-level but using median (50th percentile) exposure for regional comparisons. Regional drought data is reported at the 50th percentile as this is more consistent with literature and SME expectations that the trends at the 99th.
4. Limitations and assumptions:
  - » The presence of irrigation decreases farm vulnerability to drought (it is an assumption that water take permits remain in place which may not be the case).
  - » BNZ only collects irrigation status for its lending to dairy cattle farms; analysis for this Statement assumes sheep and beef farms are largely unirrigated.
  - » Drought analysis does not yet cover sectors beyond non-irrigated dairy cattle, and sheep and beef, even though other sectors may be impacted.
  - » Analysis for this Statement assumes farmers make provision for a 3-month drought, and that the impact of longer drought may be more harmful.
  - » Despite research estimating future drought levels, there is little empirical research quantitatively linking SPEI probability to farm productivity losses. Therefore, it is difficult to define a single threshold for which SPEI levels would start to materially impact farm productivity.

## Livestock heat stress:

1. Scope: dairy-cattle portfolio.
2. Threshold design: Using the severe heat stress value and a combination of metrics to measure heat stress risk, which considers multiple indicators including projected exposure and change over time. This combination highlights farms which see both more than one day in projected heat-stress exposure and a more than one day increase in exposure over time.
3. Percentile: Estimating severe heat stress exposure at the median (50th) percentile. This is because the severe heat stress categorisation is sensitive to small changes in underlying temperature and humidity which leads to greater uncertainty than other climate-related variables. Reporting heat stress at the 50th percentile reduces that uncertainty.

## Vulnerability

The percentage of BNZ TCE vulnerable to physical risk (Section 4.3) has been defined by BNZ as the Percentage of TCE of properties used to secure lending exposed to one or more physical risk. This is calculated by summing the percentage of TCE of properties that meet any of the exposure criteria:

- Residential and commercial: Severe flood and coastal inundation exposure, or any exposure to sea level rise.
- Rural: Severe flood, coastal inundation at >10% pasture coverage, any exposure to seal level rise, or Severe heat stress. Drought exposure is not included as this does not have a single exposure threshold defined for risk purposes.

<sup>37</sup> NIWA (2010). RiskScape: Flood fragility methodology. NIWA Technical Report: WLG2010-45 August 2010 NIWA Project: RSKA11

## Methodology – quantitative transition risk analysis: Estimating high emissions-intensive industries

For the transition risk analysis, BNZ has used both quantitative and qualitative methods to understand its current and anticipated impacts from transition risks (refer to Table 1).

Current impacts: BNZ has identified high emissions-intensive industries which can show which sectors are most exposed to current transition risk. BNZ financed emissions intensity was categorised by High, Medium or Low levels that were defined based on MBIE10 categorisation of emissions intensity. Only industry-related loans<sup>38</sup>, representing approximately 48% of BNZ’s TCE of Gross Loans and Advances to Customers, are captured for this analysis. The limitations of our transition risk analysis are that:

- Loans with no industry classification have been excluded;
- It does not reflect an analysis of the full scope of transition risk (e.g., market, technology, and other risks);
- It does not reflect a specific sector or individual customer’s ability to respond to transition risk i.e. the nature, speed, or scale of their response to the impact;

- The emissions intensity of an industry is not necessarily a predictor of the impacts some sectors will face in the transition to a lower emissions economy;
- Some sectors may be able to adapt more easily than others and should face lower abatement costs;
- We have not assessed the impacts that different industries may experience over the course of transition - We anticipate future Government policy decisions will be a key factor;
- We have not assessed the costs associated with physical risks together with these transition risks; and
- We have not yet conducted analysis of the financial impact of our transition risk analysis on BNZ’s portfolio.

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<sup>38</sup> Loans with an Australian and New Zealand Standard Industrial Classification (ANZSIC) code.

# Appendix C – GHG emissions measurement and reporting approach and operational emissions methodology

Table 25 below summarises current measured and reported categories and where applicable exclusions.

## Operational emissions methodology, key assumptions, and limitations

BNZ measures and manages its operational emissions using ESP CSR carbon reporting software.

For operational emissions, relevant emission factors are applied to activity data to calculate emissions. Global warming potentials (GWP) depend on the emission factor sources BNZ uses and they primarily stem from IPCC's Fifth Assessment Report (AR5) with some referencing to AR4 as indicated below. Where required, BNZ has utilised internationally recognised emission factors as allowable under the GHG Protocol. Where available, operational emissions are based on emission factors sourced from:

- Ministry for the Environment NZ (MfE), Measuring Emissions: A Guide for Organisations (2024) (GWP AR5).
- Department for Energy Security and Net Zero (DESNZ) UK Government GHG conversion factors 2024. (GWP AR5).

Otherwise, emission factors have been sourced from:

- Toitū Envirocare for upstream purchased electricity and fuels (GWP AR5);
- Carbon Reduction Initiative (CRI) LCA (2023) NXP AR5 and EPA Victoria Greenhouse Gas Inventory and Management Plan 2020 to 2021 for purchased paper emission factors (GWP AR4);
- EN 16258, IEA, World Bank and DBEIS for DHL customer-specific courier emissions reporting (GWP AR4);
- NZ Courier and NZ Post Toitū Envirocare verified supplier specific emission factors (GWP AR5); and
- Mfe, Measuring Emissions: A guide for Organisations (2023) for BNZ's employee commute emissions via Abley (GWP AR5).

### GHG emission sources

The data sources and methods specified in the table below are subject to uncertainties. It is assumed that invoice data is complete, but uncertainties still exist especially in instances where activity data is accrued, estimated based on \$ spend data, or extrapolated.

Table 25: Approach to GHG emissions measurement and reporting

Scope	Category	Reported/ Excluded
<b>Scope 1</b>	Stationary combustion	Reported
	Mobile combustion	Reported
	Fugitive emissions	Reported
<b>Scope 2</b>	Purchased electricity	Reported
<b>Scope 3</b>	1. Purchased goods and services	Reported: paper, electricity – offsite, and water emission sources. Excluded and NZ CS 2 adoption provision 4 applied for remaining purchased goods and services.
	2. Capital Goods	Excluded, NZ CS adoption provision 4 applied.
	3. Fuel and energy related activities not included in Scope 1 or 2	Reported
	4. Upstream transport and distribution	Reported
	5. Waste generated in operations	Reported
	6. Business travel	Reported
	7. Employee commuting	Reported: employee commute and working from home emission sources.
	8. Upstream leased assets	Excluded, NZ CS 2 adoption provision 4 applied.
	9. Downstream transportation and distribution	Captured under category 4.
	10. Processing of sold product	Excluded, not applicable.
	11. Use of sold product	Excluded, NZ CS adoption provision 4 applied.
	12. End of life treatment of sold products	Excluded, NZ CS adoption provision 4 applied.
	13. Downstream leased assets	Excluded, assessed as immaterial.
	14. Franchises	Excluded, NZ CS adoption provision 4 applied.
	15. Investments	Reported: financed emissions on Gross Loans and Advances to Customers. Excluded and NZ CS adoption provision 4 applied on all other balance sheet items including: (1) financed emissions on listed equity and corporate bonds and sovereign debt. (2) facilitated emissions.

Table 26: GHG emission source methods

Scope	Emission sources	Description	Units	Data sources	Key activity data methodology assumptions and limitations
1	<b>Mobile energy sources: combustion of fuels - diesel and petrol</b>	Direct emissions from fuel consumed in owned or leased vehicle that are within BNZ’s inventory boundaries.	Litres (fuel cards) \$spend % (non- fuel cards)	Fuel card consumption reports and spend fuel reports for non-fuel card fuel consumption.	Where fuel volume (litres) is not available, activity data is derived from \$ spend data. This accounts for <2% of total fuel consumed.
	<b>HVAC, fridges and mobile air conditioning: Refrigerant gas releases</b>	Refrigeration and air conditioning direct emissions from refrigerant leakage over the operational life of the equipment.	Kg	Contractor and Facility Manager HVAC maintenance reports. Refrigeration unit plates and manufacturing information.	In most instances, default refrigerant leakage rates are applied. Consequently, leakage activity data may be higher or lower than actual refrigerant leakage. Otherwise leakage is determined at the time of refrigerant top ups, recognising leakage that has occurred since the last refrigerant top up. Consequently, where top ups are infrequent, leakage activity data reported in the current reporting period may also relate to prior reporting periods.
	<b>Stationary energy sources: combustion of fuel - diesel and gas</b>	Direct emissions from the consumption of natural gas and diesel across BNZ properties.	kWh (gas) L (fuel)	Diesel and natural gas invoices and consumption reports.	
2	<b>Stationary energy sources: Purchased electricity - onsite</b>	Indirect emissions from electricity used by ATMs, retail and corporate properties including vehicle charging stations.	kWh	Invoices from electricity retailers and landlords. Balance date accruals. Remote unmetered ATMs - BNZ reports (number of ATMs) and ATM supplier (average daily consumption per ATM type).	Balance date accruals are applied, these are estimates of electricity consumed and account for <3% of total purchased electricity - onsite. Where remote ATM electricity is not invoiced, consumption is estimated based on average electricity consumption per ATM type. This represents the majority of reported remote ATM electricity emissions but less than 2% of total purchased electricity - onsite.
3	<b>Business travel</b>	Indirect emissions from flights, taxi, rental car, business use of private vehicles, and hotel stays by employees for business purposes.	Passenger kilometres (pkm) (flights) \$spend (taxis) Kms (rental cars, business use of private vehicles) \$spend % (non- preferred rental car hire) Nights (hotel stays)	Flight travel provider invoice reports and invoices, rental car preferred supplier reports, BNZ spend reports and travel provider reports for non-preferred supplier rental car hire. BNZ expense claim reports. Hotel stays travel provider transaction reports and estimation Reports for hotel stays not booked via travel provider.	Where rental km activity data is not available, activity data is derived from \$ spend rental data. This accounts for <25% of total rental car kms.
	<b>T&amp;D losses and upstream fuel &amp; electricity</b>	Indirect emissions from transmission and distribution losses and upstream purchased fuel and electricity used by BNZ’s fleet, properties and cash in transit freight.	Litres (fuel) and kWh (electricity)	Cash in transit supplier fuel consumption reports and invoices from landlords/retailers, electricity balance date accruals.	

Table continued on following page

Table 26: GHG emission source methods continued

Scope	Emission sources	Description	Units	Data sources	Key activity data methodology assumptions and limitations
3	<b>Paper</b>	Indirect emissions from the purchase of statement and office paper used in BNZ’s operations and retail branches.	Kgs	Paper supplier transaction reports.	
	<b>Electricity - offsite</b>	Indirect emissions from electricity used by BNZ in external data centres & offsite fleet electricity consumption.	kWh (external data centres and pool electric vehicles EVs) Kms (non- pool plug in hybrid electric vehicles)	Data Centre provider consumption reports. Fleet provider reports.	Non-pool PHEV vehicle electricity consumption will be overstated where PHEV vehicles are charged at BNZ sites. This exceptional activity cannot be quantified at present. This emission source is small, and the estimated impact is less than 1% of total emissions.
	<b>Courier, postage and freight</b>	Indirect emissions from use of courier, postage, and cash in transit services.	Tonne-kilometers (tkm) tCO2e Number of letters/parcels litres (fuel)	Courier and postage supplier reports. Cash-in-transit supplier fuel consumption reports and BNZ’s revenue-based share for shared services.	BNZ courier mail bag movements between sites assume a standard mail bag weight, emissions could be over or understated. Postage emissions are based on average letter and parcel weights and distances travelled. Emissions could be over or understated. Cash-in-transit is a shared service, BNZ’s share of litres of fuel consumed is based on payment/supplier revenue split. Emissions could be over or understated.
	<b>Waste and wastewater</b>	Indirect emissions from the use of water from BNZ retail and corporate properties.	Kg (waste to landfill and organic waste) kL (1000 litres of wastewater)	Cleaning contractor waste reports containing weighed waste per property and waste stream. Waste water – in sample water invoices, accruals and out of sample extrapolation. Facility Manager harvested water reports.	Wastewater volumes are derived from water usage and is subject to the inherent uncertainties described for Water. It is conservatively assumed that 100% of water used is wastewater.
	<b>Water</b>	Indirect emissions from the use of water from BNZ retail and corporate properties.	kL (1000 litres)	In-sample sites - water invoices and accruals. Out of sample sites – extrapolation based on in-sample usage and property areas; Facility Manager harvested water reports.	Balance date accruals are estimated. Water use for out of sample sites is extrapolated from in sample site by property type. Water usage emissions may be over or understated.
	<b>Working from home</b>	Indirect emissions from employees working from home (WFH).	Employee per day	BNZ remote access software report.	It is assumed that colleagues’ remote access per day equates to a full working from home day and as a result emissions may be overstated. Some colleagues may work from home without using remote access software and where this occurs emissions will be understated. Remote access is available to the entire BNZ workforce which includes non-employees, consequently BNZ WFH emissions will be overstated.
	<b>Employee commute</b>	Indirect emissions from employees commuting to BNZ workplaces.	tCO2e	Abley CarbonWise reports, actual survey responses and extrapolation per site for survey non-respondents.	Employee commute emissions are derived from an annual colleagues’ survey of their commuting and response shortfalls are extrapolated per BNZ site. The survey response rate in FY24 was 42%. Employee commute emissions may be over or understated.

# Appendix D – sector-level targets methodology summary

Where possible, emission reduction targets have been prepared to align with the [UNEP FI Guidelines](#) for target setting under the NZBA. A summary of BNZ’s sector target methodology is outlined in this section.

There are uncertainties and limitations inherent in this information and BNZ’s ability to meet its targets will depend on a number of factors such as governmental policy, regulatory and economic factors, as well as the actions of its customers. BNZ is constrained by available data and the focus has been to incorporate the most material sources of emissions for each sector in both its target pathway and associated baseline emissions. A detailed description of each target, including the industry activities covered by the targets, key assumptions, and the reference scenario used is provided in the target disclosure which can be found in Section 4.4 and in [BNZ’s 2023 target disclosure](#).

## NZBA Residential real estate target methodology

This section describes the process BNZ has followed to define the pathway of its Residential real estate sector emission reduction target. Where elements of this process have already been discussed above, they are raised briefly here for completeness with a reference back to the body of this document.

This process is derived predominantly from UNEP FI and NZBA guidance<sup>39</sup> which BNZ has distilled into four steps:

1. Set target boundaries and parameters: defining the scope of the target and the reference scenario upon which it will be based.
2. Translate the reference scenario to a target: deriving the reference pathway and benchmark.
3. Set a baseline: establish a base year for the target and estimate the level of emissions at that point in time.
4. Generate an emissions reduction pathway: determine the rate of emissions reduction and point of portfolio convergence against the reference pathway.

<sup>39</sup> The process was predominantly informed by [UNEP FI and the NZBA's \(2024\) Guidelines for Climate Target Setting for Banks Version 2](#) and [UNEP FI and NZBA's \(2023\) Climate Target Setting for Real Estate Sector Financing: Emerging Practice Paper](#). Fugitive emissions, recommended for inclusion under Version 2, have not been included, due to data deficiencies.

### Step 1. Set target boundaries and parameters.

This step involves setting the scope of BNZ's target (and by association the target's boundaries) including the scope of customers and activities included, identifying the scenario that will form the basis of the target's reference pathway and the parameters that will attribute its financing to customers and portfolio emissions.

#### Emissions scope

The Residential real estate target includes Scope 1 and 2 operational emissions, covering a dwelling's heating/cooling, e.g. distributed natural gas and electricity consumption. Data deficiencies mean that Scope 3 embodied emissions are excluded, as are fugitive emissions.

#### Identifying customers within scope of target

The Residential real estate sector is defined by all consumer lending products that are secured by a residential property that fit within the following categories: dwelling, flat, lifestyle, apartment, home and income, multi-dwelling, block of flats, or converted flat.

#### Metric type

Under the NZBA guidelines two predominant types of targets can be set for each sector:

- Absolute emissions reduction target: this requires BNZ's financed emissions to a sector to reduce in absolute terms; and/or
- Physical intensity convergence target: this measures the amount of GHGs emitted per unit of production. Application of a physical emissions intensity target focuses efforts to improve emissions efficiency of production. This reflects the need to transition from high carbon inputs to zero carbon, while recognising expected growth in a sector.

A physical intensity target of CO<sub>2</sub>e/m<sup>2</sup> of floor area has been adopted for the Residential real estate sector.

#### Reference pathway

Due to natural variants in climate and resource availability, a residential sector's emissions profile is typically location specific. For this reason (and as noted above) BNZ adopted the Climate Change Commission's Tailwinds scenario to form the basis of the sector's reference pathway. The methodology applied to derive a physical intensity metric (CO<sub>2</sub>e/m<sup>2</sup>) is detailed below.

#### Financial attribution

BNZ applies TCE to attribute building emissions to our lending and to weight the emissions intensity of buildings across our residential real estate portfolio.

BNZ recognises the application of TCE as a departure from PCAF guidance which recommends using the on-balance sheet outstanding lending amount. BNZ considers TCE is a higher quality measure for attributing financed emissions because TCE refers to the total amount of funding that can be accessed at any time. Using TCE to attribute financed emissions also provides a more stable metric than outstanding amount to set and measure emissions reduction targets as its less likely to fluctuate. Further detail about financed emissions methodologies can be found in Appendix E – Financed Emissions Methodology, Key Assumptions, and Limitations.

### Step 2. Translate the Tailwinds scenario

#### Deriving the reference pathway

To align with BNZ's adopted metric of CO<sub>2</sub>e/m<sup>2</sup> the Tailwinds scenario was enhanced with projected floor area as follows:

1. An annual projection of total buildings was extrapolated from 2020, 2035, and 2050 building projections provided with the Tailwinds scenario in accordance with the scenario's projected population growth.
2. Floor area (in m<sup>2</sup>) was then estimated for an average New Zealand house based on the aggregated floor area divided by the aggregated number of buildings provided historically (to 2018) and by 2050 in McLaren et al. Annual total floor area and total buildings between 2019 to 2049 were estimated by linearly compounding the difference of each between 2018 and 2050. An annual average New Zealand house for each year was then estimated by dividing projected total floor area by projected total buildings for each year.
3. The Tailwinds scenario was then enhanced with a projected total floor area for New Zealand by multiplying the average house size from Step 2 by the projected buildings derived from Step 1.

In applying the above steps, it was assumed that the number of residential buildings in New Zealand and the average housing unit size grow by 8% and 1% respectively between 2023 and 2030.

#### Establishing a target

An interim target has been calculated by dividing absolute emissions for Residential real estate as at 2030 by the floor area to derive CO<sub>2</sub>e/m<sup>2</sup>.

### Step 3. Setting a baseline

The Residential real estate sector’s baseline was calculated using the most granular level of data available per parameter.

#### Selecting a base year

The Residential real estate sector’s baseline year is 2023. Data availability was the main driver of the base year selection, as well as NZBA requirements to ensure the baseline year for any target is one of the two years preceding the year that the target is set (this target was set in 2024, 2022 or 2023 were the available baseline years).

### Attributing physical intensity

BNZ weighted each of the regional-level physical intensities of the Residential real estate portfolio by the relative portfolio TCE to aggregate to a portfolio-level physical intensity benchmark. This portfolio-weighted approach is applied for several reasons:

1. It's simple and easily understood.
2. Its reliance on only two variables means:
  - a. that any changes are more transparent and more easily analysed than other approaches such as PCAF; and
  - b. that a borrower’s financial data is not required for calculation.
3. Properties with missing data can be allocated a transparent, default intensity to complete a baseline for the portfolio.

Additionally, BNZ considers this approach more accurately reflects the relative contribution of each property to the emissions intensity of its Residential real estate portfolio and helps it identify which customers require additional support and engagement to meet climate goals. The portfolio weighted approach methodology is shown in Figure 20.

Table 27: Level of data granularity per parameter of the Residential real estate sector target

Parameter	Level of granularity
BNZ portfolio data	Property
Floor area data obtained from a third-party provider	Property
Electricity consumption data from the Electricity Authority	Regional
Heating and cooling data from Stats NZ	Regional
Emissions factors from the Ministry for the Environment	Regional
Extrapolation to residual (was emissions data required to be extrapolated to cover full scope of loans within target)	Not required
Coverage of TCE in baseline year	98.05%

### Step 4. Generate an emissions reduction pathway

The final step in BNZ’s target setting process is to define an emissions reduction pathway.

#### Physical intensity convergence target

For BNZ’s Residential real estate target, BNZ has set a point of portfolio convergence (against the reference scenario) year of 2030. To plot a path between the Residential real estate baseline and 2030, BNZ has applied the Sector Decarbonisation Approach (SDA) developed by the Science Based Targets Initiative (SBTi)<sup>41</sup>. A slightly modified approach was adopted in explicitly targeting a 2030 as opposed to 2050 convergence. In adopting the SDA approach, BNZ assumed that the total floor area of BNZ’s Residential real estate portfolio grows at the same rate as the enhanced Tailwinds scenario.

Figure 20: Portfolio weighted average approach methodology

$$\text{Residential real estate portfolio emissions intensity (kgCO2e/m2/y)} = \sum_m \frac{\text{Building emissions (kgCO2e/y)}}{\text{Building surface (m2)}} \times \frac{\text{Building mortgage (e.g. \$)}}{\sum_m \text{Bank mortgage (e.g. \$)}}$$

<sup>41</sup> Section 2 of SBTi (2015) Sectoral Decarbonization Approach (SDA): A method for setting corporate emission reduction targets in line with climate science available from: <https://sciencebasedtargets.org/resources/>

# Appendix E – Financed emissions methodology, key assumptions, and limitations

Financed emissions fall within scope 3, category 15 (investments) of the GHG protocol. Measurement of BNZ’s financed emission calculations is in accordance with the Partnership for Carbon Accounting Financials (PCAF) standard, where possible. Reported financed emissions are estimates only based on an attributed proportion of customer emissions.

The PCAF Standard prescribes specific asset classes for inclusion as appropriate in financed emissions calculations made by financial institutions. BNZ disclose financed emissions by sector because it aligns with its approach to sector-based emission reduction targets.

The table below shows the seven asset classes included in the PCAF Standard and where these have been included in BNZ’s Financed Emissions Calculations. BNZ has expanded reporting in FY24 to include the Commercial real estate methodology. At this stage Motor vehicles and Project finance have been calculated applying the Business lending methodology.

Table 28: PCAF asset classes and how applied in BNZ’s financed emissions calculations

PCAF Asset Class	BNZ’s applied asset class
Business loans and unlisted equity	Business lending
Project finance	Business lending
Commercial real estate	Commercial real estate (new in FY24)
Mortgages	Residential real estate
Listed equity and corporate bonds	Excluded - NZ CS2 adoption provision 4 applied
Motor vehicle loans	Business lending (excluding Personal loans)
Sovereign debt	Business lending where the balance is included in Gross Loans and Advances to Customers.

## Scope – customer boundaries

BNZ has reported financed emissions by sector as permitted by PCAF. This also enables alignment with its Net Zero Banking Alliance emission reduction sectors. Except for identified conglomerate customers, the allocation of customers to sectors is based on their assigned ANZSIC codes and reported financed emissions could be higher or lower if these codes are not correctly assigned.

Customers not identified as conglomerate customers but with exposure to more than one sector are assigned to sectors based on their ANZSIC codes and consequently the estimate of their emissions may be under or overstated. PCAF stipulates “follow the money” as a key tenet for GHG accounting of financial assets. This means that “the money should be followed as far as possible to understand and account for the climate impact of lending and investments”. BNZ has taken a pragmatic approach, applying rules to enable material customer exposure to emissions across target sectors to be accounted for, whilst minimising manual and resource heavy carbon accounting.

## Conglomerates approach for target sectors

Customers may have business lines spanning more than one sector and multiple ANZSIC codes cannot be assigned to reflect the diversity of their business lines. Therefore, a conglomerate assessment is made where a customer has been identified with revenue from the Oil and Gas or Electricity, gas and water - power generation sectors. These sectors have key sector emission reduction targets and, therefore, BNZ will look to split emissions across the sectors, where possible. This provides a more accurate reflection of emissions between reported sectors where good quality customer emissions data is available.

To allocate conglomerate emissions from their lending ANZSIC sector, customers must generate at least 20% of their gross revenue from Oil and Gas or Power generation target sectors.

Moreover, where a conglomerate customer’s emissions area is greater than 90% in one sector, all emissions will be included in that sector rather than applying a split approach.

## Restatements, recalculations, and significance threshold

BNZ may update or recalculate prior year information to improve consistency, comparability, completeness or relevance of BNZ’s emissions. Significant changes may be driven by the following:

- **Structural changes:** Structural changes include the likes of acquisitions, divestments, or mergers in relation to BNZ as an entity.
- **Calculation methodology changes:** This includes change in GHG estimations due to methodology changes and enhancements, updated emission factors, enhancements to the scope of emissions, and/or access to more accurate and complete data sources.
- **Data error changes:** This includes where significant errors are discovered in the estimation of BNZ’s GHG emissions.

BNZ will adjust its comparatives to account for any significant changes, if the changes, either individually or collectively, drive a material movement. BNZ may also choose to recalculate immaterial changes if BNZ considers this important information for BNZ and/or stakeholders.

## Emission factors and Global Warming Potential (GWP)

Reported financed emissions are estimates only based on an attributed proportion of customer emissions. BNZ uses customer reported and third-party emissions data and inputs to calculate financed emissions. Customers and third-party data sources apply emission factors to activity data to calculate emissions.

GWPs depend on the emission factors used and GWPs often stem from the IPCC Assessment Reports (e.g. AR4 or AR5). Where available, BNZ has included emission factor source and GWPs information below:

- Methodology for calculation of New Zealand's agricultural greenhouse gas emissions, Version 5, Technical Paper No: 2019/18, Ministry for Primary Industries (MPI) (AR 4, may also include NZ-specific GWP rates).
- Measuring Emissions: A Guide for Organisations (2024), Ministry for the Environment (MfE) (AR5).
- Greenhouse gas emissions by region (industry and household): Year 2022, StatsNZ (AR5).
- Greenhouse gas emissions (industry and household): Year 2022, StatsNZ (AR5).
- Emission Factors for New Zealand Greenhouse Gas Emission Intensities for Commodities and Industries, v2.0 19/09/2024 licenced, thinkstep-anz (AR5).

## Business lending methodology

Business lending consists of all business lending not included in Commercial or Residential real estate sectors. BNZ reports its lending amount\* at two levels:

- OA: reflecting the current drawn 'Gross Loans and Advances to Customers'; and
- TCE: reflecting both the drawn and undrawn 'Gross Loans and Advances to Customers'.

National average emission factors have been converted to ANZSIC 1996 to align with BNZ internal data.

Table 29: Business lending financed emissions methodology

Data quality score	Option type	Formula	Methodology
1	1a. Customer verified emissions data.	For business loans to listed companies: $\sum \frac{\text{Lending amount}^{c*}}{\text{EVIC}^c} \times \text{company emissions}^c$	Company debt and equity sourced from the latest annual financial statement of BNZ customers. Company emissions sourced from BNZ's customers' reports. Market capitalisation sourced from Bloomberg. Lending Amount* is sourced from BNZ's systems.
2	1b. Customer unverified emissions data.	For business loans to private companies: $\sum \frac{\text{Lending amount}^{c*}}{\text{Total equity}^c + \text{debt}^c} \times \text{company emissions}^c$	A sector average has been applied where a customer does not report scope 2 or 3 emissions.
4	3. Customer regionally aggregated emissions data	Calculation for business loans to Agriculture - dairy customers in sample: $\sum \text{Lending Amount}^*_c \times \frac{\text{GHG emissions}^c}{\text{Total Assets}^c}$	For business loans to unlisted customers in the dairy sector total equity plus debt data is not currently available and so total assets is used as a proxy, as permitted by PCAF. GHG emissions are for in sample dairy customers and based on regionally aggregated customer emissions data, sourced from a third party. Lending Amount* and Total Assets sourced from internal BNZ systems. In sample customers are those that can be matched through internal processes to the third party regional aggregated data, and for whom total assets were available.
5	3b. Sector emissions data.	$\sum \text{Lending Amount}^{c*} \times \frac{\text{GHG emissions}^c}{\text{Asset}^s}$	Sector scope 1 emissions are sourced from the Greenhouse Gas Emissions for industry and household, 2022 published by StatsNZ. Sector scope 2 & 3 emissions are sourced from Emission Factors for New Zealand Greenhouse Gas Emission Intensities for Commodities and Industries, v2.0 19/09/2024 licenced, thinkstep-anz. Sector Total Assets. Non-Government Assets are sourced from the Annual Enterprise Survey, 2022 published by StatsNZ. Government Assets are sourced from the Annual balance sheets, 2022 published by StatsNZ. Lending Amount* is sourced from BNZ's systems.
5	3. Regional emissions data.	$\sum \text{Lending Amount}^{c*} \times \frac{\text{GHG emissions}^R}{\text{Total Assets}^R}$	Out of sample- applicable to dairy customers not matched to the third party data set and for which the total assets could not be sourced. Emission factor- emissions per dollar per of assets by dividing the total in sample emissions per region, by the total in sample assets per region.

c = customer (borrower), R = region, s = sector

## Limitations and assumptions - customer emissions

- BNZ's share of customer emissions is proportional to its lending (TCE or OA) relative to either the customer's total equity plus debt or enterprise value including cash (EVIC). Reporting emissions using OA in the attribution factor ensures 100% attribution of emissions across a customer's equity and debt providers. However, using TCE in the attribution factor will result in greater than 100% attribution of customer emissions between equity and debt providers.
- For business loans when using EVIC for listed customers, calculated financed emissions might change year on year because of fluctuations in market prices.
- There are limitations in aligning customer financial and emission data and timing. Financed emissions calculations use BNZ financial data that aligns to its year-end financial disclosure and point-in-time emissions data reflecting a 12-month period. There can be lags in customer emissions, financial, and sector data, which impacts timing alignment and may not accurately represent the reporting period.
- PCAF requires the reporting of customers' scope 3 emissions for the Oil and Gas, and Mining sectors from 2021 and transportation, construction, buildings, materials, and industrial sectors from 2023 and all sectors from 2025. The coverage and reliability of customer scope 3 data varies greatly, and customers may or may not currently measure and report their own scope 3 emissions. The scope 3 emissions categories reported to BNZ by customers are, therefore, highly variable. BNZ has captured scope 3 customer emissions for Oil and Gas, Electricity and gas, and water - power generation sectors where available.
- When BNZ refers to its Financed Emissions this is gross absolute emissions and does not include its customers' use of offsets, or customer avoided emissions or emissions removal.

## Limitations and assumptions - sector average emissions

- The use of sector-specific average (emissions and/or financial data) makes financed emission calculations more uncertain than those based on customer-specific data, as the data depends on assumptions and approximations.
- Across third party data sources there are inherent limitations with potential inconsistency of:
  - » Mapping sectors and industries.
  - » Calculation approaches.
  - » Application of average data sets. This may limit the alignment of reported information and is a limitation until there is further data maturity in emissions reporting.
- There are inherent uncertainties in the estimation of financed emissions with considerable variability in data quality. Where BNZ has used data or estimates provided by third parties, the source of this information has been included. BNZ has not independently audited or verified this third party information.
- Third party data sets may vary from BNZ financial balance date and may be compiled annually. The closest date to balance date will be applied, this may not be consistent across data sources.

## Limitations and assumptions - dairy emissions

- Where BNZ has used data or estimates provided by third parties, BNZ has not independently audited or verified this third-party information.
- The extrapolation of company level data is contemplated by PCAF as an alternative for option 3 economic activity-based emissions and is applied for Agriculture - dairy sector calculations because of the nationwide spread of customers and this is considered a superior proxy to the use of generic sector-based averages.
- Third party and customer data sets may vary from BNZ financial balance date; the closest available date to balance date will be applied.
- Customer financial data may vary in quality and approach limiting the consistency across metrics used to calculate emissions.

## Residential real estate financed emissions methodology

Residential real estate includes home loan products secured by a residential mortgage. BNZ reports its lending amount\* at two levels:

1. OA: reflecting the current drawn 'Gross Loans and Advances to Customers'; and
2. TCE: reflecting both the drawn and undrawn 'Gross Loans and Advances to Customers'.

## Limitations and assumptions

- Construction emissions would be captured in business lending. However, where a mortgage supports the construction of a residential house it will be included in Residential real estate.
- Allocation methodologies are required to allocate security value to loans and titles.
- There are inherent uncertainties in the estimation of financed emissions with considerable variability in data quality. Where BNZ has used data or estimates provided by third parties BNZ has included the source of this information. BNZ has not independently audited or verified this third-party information.

Third party methodology documents are reviewed by BNZ.

- Industry data points applied may vary in reported period and/or frequency of refresh. The latest practically available data set to the reporting period is applied.
- Electricity consumption data includes all types of occupancies and does not include any onsite self-generated and consumed energy. To limit this effect, data that may not reflect residential use is removed.
- Gas and electricity emission factors do not incorporate upstream process of getting the fuels to the residency.
- National averages may not reflect regional differences in energy use, mix or activity.
- Temperature can have a significant effect on residential consumption with some years having a warmer or colder winter. This temperature effect has not been adjusted for, so users should consider this when interpreting trends in the data.
- Floor area can be impacted by delays in updates to records or in the allocation of enclosed areas. Subletting within a floor level has not been captured.

Table 30: Residential real estate financed emissions methodology

Data quality score	Option type	Formula	Methodology
4 or 5	Option 2b or 3: Estimated Building emissions.	<p>Attribution Factor =</p> $\sum \frac{\text{Lending amount}^{\text{B*}}}{\text{Property Value at origination}^{\text{B}}}$ <p>Financed Emissions =</p> $\text{Attribution Factor}^{\text{B}} \times \text{Estimated building Emissions}^{\text{B}}$	<p>BNZ provide Generate Zero (third-party data provider) with property level data for the derivation of customer emissions. For PCAF 4, customer emissions are calculated based on average estimated building energy consumption per floor area (m2). Where floor area data is unavailable, estimated emissions per number of buildings in a sector is provided by Generate Zero (PCAF 5).</p> <p>The estimated energy consumption is comprised of the following data sources:</p> <ol style="list-style-type: none"> <li>1. Electricity authority: Electricity per household (regional).</li> <li>2. Ministry for Environment: Electricity Emissions Factor, Gas Emissions Factor.</li> <li>3. Stats NZ (annual): Heating/cooling carbon emissions (regional).</li> </ol> <p>Floor area is obtained from Generate Zero.</p> <p>Emission factors are calculated using assumptions for average household electricity use and data from regional Stats NZ regarding heating/cooling emissions.</p>

Table 31: Commercial real estate financed emissions methodology

Data quality score	Option type	Formula	Methodology
4 or 5	Option 2b or 3: Estimated Building emissions.	<p><b>Attribution Factor =</b></p> $\sum \frac{\text{Lending amount}^{\text{B}*}}{\text{Property Value at origination}^{\text{B}}}$ <p><b>Financed Emissions =</b></p> $\text{Attribution Factor}^{\text{B}} \times \text{Estimated building Emissions}^{\text{B}}$	<p>BNZ provide Generate Zero (third-party data provider) with property level data for the derivation of customer emissions. For PCAF 4, customer emissions are calculated based on average estimated building energy consumption per floor area (m2). Where floor area data is unavailable, estimated emissions per number of buildings in a sector is provided by Generate Zero (PCAF 5).</p> <p>The estimated energy consumption is comprised of the following data sources:</p> <ol style="list-style-type: none"> <li>1. Ministry for Environment: Electricity Emissions Factor, Gas Emissions Factor.</li> <li>2. Building Energy End-use Study 2014: Median Electricity Emissions (Building strata) and Median Gas Emissions (Building strata).</li> </ol> <p>Floor area is obtained from Generate Zero.</p> <p>Emission factors are calculated using assumptions for average household electricity use and data from regional Stats NZ regarding heating/cooling emissions.</p>

## Commercial real estate financed emissions methodology

Commercial real estate is non-owner occupied commercial lending secured by a commercial property. Although a deviation from the PCAF definition, it allows application of PCAF calculations across corporate real estate portfolios. BNZ reports its lending amount\* at two levels:

1. OA: reflecting the current drawn 'Gross Loans and Advances to Customers'; and
2. TCE: (Total Committed Exposure): reflecting both the drawn and undrawn 'Gross Loans and Advances to Customers'.

## Limitations and assumptions

- Allocation methodologies are required to allocate security value to loans and titles.
- There are inherent uncertainties in the estimation of financed emissions with considerable variability in data quality. Where BNZ has used data or estimates provided by third parties, BNZ has included the source of this information. BNZ has not independently audited or verified this third-party information. Third party methodology documents are reviewed by BNZ.

- Historic data sets have been relied on as no updated data sources are available and may not reflect current buildings.
- Limited samples sizes are available to create certain industry averages.
- Industry data points applied may vary in reported period and/or frequency of refresh. The latest practically available data set to the reporting period is applied. This can lead to portfolios emission calculation changes, and underlining factors can vary depending on the date that the model was run.
- Application of annual average grid emission factor for electricity may not be reflective of specific generation mix by location, time of day and time of year.
- Electricity consumption data includes all types of occupancies and does not include any onsite self-generated and consumed energy.
- Building classification relies on the assessment of use, which can be subject to change.
- Not all greenhouse gasses are reported for commercial buildings as no data set is available or reported.
- Floor area can be impacted by delays in updates to records or in the allocation of enclosed areas.
- Title matching can be complex, and imputation may be required for land use description.

# Contacts

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## BNZ sustainability enquiries

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Internet Banking and the BNZ app are available 24/7

for general banking enquiries.

[bnz.co.nz/contact](https://bnz.co.nz/contact)

Find all our sustainability reports,  
policies and approach [here](#).