

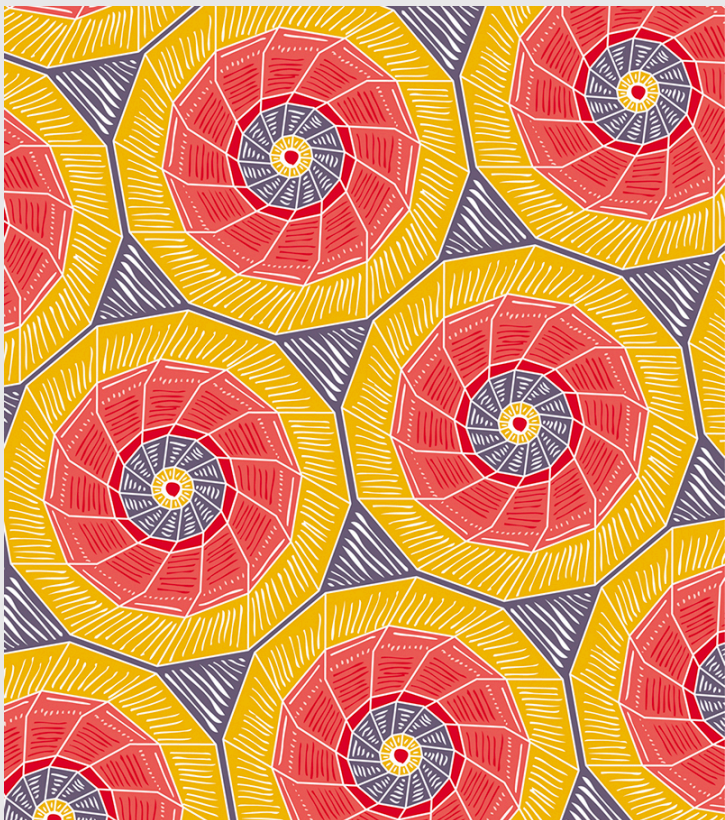
2024

WESTPAC BANKING CORPORATION  
ABN 33 007 457 141

# CLIMATE METHODOLOGIES SUPPLEMENT







## ACKNOWLEDGEMENT OF INDIGENOUS PEOPLES

Westpac acknowledges the First Peoples of Australia. We recognise their ongoing role as Traditional Owners of the land and waters of this country and pay our respects to Elders, past and present. We extend our respect to Westpac’s Aboriginal and Torres Strait Islander employees, partners, and stakeholders, and to the Indigenous Peoples in the other locations where we operate.

In Aotearoa New Zealand we also acknowledge tāngata whenua and the unique relationship that Indigenous Peoples share with all New Zealanders under Te Tiriti o Waitangi.

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# INTRODUCTION

## About this document

This 2024 Climate Methodologies Supplement (Supplement) is designed to be read alongside our [2024 Climate Report](#) (Report) which outlines Westpac's strategy, targets, and approach for addressing the risks and opportunities presented by climate change. Additionally, the Report also describes our climate transition plan, outlining how we are working to reduce our carbon footprint. The Report is available on our website.

The Supplement details the methodologies for estimating our operational emissions, our Net-Zero Banking Alliance sector emissions targets (NZBA sector targets), our Group financed emissions calculations, as well as details on the climate scenarios used in our climate scenario analysis. These methodologies are applied in the Report to estimate our climate-related positions, progress, targets and associated risks and opportunities.

Our [2024 Sustainability Index and Datasheet](#) provides additional detail on some metrics in the Report along with other key sustainability metrics in the [2024 Annual Report](#). This detailed spreadsheet also outlines how our reporting aligns with major reporting standards and frameworks. The Sustainability Index and Datasheet is available on our website.

Westpac and its subsidiaries are covered by the Report. This includes Australia and New Zealand along with our businesses in other international locations. For certain metrics we exclude some areas of the business due to materiality and/or a lack of readily available data.

## Our approach to climate reporting

Outlining our approach to managing climate change risks and opportunities is challenging as measuring, reporting and the setting of targets relies on estimates, inexact data and the availability of appropriate methodologies. We strive to apply consistent principles in how we measure and report our climate metrics although these remain estimates that have inherent uncertainties. Despite the uncertainties of reported metrics and that metrics may vary over time, it is essential to estimate our impact, set targets and report on progress – so we can achieve our ambition of becoming a net-zero, climate resilient bank.

We ask readers to consider these limitations and focus on our intent and our guiding principles and how these have been applied in the methodologies outlined in this Supplement. Over time, our climate-related data will evolve as new methodologies and technologies emerge and our stakeholders improve the measurement of their climate impacts, risks and opportunities.

This Supplement includes forward-looking statements – such as targets, ambitions, plans, estimates, assumptions and metrics – that inherently carry uncertainty, particularly in the context of climate reporting. These risks and uncertainties need to be considered when interpreting this Supplement. For an explanation of forward-looking statements and the risks, uncertainties and assumptions to which they are subject, see the [Disclaimer](#) (page 52).

References to 'Westpac', 'Group', 'Westpac Group', 'we', 'us' and 'our' are to Westpac Banking Corporation ABN 33 007 457 141 and its subsidiaries unless stated otherwise.

# SECTION I. METHODOLOGY – SCOPE 1, 2 AND 3 UPSTREAM EMISSIONS ESTIMATION

## Our approach to measuring scope 1 direct operational emissions

**Scope 1 emissions** are the release of greenhouse gases (GHG) into the atmosphere from Westpac Group's direct operations for the period 1 July – 30 June. This includes operations in Australia, New Zealand and other international sites (Fiji, Papua New Guinea, Singapore, United Kingdom, China, Germany and the United States from 2022) located in facilities under Westpac's operational control.

- Australian data is prepared in accordance with the National Greenhouse and Energy Reporting Act 2007 (NGER), using emission factors from the National Greenhouse and Energy Reporting (NGER Measurement) Determination 2008 or as detailed against the indicator definition.
- New Zealand data is prepared in accordance with the New Zealand Ministry for the Environment guidance for GHG reporting and Toitū net carbonzero programme rules, using emission factors from the Ministry for the Environment Summary of Emissions Factors or as detailed against the indicator definition.
- For other international locations, activity data is based on invoices or estimates where invoices are not available. Emissions are calculated using emission factors from the Department for Environment, Food & Rural Affairs (DEFRA) for the UK and from International Energy Agency (IEA) for all other locations.

**TABLE 1: SCOPE 1 DIRECT OPERATIONAL EMISSIONS BY CATEGORY**

CATEGORY	CALCULATION BOUNDARY	CALCULATION METHODOLOGY	ACTIVITY DATA SOURCE
<b>Refrigerants (tCO<sub>2</sub>-e)</b>	Direct scope 1 emissions from Kyoto hydrofluorocarbons (refrigerants) used in commercial air conditioning units.	Refrigerant emissions are calculated by multiplying the refrigerant capacity (kg) with the Global Warming Potential (GWP) value of the relevant gas type to determine the total stock in carbon dioxide equivalence (CO <sub>2</sub> -e) tonnes. A default leakage rate is applied to the total stock, in line with NGER Measurement Determination and Ministry for the Environment Summary of Emissions Factors, for Australia and New Zealand respectively.	Refrigerant capacity (kg) and gas type per nameplate on equipment, as recorded within the refrigerant register.
<b>Stationary energy – Natural gas, Diesel, LPG (tCO<sub>2</sub>-e)</b>	Direct scope 1 emissions from the consumption of natural gas, diesel and LPG used for stationary purposes at sites under Westpac operational control.	For Australia, natural gas activity data is based on invoice records provided by suppliers. Where natural gas invoices have not been received, data is accrued using a seasonally adjusted weighted average method to estimate the missing period. Diesel and LPG activity data is based on fuel delivery records provided by suppliers. For New Zealand, natural gas and LPG activity data is based on invoice records from suppliers and diesel activity data is based on fuel delivery records. Where natural gas invoices have not been received, consumption is based on historical use. Emissions are calculated by multiplying the quantity of fuel type by relevant energy content and emission factors, in line with NGER Measurement and Ministry for the Environment Summary of Emissions Factors, for Australia and New Zealand respectively.	Utility invoices and delivery records.

## SECTION I. METHODOLOGY – SCOPE 1, 2 AND 3 UPSTREAM EMISSIONS ESTIMATION

CATEGORY	CALCULATION BOUNDARY	CALCULATION METHODOLOGY	ACTIVITY DATA SOURCE
<b>Transport energy – Fleet fuels (tCO<sub>2</sub>-e)</b>	Direct scope 1 emissions from the consumption of liquid fuels for transport (diesel, petrol, ethanol, LPG) by fleet vehicles under Westpac operational control, (owned or leased). Excludes novated lease, salary sacrifice purchased vehicles, transport services provided by third parties or vehicles sponsored by Westpac.	Emissions are calculated based on litres of fuels consumed (diesel, petrol, ethanol, LPG). This is calculated by multiplying the quantity of fuel type by the relevant energy content and emission factor, in line with NGER Measurement Determination and Ministry for the Environment Summary of Emissions Factors, for Australia and New Zealand respectively.	Supplier records.

### Our approach to measuring scope 2 indirect operational emissions

**Scope 2 emissions** are indirect GHG emissions from the consumption of purchased electricity by Westpac Group for the period 1 July to 30 June. Includes operations in Australia, New Zealand and other international sites (Fiji, Papua New Guinea, Singapore, United Kingdom, China, Germany and the United States from 2022) located in facilities under Westpac’s operational control.

- Australian data is prepared in accordance with the NGER, using emission factors from the NGER Measurement for location-based accounting or calculated under the Climate Active Carbon Neutral Standard for Organisations for market-based accounting.
- New Zealand data is prepared in accordance with the New Zealand Ministry for the Environment guidance for GHG reporting and Toitū net carbonzero programme rules, using emission factors from the Ministry for the Environment Summary of Emissions Factors for location-based accounting or from BraveTrace, New Zealand Energy Certification System for market-based accounting.
- For other international locations, activity data is based on invoices or estimates where these are not available. Emissions are calculated using emission factors from the Department for Environment, Food & Rural Affairs (DEFRA) for the UK and from International Energy Agency (IEA) emission factors for all other locations. For market-based accounting, in regions where no residual mix factor is available the location-based emission factors are applied.

**Scope 2 emissions (location-based)** reflects a business’ electricity emissions in its location. It shows the physical emissions from a business’ electricity consumption, reflecting the emissions intensity of the electricity grid(s) it relies on. The location-based method does not recognise the surrender of renewable energy attribute certificates (EACs) (e.g. Large-scale Generation Certificates (LGCs)) as evidence of renewable electricity use.

**Scope 2 emissions (market-based)** reflects electricity emissions incorporating renewable energy procurement. This method assigns an emissions factor of zero for electricity covered by renewable EACs (e.g. surrender of corresponding LGCs) and uses a residual mix factor (RMF) to calculate emissions from any remaining electricity consumption.

**TABLE 2: SCOPE 2 INDIRECT OPERATIONAL EMISSIONS BY CATEGORY**

CATEGORY	CALCULATION BOUNDARY	CALCULATION METHODOLOGY	ACTIVITY DATA SOURCE
<b>Purchased electricity (tCO<sub>2</sub>-e)</b>	Indirect scope 2 emissions from electricity consumed by commercial, retail, data centre and subsidiary sites under the Westpac’s operational control.	For Australia, electricity activity data is based on invoice records provided by electricity suppliers. Where not available, missing data is accrued using a seasonally adjusted weighted average method to derive an estimate. In some cases, invoices are not received for a site and electricity usage is estimated using actual electricity data per net lettable area (NLA) intensity (kWh/m <sup>2</sup> ) for similar properties.  The location-based method calculates scope 2 emissions by multiplying the quantity of grid imported electricity by the applicable State or Territory emission factor, as listed in the NGER Measurement Determination.	Utility invoices.

## SECTION I. METHODOLOGY – SCOPE 1, 2 AND 3 UPSTREAM EMISSIONS ESTIMATION

CATEGORY	CALCULATION BOUNDARY	CALCULATION METHODOLOGY	ACTIVITY DATA SOURCE
		<p>The market-based method allows total electricity consumption to be reduced by the MWh of renewable electricity consumed, covered by renewable EACs (LGCs), before applying the Australian residual mix factor (RMF) to the remaining electricity. The RMF is used to convert any electricity usage in a carbon account not matched by renewable electricity purchases (accounted for through retired LGCs).</p> <p>The RE100 Standard allows organisations to claim default delivered renewable electricity from the grid (such as renewables supplied under a compliance mandate such as the Large-scale Renewable Energy Target only where relevant information from the electricity supplier is available. Where verification is not available, Westpac has not claimed the default renewables benefit in its market-based emissions.</p> <p>The Climate Active Standard allows organisations to claim default delivered renewable electricity from the grid, such as LGC surrenders made by a jurisdiction with a renewable electricity target (for example, the ACT Government’s Renewable Energy Target) as renewable electricity consumption for activities in that jurisdiction.</p> <p>This results in a difference between the scope 2 market-based emissions figure reported in this Report and those reported in Westpac’s Climate Active Carbon Neutral Position Disclosure Statements.</p> <p>For New Zealand, electricity activity data is based on invoice records provided by electricity suppliers. Where invoice data is not available, missing data is accrued based on historical usage.</p> <p>The location-based method calculates scope 2 emissions by multiplying the quantity of electricity by the grid-average electricity emissions factor, as listed in the Ministry for the Environment Summary of Emissions Factors.</p> <p>The market-based method reflects net emissions from electricity that Westpac NZ has purchased through Renewable Energy Certificates (RECs). The RECs are market-based instruments that allow for the reporting of scope 2 purchased electricity consumption to be reported as 0. RECs only cover the consumption of electricity, so exclude transmission and distribution losses.</p> <p>NZ-ECs (RECs) are digital certificates that carry ‘attributes’ of generated electricity – such as what fuel is used, where the generation site is, and how many carbon emissions are generated to produce it. These ‘attributes’ can then be redeemed against a consumer’s electricity usage, so that the consumer can report on their usage as if it was sourced directly from that generation site. More information can be found on the <a href="#">BraveTrace website</a>.</p>	

## SECTION I. METHODOLOGY – SCOPE 1, 2 AND 3 UPSTREAM EMISSIONS ESTIMATION

### Our approach to measuring scope 3 upstream indirect emissions

**Scope 3 upstream emissions** are indirect GHG emissions emitted as a consequence of Westpac Group operations but occur at sources owned or controlled by another organisation (other than electricity). Our scope 3 upstream emissions were measured for the period 1 July to 30 June and include operations in Australia, New Zealand and other international sites (Fiji, Papua New Guinea, Singapore, United Kingdom, China, Germany and the United States from 2022).

- Australian data is prepared using National Greenhouse Accounts Factors for location-based accounting or calculated under the Climate Active Neutral Standard for Organisations.
- New Zealand data is prepared in accordance with the New Zealand Ministry for the Environment guidance for GHG reporting and Toitū net carbonzero programme rules, using emission factors from the Ministry for the Environment Summary of Emissions Factors for location-based accounting or from BraveTrace, New Zealand Energy Certification System for market-based accounting.
- Other international sites' scope 3 upstream emissions are estimated by multiplying the Australian emissions per FTE by the number of FTEs at the Group's other international sites.

**Scope 3 upstream emissions (location-based)** reflects electricity emissions in the context of its location. It shows the physical emissions from a business' electricity consumption, reflecting the emissions intensity of the electricity grid(s) it relies on. The location-based method does not allow claims for renewable electricity from grid-imported electricity.

**Scope 3 upstream emissions (market-based)** reflects third parties/upstream electricity emissions in the context of renewable energy procurement. This method assigns an emissions factor of zero for electricity covered by renewable energy attribute certificates (EACs) (e.g. Large-scale Generation Certificates (LGCs)) and uses a residual mix factor (RMF) to calculate emissions from any remaining electricity consumption.

**TABLE 3: SCOPE 3 UPSTREAM INDIRECT EMISSIONS BY CATEGORY**

CATEGORY	CALCULATION BOUNDARY	CALCULATION METHODOLOGY	ACTIVITY DATA SOURCE
<b>1. Purchased goods and services (tCO<sub>2</sub>-e)</b>	Paper consumption includes office paper, copy paper and other paper items (e.g. statements) purchased through Westpac's key suppliers.	For Australia, paper emissions are calculated by multiplying paper consumption (kg) by an emissions factor sourced from 2023 Opal Australian Paper's Public Disclosure Statement and Indufor (2016), Recycled paper: A comparison of greenhouse gas emissions associated with locally made and imported paper products, prepared for Opal Australian Paper. For New Zealand, paper emissions are calculated by multiplying the type of paper consumed (i.e. carbon neutral or non-carbon neutral) by the relevant default Ministry for the Environment Summary of Emission Factors for non-carbon neutral and supplier-specific emission factors for carbon neutral paper.	Supplier records.
	Purchased electricity - third-party data centre and ATMs: Purchased electricity consumption includes: <ul style="list-style-type: none"> <li>• Third party data centres (Australia and New Zealand).</li> <li>• ATMs (Australia only).</li> </ul>	For Australia: <ul style="list-style-type: none"> <li>– Third-party data centre electricity activity data is based on invoice records provided by electricity suppliers.</li> <li>– Third party ATM electricity data is estimated based on average ATM usage per day by machine type multiplied by number of days the ATM was operational over the reporting period. The total usage is apportioned by the supplier to Westpac. Location- and market-based emission calculations and factors applied are as detailed under the purchased electricity (tCO<sub>2</sub>-e) category.</li> </ul>	Supplier records.



## SECTION I. METHODOLOGY – SCOPE 1, 2 AND 3 UPSTREAM EMISSIONS ESTIMATION

CATEGORY	CALCULATION BOUNDARY	CALCULATION METHODOLOGY	ACTIVITY DATA SOURCE
	<p>Water consumption: Water consumed at facilities under Westpac operational control in Australia. Excludes New Zealand.</p>	<p>Water consumption includes Australian commercial, retail, data centre and subsidiary sites, and is based on invoice records provided by suppliers. Where invoice data is not available, it is estimated based on the net lettable area and average consumption of similar properties.</p> <p>Water emissions are calculated by multiplying the water consumption (kL) data by region-specific water emission factors sourced from the Australian National Life Cycle Inventory Database (AusLCI v1.42), per the Climate Active Carbon Inventory.</p>	Utility invoices.
<b>3. Fuel- and energy- related activities (tCO<sub>2</sub>-e)</b>	<p>Purchased electricity – transmission and distribution losses:</p> <p>Losses due to the transmission and distribution (T&amp;D) of electricity to the end user. For Australia and New Zealand, this includes emissions from the electricity used by commercial, retail, data centre, subsidiary and ATM sites under the Group’s operational and non-operational control.</p>	<p>Location-based method calculates emissions by multiplying the converted activity by the transmission and distribution emission factor, sourced from the National Greenhouse Accounts Factors and Ministry for the Environment Summary of Emissions Factors, for Australia and New Zealand respectively.</p> <p>For Australia, market-based method calculates emissions by multiplying the residual electricity activity data (total electricity consumption reduced by the MWh of renewable electricity equivalent consumed) by the Australian Residual Mix Factor calculated under the Climate Active Carbon Neutral Standard for Organisations.</p> <p>For New Zealand, market-based method calculates emissions by multiplying the electricity activity data by the New Zealand Residual Supply Factors. The residual mix provides an emissions factor that accounts for the claims tracked through the use of contractual instruments described above such as RECs and prevents double counting of claims. In New Zealand the Residual Supply Mix factor is calculated and published by BraveTrace, formerly called Certified Energy.</p> <p>Location- and market-based method emission calculations are detailed under the purchased electricity (tCO<sub>2</sub>-e) category.</p>	Utility invoices and supplier records.
	<p>Stationary energy – Natural gas, Diesel, LPG Extraction and Distribution (E&amp;D):</p> <p>Extraction and distribution of the raw fuel sources to Westpac sites, prior to combustion.</p> <p>This includes indirect emissions from the consumption of natural gas, diesel and LPG used for stationary purposes at sites under Westpac operational control.</p>	<p>For Australia, natural gas activity data is based on invoice records. Where invoices have not been received, data is accrued using a seasonally adjusted weighted average method to derive an estimate. Diesel and LPG activity data is based on fuel delivery records.</p> <p>For New Zealand, natural gas and LPG use data is based on invoice records and diesel activity data is based on fuel delivery records. Where natural gas invoices have not been received, consumption is based on historical usage.</p> <p>Stationary E&amp;D emissions are calculated by multiplying the quantity of fuel type by the relevant energy content and emission factors, in line with National Greenhouse Accounts Factors and Ministry for the Environment Summary of Emissions Factors, for Australia and New Zealand respectively.</p>	Utility invoices and delivery records.



## SECTION I. METHODOLOGY – SCOPE 1, 2 AND 3 UPSTREAM EMISSIONS ESTIMATION

CATEGORY	CALCULATION BOUNDARY	CALCULATION METHODOLOGY	ACTIVITY DATA SOURCE
	<p>Transport energy – fleet fuels E&amp;D:</p> <p>Extraction and distribution (E&amp;D) of liquid fuels for transport (diesel, petrol, ethanol, LPG) by fleet vehicles under Westpac operational control, prior to combustion. Excludes New Zealand.</p>	<p>Transport fuel activity data is based on litres of fuel consumed for transport purposes (diesel, petrol, ethanol, LPG).</p> <p>Transport E&amp;D emissions are calculated by multiplying the quantity of fuel by the relevant energy content and emission factor by fuel type, in line with National Greenhouse Accounts Factors.</p>	Supplier records.
<b>4. Upstream transportation and distribution (tCO<sub>2</sub>-e)</b>	<p>Business logistics – couriers:</p> <p>For Australia, includes the collection of cheques, deposits, and the non-cash component of Westpac Business Express Deposits from branches to State mail hubs.</p> <p>For New Zealand, courier services include cash-in-transit.</p>	<p>For Australia, emissions are calculated by multiplying the number of deliveries by the emission factor provided by Australia Post.</p> <p>For New Zealand, data is sourced from our supplier who provides the proportion of their carbon footprint related to Westpac.</p>	Supplier records.
<b>5. Waste generated in operations (tCO<sub>2</sub>-e)</b>	<p>Paper disposal: Paper waste is recycled by the secure paper service provider for sites under Westpac operational control. Excludes New Zealand.</p>	<p>Paper volume activity data is based on actual bin weights. Emissions are calculated by multiplying paper volume by the emission factor for paper disposal to landfill, sourced from the National Greenhouse Accounts Factors.</p>	Supplier records.
<b>6. Business travel (tCO<sub>2</sub>-e)</b>	<p>Air travel:</p> <p>Undertaken by Westpac employees for business purposes.</p>	<p>Calculated by multiplying the passenger kilometres travelled by emission factors (including radiative forcing and well-to-tank factors).</p> <p>For Australia, emission factors are sourced from the UK Government GHG Conversion Factors for Company Reporting published by the Department for Business, Energy and Industrial Strategy.</p> <p>For New Zealand, emission factors are from the Ministry for the Environment Summary of Emission Factors which includes radiative forcing.</p>	Supplier records.

## SECTION I. METHODOLOGY – SCOPE 1, 2 AND 3 UPSTREAM EMISSIONS ESTIMATION

CATEGORY	CALCULATION BOUNDARY	CALCULATION METHODOLOGY	ACTIVITY DATA SOURCE
	<p>Hire vehicle and taxi travel undertaken by Westpac employees for business purposes.</p> <p>Personal vehicle travel for business purposes and is reported for New Zealand only.</p>	<p>Hire car kilometres travelled is sourced from Westpac’s supplier. Where distance data is not available, spend data is used to estimate kilometres travelled by applying the average \$/km sourced from Westpac’s supplier.</p> <p>For Australia, taxi kilometres is estimated from spend data utilising State-based fee per kilometre data of major taxi providers. For New Zealand, taxi kilometres travelled is from Westpac New Zealand’s preferred taxi provider. Where distance data is not available, spend data is used to estimate kilometres travelled.</p> <p>Personal vehicle travel includes kilometres travelled by New Zealand employees using their vehicles for business purposes and is reported for New Zealand only.</p> <p>Emissions for hire vehicles, taxi and personal vehicles are calculated by multiplying the distance travelled by the relevant emissions factors, sourced from the UK Government GHG Conversion Factors for Company Reporting published by the Department for Business, Energy &amp; Industrial Strategy and the National Transport Commission “Carbon Dioxide Emissions Intensity for New Australian Light Vehicles 2022” for Australia and from the Ministry for the Environment Summary of Emission Factors for New Zealand.</p>	Supplier and expense records.
	<p>Hotel stays:</p> <p>Accommodation nights undertaken by Westpac employees.</p>	Calculated by multiplying the number of nights by the emission factors sourced from the Cornell Hotel Sustainability Benchmarking Index, in line with the Climate Active Carbon inventory, for Australia and from the Ministry for the Environment Summary of Emission Factors for New Zealand.	Supplier records.
<b>7. Employee commuting (tCO<sub>2</sub>-e)</b>	<p>Employee commute:</p> <p>Commute undertaken by Westpac employees in Australia between their home and workplace.</p>	<p>For Australia, distance travelled by mode of transport is estimated based on Human Resource (HR) records that identify number of employees and their place of work, workplace attendance metrics based on turnstile data for our corporate staff and attendance requirements for other employees. We use the Climate Active ‘Staff Commute’ Calculator v7.2 which is based on Australian Bureau of Statistics (ABS) 2016 data on commuting patterns.</p> <p>The Group total for employee commute emissions includes Australian commute emissions and an uplift amount for New Zealand and other international sites. The uplift amount is an estimate based on Australian commute emissions per FTE (multiplied by FTE at international sites).</p> <p>Emissions are calculated by multiplying Activity data by Emission factors sourced from the UK Government GHG Conversion Factors for Company Reporting published by the Department for Business, Energy and Industrial Strategy.</p>	HR records that identify employee place of work, workplace attendance metrics based on turnstile data for our corporate staff and attendance requirements for other employees.

## SECTION I. METHODOLOGY – SCOPE 1, 2 AND 3 UPSTREAM EMISSIONS ESTIMATION

CATEGORY	CALCULATION BOUNDARY	CALCULATION METHODOLOGY	ACTIVITY DATA SOURCE
	<p>Working from home:</p> <p>Work undertaken by Westpac employees in Australia and New Zealand at their home.</p>	<p>For Australia, we use the Climate Active ‘Working from home’ calculator, using default assumptions as it relates to electricity, heating, cooling and equipment use, to estimate emissions. Emission factors are sourced from the National Greenhouse Accounts Factors.</p> <p>For New Zealand, working from home emissions are estimated using employee survey data (25% response rate) using the default work from home emissions factor from the Ministry for the Environment Summary of Emissions.</p>	<p>For Australia, working from home FTE data from HR records that identify number of employees and their place of work and attendance metrics based on turnstile data for corporate staff and attendance requirements for other employees.</p> <p>For New Zealand, employee survey data.</p>
<b>8. Upstream leased assets (tCO<sub>2</sub>-e)</b>	<p>Base building:</p> <p>Shared commercial building facilities or services (excludes retail sites) attributable to Westpac but not under our direct operational control, including both direct and indirect emissions (electricity, natural gas, stationary diesel, transmission and distribution losses). Excludes New Zealand.</p>	<p>Base building landlord supplied data is apportioned to Westpac tenancy (Westpac tenancy NLA/total building NLA).</p> <p>Where landlord data is not available, data is derived using a weighted average method.</p> <p>Emissions are calculated by multiplying the base building energy data by relevant emissions factors, sourced from the National Greenhouse Accounts Factors.</p>	<p>Landlord data and estimates under methodology described.</p>

# SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

## Power generation – target detail and methodology

The Power Generation sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p>We use ANZSIC (1993) code 3610 to identify the initial set of customers. Customers are then deemed in-scope where:</p> <ul style="list-style-type: none"> <li>• customers have &gt;10% revenue from power generation, or</li> <li>• &gt;5% of revenue from thermal coal electricity generation and customers with NGER scheme designated generation facilities.</li> </ul> <p>Power generation customers deemed out of scope are those involved in electricity transmission, distribution, and batteries.</p>
<b>Net-Zero Reference Scenario Pathway(s)</b>	<ul style="list-style-type: none"> <li>• CSIRO/ClimateWorks Australia Hydrogen Superpower Scenario (2021) derived from the multi-sector energy modelling report published in July 2021.</li> <li>• The CSIRO/ClimateWorks Australia Hydrogen Superpower scenario was chosen as the emissions attributable to our power generation portfolio are heavily weighted to Australian customers.</li> <li>• The scenario determines the most efficient manner to achieve the economy-wide decarbonisation required to meet a 1.5°C carbon budget. This means the scenario must focus on both power generation and the sector’s role in supporting decarbonisation of the wider economy (e.g., by supporting the electrification of transport).</li> <li>• Key assumptions of the reference scenario include: <ul style="list-style-type: none"> <li>- There will be a high uptake of electrification and energy efficiency improvements to 2030, with a rapid increase in the capacity of renewable energy technologies.</li> <li>- Coal power capacity is expected to be reduced significantly by 2030 and phased out from the energy system by 2035.</li> <li>- Low-cost and abundant renewable energy strengthens Australia’s green hydrogen production from 2030, enabling export opportunities.</li> <li>- Accelerated growth in renewable energy capacity will be required to enable transition of energy sources away from fossil fuels.</li> </ul> </li> </ul>



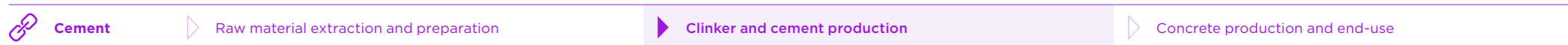
## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology</b>	<ul style="list-style-type: none"> <li>To estimate the emissions intensity associated with this sector, we use customer level data where it is publicly available. We used data for the customers available as at 30 September 2023. TCE data is at a point in time. Emissions intensity data is cumulative, over a 12-month period.</li> <li>To estimate customer power generation intensity, we use a weighted average emissions intensity for power generation, weighted using the TCE for each customer. The emissions intensity for each customer is the scope 1 and 2 emissions (tCO<sub>2</sub>-e) of its electricity generation, divided by electricity generated (MWh).</li> <li>For Australian customers, we use data reported under the NGER scheme, excluding batteries. An average emissions intensity is applied to wind and solar generation projects where data is not yet available under NGER or the NGER-calculated intensity for the project is more than twice the industry average. The average emissions intensity applied is the average of all generation facilities for which 'Primary fuel' under NGER is wind or solar respectively. This typically occurs for projects in construction for all or part of the reporting period.</li> <li>For international and Westpac New Zealand customers, data is sourced from customer reporting, where available. If not available, the relevant Australian average emissions intensity is applied to wind and solar generation projects as above.</li> </ul>
<b>Methodology changes</b>	No material changes to the methodology since the prior reporting period.
<b>Planned target reviews</b>	In line with our NZBA commitment, we will review the sector target within five years of setting the target. As part of this, we will monitor any material changes to our chosen science-based pathway or any other dependencies on our target to ensure our methodology is appropriate.
<b>Dependencies/Risks</b>	<ul style="list-style-type: none"> <li>Delays in approvals for construction of greenfield renewable energy projects may impact the ability to support the decarbonisation of Australia's electricity grid.</li> <li>Continued government support will be required to ensure the infrastructure and policy levers are in place to de-risk renewable energy, transmission and distribution projects.</li> </ul> <p>We will consider the intersecting requirements of emissions reduction, the feasibility of emerging technologies, as well as energy affordability, security and reliability.</p>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

### Cement production – target detail and methodology

The Cement production sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p>Customers in scope are determined by identifying cement manufacturing customers with an overlay to only include customers which produce both clinker and cement in-house.</p> <p>Parts of the value chain out-of-scope are upstream emissions from the production of purchased clinker, transportation, and delivery of materials to the production facility. Downstream emissions from the distribution and use of cement in other building materials (e.g., concrete).</p>
<b>Net-Zero Reference Scenario Pathway(s)</b>	<p>Science Based Targets Initiative (SBTi) Cement Target Setting Guidance – Sectoral Decarbonisation Approach (SDA), 2022.</p> <p>The SBTi reference pathway was chosen as it provides regional granularity which is aligned to the geographic location of customers we lend to in this sector.</p> <p>The SBTi recommends a Sectoral Decarbonisation Approach (SDA) for setting targets in this sector. The target is calculated using a 2050 convergence approach; after establishing a base year, the physical intensity pathway converges with the sector average intensity by 2050.</p> <p>Using the SBTi calculator and the most recent industry baseline intensity, 0.77 tCO<sub>2</sub>-e/tonne cement (Cement Industry Federation, Australian Cement Report, August 2020, emissions intensity from on-site clinker in 2018-19) the pathway reaches a 2030 emissions intensity of 0.57 tCO<sub>2</sub>-e/tonne cement.</p> <p>In March 2022, SBTi published its draft guidance on target-setting in the cement sector, where they worked with the IEA to refine the emissions profile of the cement industry, specifically on the scope 2 emissions reduction requirements for cement production. Following public consultation, SBTi released version 1.0 of its guidance in September 2022 which remains unchanged from the draft guidance.</p> <p>Key assumptions of the SBTi reference scenario include:</p> <ul style="list-style-type: none"> <li>• To 2030, emissions reductions for the SBTi cement sector pathway are within conventional technologies. The key decarbonisation levers are substitution of clinker for alternative lower emissions materials, energy efficiency gains and fuel switching.</li> <li>• Emissions reduction in the built environment will be achieved through building material efficiency improvements, e.g. through recycling concrete or designing buildings to require less concrete. This in turn restricts growth in cement demand.</li> <li>• The IEA NZE assumes that by 2030, 9% of global cement production is equipped with innovative technologies, such as carbon capture usage and storage.</li> <li>• It is assumed that the general trend in electricity consumption for cement manufacturing is in line with electricity consumption for all heavy industries. However, the scope 2 emissions global pathway for cement is adjusted to reflect comparatively slower growth of cement demand.</li> </ul>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology</b>	<p>To calculate the emissions intensity of our customers, we use customer level data where it is publicly available. We used the latest available data for the customers as at 30 September 2023. TCE data is at a point in time as at 30 September. As customers' reporting cycles often differ from Westpac's, the bank selects the customers' 12-month periods, reported prior to 30 September, to align these data most closely with Westpac's reporting periods.</p> <p>Our cement portfolio physical emissions intensity is estimated as the weighted average physical emissions intensity of customers. Customer physical intensity is weighted by the relative contribution of each in-scope customer's absolute financed emissions to our absolute financed emissions for the sector.</p> <p>All data for current in-scope customers is based on customer information, with no estimates or proxies utilised. To attribute our share of customers' emissions intensity, we use cement emissions intensity data reported by customers or calculated using customer information and then attribute Westpac's share using customer TCE as a proportion of customer EVIC.</p>
<b>Methodology changes</b>	No material changes to the methodology since the prior reporting period.
<b>Planned target reviews</b>	In FY23, we reviewed the target to assess the feasibility of including scope 3 emissions in our cement sector target. Due to data limitations we have not updated our target. We will continue to assess this and in line with our NZBA commitment review the target within five years.
<b>Dependencies/Risks</b>	<ul style="list-style-type: none"> <li>• The cement industry is reliant on a reduction in the emissions intensity of electricity purchased and the roll-out of renewable energy.</li> <li>• Reduction in the ratio of clinker used relies on the availability and cost of substitute cementitious materials. Further reduction in clinker use will rely on changes to building standards/new technologies.</li> <li>• Some reliance is expected to come from carbon capture and storage technologies which are yet to be proven at scale.</li> </ul>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

### Upstream oil and gas – target detail and methodology

The Upstream oil and gas sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p>We use ANZSIC (1993) codes 1200, 1511, 1512, 2510 to identify the initial set of customers.</p> <p>The Oil and Gas industry operates across three segments, upstream, midstream and downstream. Upstream activities include the exploration, development and extraction of crude oil and natural gas. Midstream includes the transportation, storage and processing (refining) of petroleum and gas products. Downstream includes distribution activities.</p> <p>Companies are in-scope where they are involved with exploration, extraction and drilling, all activities of integrated oil and gas companies (IOCs), tolling (contract manufacturing) and stand-alone refineries and LNG producers. This includes customers who are diversified, and their operations include the above.</p> <p>Parts of the oil and gas value chain out-of-scope include downstream retail and distribution; pipeline infrastructure; storage and transport; and trading entities.</p>
<b>Net-Zero Reference Scenario Pathway(s)</b>	<p>IEA NZE 2050 scenario (2021) complemented with CSIRO/ClimateWorks Australia, Hydrogen Superpower scenario (2021).</p> <p>The IEA NZE 2050 (2021) scenario and CSIRO/ClimateWorks Australia, Hydrogen Superpower scenario were selected as a combined reference pathway. This combination accurately reflects our customers and lending profile in this sector.</p> <p>Assumptions behind the pathway:</p> <ul style="list-style-type: none"> <li>• The decarbonisation trajectory of oil demand in the IEA NZE means no exploration for new resources is required, other than fields already committed at 18 May 2021.</li> <li>• No new natural gas fields are needed in the IEA NZE beyond those already committed as at 18 May 2021.</li> <li>• Once fields under development commence production, all upstream investment in the IEA NZE is to support operations in existing fields.</li> <li>• Innovation is key to developing new clean energy technologies and advancing existing ones. Almost 50% of the emissions reductions needed in 2050 in the IEA NZE depend on technologies at the prototype or demonstration stage, i.e. are not yet available on the market.</li> <li>• In the CSIRO/ClimateWorks Australia Hydrogen Superpower scenario, a weaker push to electrify heavy industry leads to higher demand for natural gas into the 2030s, at which point a large amount of gas use begins to switch to hydrogen.</li> </ul>



## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology</b>	<p>To estimate the financed emissions associated with the sector target, we use customer level data where it is publicly available. We used data for the customers at 30 September 2023. TCE data is at a point in time while production and emissions data is cumulative, over a 12-month period. Production data, emissions data, and financial data for customers is the most recent public data available at 30 September 2023.</p> <p>To estimate customer emissions, we source customer scope 1, 2 and 3 emissions directly from customers or via publicly reported information.</p> <p>Where customer-level data is not available, production data is sourced from public disclosures and an emissions intensity factor (based on production) is then used to estimate customer emissions.</p> <p>Where production data is not available, we estimated customer scope 1 and 2 emissions by applying sector-level emissions intensity factors to customer financial information. Sector level emissions intensity factors were derived from a combination of Australian Government Department of Agriculture, Water and the Environment – National Greenhouse Accounts – National inventory by economic sector for 2020 and ABS – National inventory by economic sector for 2020.</p> <p>Where production data is not available, we estimated the scope 3 emissions by applying sector level scope 3 emissions intensity factors that were derived from known revenue figures and reported emissions totals of customers in these sectors. Sector financial ratios for Australian industry sectors were based on information from financial market data providers' data for Australia and New Zealand's top companies.</p> <p>To attribute our share of customers' emissions, we use a customer's reported emissions and then attribute Westpac's share using customer TCE as a proportion of customer enterprise value including cash (EVIC).</p>
<b>Methodology changes</b>	<p>No material changes to the methodology since the prior reporting period.</p>
<b>Planned target reviews</b>	<p>In line with our NZBA commitment, we will review the sector target within five years of setting the target. As part of this, we will monitor any material changes to our chosen science-based pathway or any other dependencies on our target to ensure our methodology is appropriate.</p>
<b>Dependencies/Risks</b>	<p>The rate of decarbonisation of the sector could be affected by government policy, availability of new technologies, economic feasibility, or other factors such as energy security, energy affordability and the energy transition.</p>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

### Thermal coal mining – target detail and methodology

The Thermal coal mining sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p>We use ANZSIC (1993) codes 1101, 1102 and 1103 to identify the initial set of customers.</p> <p>Customers are then determined in-scope where &gt;5% of their revenue comes directly from thermal coal mining, calculated on a three-year rolling average. Our target covers the production and sale of thermal coal only.</p> <p>As a final check, within the Institutional Bank, we also conduct additional screening to identify all customers with &gt;5% revenue from thermal coal mining, irrespective of ANZSIC code. If a diversified company has more than 5% of their revenue from thermal coal mining (including but not limited to metallurgical coal mining), we isolate the financed emissions associated with thermal coal mining and include them in the scope of this target. The financed emissions associated with the other components of their business, where relevant, are incorporated into other sector-level targets.</p> <p>The revenue threshold relates only to customers owning the coal reserves (via a mining lease) and generating revenue from the sale of those reserves at market prices (not contractors). Adjacent sectors (including mining service providers) are to be covered in other targets as appropriate. Rehabilitation bonds and transactional services are also excluded.</p>
<b>Net-Zero Reference Scenario Pathway(s)</b>	<p>IEA NZE 2050 scenario (2021).</p> <ul style="list-style-type: none"> <li>We selected an absolute financed emissions target as thermal coal use in power generation will be replaced by other energy sources and so an intensity target is not suitable. This aligns with NZBA guidance.</li> <li>We maintain our commitment to reduce lending (TCE) to zero by the end of 2030 to companies with &gt;5% of their revenue coming directly from thermal coal mining (see Our sector positions in our <a href="#">2024 Climate Report</a>).</li> <li>The IEA NZE reference scenario results in a 70% reduction to 2030 on a FY20 baseline. Our target is below this pathway, with a 100% reduction (a reduction to zero). We will continue to monitor updated and new reference scenario pathways to ensure our chosen pathway is appropriate.</li> </ul>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology</b>	<p>To calculate the financed emissions associated with the sector target, we use customer level data where it is publicly available. We used data for the customers at 30 September 2023. TCE data is at a point in time while production and emissions data is cumulative, over a 12-month period. Production data, emissions data, and financial data for customers is the most recent public data available at 30 September 2023.</p> <p>Absolute financed emissions by customer is estimated using a customer's emissions and then attributing Westpac's share using customer TCE as a proportion of customer EVIC.</p> <p>Use of a revenue threshold may result in some customers moving in/out of scope of the target due to price movements in thermal coal and other commodity prices.</p> <p>We annually calculate the percentage of revenue directly from companies with thermal coal businesses using an average of the previous three years and sourcing data from audited annual accounts.</p> <p>Where revenue by commodity is not available, we estimate by multiplying coal production by the average benchmark thermal coal price for the year. If a customer does not publish or provide financial statements which itemise thermal coal revenues, we utilise estimated production data from a third-party data provider, in conjunction with thermal coal benchmark prices, to estimate thermal coal revenues.</p> <p>If a customer does not itemise its emissions to thermal coal, our approach is as follows:</p> <ul style="list-style-type: none"> <li>• For customers reporting more than 50% revenue from thermal coal, we attribute 100% of emissions to thermal coal.</li> <li>• For customers reporting less than 50% but more than 5% revenue from thermal coal mining, we allocate emissions based on a data hierarchy as follows: First by reference to the customer's reported share of assets attributable to thermal coal. Second if assets are not segmented, by reference to the share of revenues represented by thermal coal. This hierarchy is only applied to customers with TCE greater than \$100 million.</li> </ul> <p>As this 5% revenue threshold creates a potential customer scope beyond ANZSIC codes, manual portfolio screening is required to identify all customers with any thermal coal revenue, which are then subject to the three-year revenue test.</p> <p>To attribute our share of customers' emissions, we use a customer's reported emissions and then attribute Westpac's share using customer TCE as a proportion of customer EVIC.</p> <p>Scope 1, 2 and 3 emissions data is sourced from customer reporting, or if not available, production data is sourced from public disclosures and an emissions intensity factor (based on production, sourced from the National Greenhouse Account Factors) is then used to estimate customer emissions.</p> <p>Where customer production data is not available, we estimate customer emissions by applying sector-level emissions intensity factors to production estimates which are sourced from a third-party data provider.</p>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology changes</b>	<p>No material changes to the methodology since the prior reporting period.</p> <p>In April 2024 the NZBA updated its guidelines to provide more clarity in how metallurgical coal mining companies and diversified companies could be classified when setting targets.</p> <p>We expect to update our thermal coal mining target to align with this change for the FY24 year (our FY25 reporting). This will see the boundary of our thermal coal mining NZBA sector target updated to exclude metallurgical coal mines that produce a thermal coal byproduct and diversified miners that produce a thermal coal product where their dominant activity is not thermal coal.</p>
<b>Planned target reviews</b>	<p>In line with our NZBA commitment, we will review the sector target within five years of setting the target. As part of this, we will monitor any material changes to our chosen science-based pathway or any other dependencies on our target to ensure our methodology is appropriate.</p>
<b>Dependencies/Risks</b>	<p>The 5% revenue threshold presents a risk of some diversified companies being scoped in or out of the boundary due to commodity price movements. This could result in movements in reported emissions for this target.</p>



## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

### Aviation (passenger aircraft operators) – target detail and methodology

The Aviation sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p>We use ANZSIC (1993) codes 6401, 6402, 6403, 7742 to screen the initial set of customers. The ANZSIC classification is supplemented with detailed customer knowledge to confirm in-scope and out-of-scope customers. Customers in-scope are ones which operate scheduled passenger air transport.</p> <p>We included emissions from freight operations undertaken by passenger airline operators as the movement of freight and the movement of passengers are often undertaken at the same time.</p> <p>Parts of the value chain out-of-scope are aircraft lessors and freight only operators; the latter due to their immateriality to the sector globally and Westpac’s financed emissions. We have excluded aircraft lessors given Westpac’s capacity to influence the sector’s transition is greatest with aircraft operating customers.</p>
<b>Net-Zero Reference Scenario Pathway(s)</b>	<p>IEA NZE 2050 scenario, 2021.</p> <p>The scenario projects emissions<sup>a</sup> and activity<sup>b</sup> data for global aviation to model a decarbonisation pathway. We have selected the IEA NZE 2050 modelled emissions intensity as our target, which was calculated as sector emissions divided by sector activity and appropriately represents the customers in our portfolio.</p> <p>Key assumptions of the IEA NZE 2050 reference scenario include:</p> <ul style="list-style-type: none"> <li>• The use of sustainable aviation fuels (SAF) increases to around 15% of total fuel consumption by 2030. The rapid development and deployment of SAF required in this scenario requires policy changes such as low carbon fuel standards, biofuel mandates, and CO<sub>2</sub> removal credits (offsets).</li> <li>• Implementation of operational improvements, coupled with fuel efficiency technologies for both airframes and engines, are expected to limit the growth of aviation fuel demand.</li> <li>• While air travel is assumed to grow at around 3% per annum through to 2050, growth is expected to be constrained by implementation of government policies. Globally, the policies are expected to promote a shift towards high-speed rail from regional flights (may be less common in SE Asia and Oceania), and a reduction in long-haul business travel using, for example, taxes on commercial passenger flights.</li> <li>• Overall, global CO<sub>2</sub> emissions from aviation are expected to peak at around 950 Mt by 2025 before beginning to reduce through the above measures.</li> <li>• In 2050, emissions from the aviation sector are expected to account for just over 10% of unabated CO<sub>2</sub> emissions from fossil fuels and industrial processes.</li> <li>• To achieve net-zero in the sector the use of offsets may be required.</li> </ul>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology</b>	<p>To calculate the emissions intensity of customers, we use customer level data. We used the latest available data for the customers at 30 September 2023. TCE data is at a point in time as at 30 September. As customers' reporting cycles often differ from Westpac's, the bank selects the 12-month period ending to align this data most closely with Westpac's reporting period.</p> <p>Our aviation physical emissions intensity portfolio metric is estimated by dividing total portfolio attributable emissions by the total portfolio attributable activity (passenger kilometres). Attributable emissions and production are determined by calculating an attribution factor that is then multiplied by customers' total emissions and total production.</p> <p>We use absolute scope 1 emissions and passenger-kilometres (activity) as reported by companies.</p> <p>Where customer-specific emissions or activity data from customer reporting is not available, we estimate by applying portfolio average weighted by the proportion of exposure to the specific customer.</p>
<b>Methodology changes</b>	<p>No material changes to the methodology since the prior reporting period.</p>
<b>Planned target reviews</b>	<p>In line with our NZBA commitment, we will review the sector target within five years of setting the target. As part of this, we will monitor any material changes to our chosen science-based pathway or any other dependencies on our target to ensure our methodology is appropriate.</p>
<b>Dependencies/Risks</b>	<ul style="list-style-type: none"> <li>• The aviation sector was highly impacted by the COVID pandemic resulting in emissions intensities higher than the IEA NZE 2050 pathway (fewer passengers per flight). Increased activity has improved efficiency with travel having moved back to pre COVID levels.</li> <li>• The IEA notes that rapid development and deployment of SAF using policy mechanisms such as low carbon fuel standards, biofuel mandates, and CO<sub>2</sub> removal credits (offsets), will be required to achieve SAF usage at 15% of total fuel consumption by 2030. The ability of the global aviation sector to achieve the emission reductions required under the IEA NZE 2050 scenario and the ability of our customers to meet their published decarbonisation commitments is highly dependent on the availability (and cost) of SAF.</li> <li>• We currently do not have specific data on customer use of offsets, but use of offsets is common in this sector and some customers have indicated that offsets will be used to meet interim targets. Under the IEA NZE 2050 scenario carbon dioxide removal technologies to offset residual emissions are likely to be required to achieve net-zero by 2050.</li> </ul>

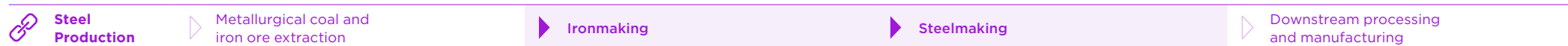
a. Data from Table A.4: CO<sub>2</sub> emissions for aviation, IEA NZE 2050 October 2021 4th revision, page 199.

b. Data from Table A.5: Economic and Activity indicators for aviation, IEA NZE 2050 October 2021 4th revision, page 200.

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

### Steel production – target detail and methodology

The Steel sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p>We use ANZSIC (1993) code 2741 to identify the initial list of customers.</p> <p>Customers are then determined to be in-scope where they are involved in the production of crude steel.</p> <p>Customers out-of-scope are customers involved in downstream manufacturing, processing of end products and fabrication of products from steel (noting some such customers have ANZSIC 2741).</p>
<b>Net-Zero Reference Scenario Pathway(s)</b>	<p>Mission Possible Partnership (MPP), Technology Moratorium scenario, 2021.</p> <p>This scenario was selected as it has sufficient granularity around primary (includes integrated steelmaking) and secondary (includes electric steelmaking) processes, which we consider to be a critical building block for a credible steel pathway, despite being aligned to a 'well below 2°C' temperature ambition. This pathway is recognised within the sector and is used by a number of international banks. Glasgow Financial Alliance for Net Zero (GFANZ) guidance acknowledges the MPP pathway on steel provides detailed information on assumptions around steel production by different technologies over time.</p> <p>Key assumptions of the scenario include:</p> <ul style="list-style-type: none"> <li>• Investments confined to (near-) zero-emissions technologies from 2030 onwards.</li> <li>• Scope 1 and 2 steel emissions and scope 3 metallurgical coal emissions are assumed to decline at the same rate.</li> </ul> <p>We will continue to monitor reference scenario pathways to ensure our chosen pathway is appropriate.</p>
<b>Methodology</b>	<p>To calculate the emissions intensity associated with the sector target, we use customer level data, when publicly available. We used data for the customers available as at 30 September 2023. TCE data is at a point in time while production and emissions data is cumulative, over a 12-month period. Production data, emissions data, and financial data for customers is the most recent public data available as at 30 September 2023.</p> <p>Our steel emissions intensity is estimated by dividing total attributable portfolio emissions by total attributable portfolio production. Attributable emissions and production are determined by calculating an attribution factor that is then multiplied by customers' total emissions and total production. The attribution factor is equal to TCE as a proportion of EVIC. Total attributable portfolio emissions is equal to the sum of all attributable emissions and total attributable portfolio production is equal to the sum of all attributable production.</p> <p>We use absolute scope 1 and 2 emissions and production data reported by customers in their annual, sustainability and/or climate reports, as this is considered the most reliable source of data. All data for current in-scope customers is based on customer information, with no estimates or proxies utilised.</p>

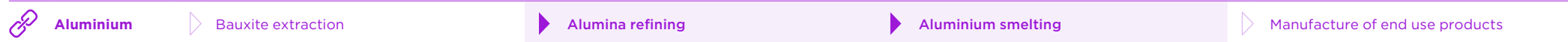
## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology changes</b>	No material changes to the methodology since the prior reporting period.
<b>Planned target reviews</b>	In line with our NZBA commitment, we will review the sector target within five years of setting the target. As part of this, we will monitor any material changes to our chosen science-based pathway or any other dependencies on our target to ensure our methodology is appropriate.
<b>Dependencies/Risks</b>	<ul style="list-style-type: none"><li data-bbox="331 403 2170 430">• An MPP Technology Moratorium scenario assumption is that investments of near-zero technologies occur after 2030.</li><li data-bbox="331 435 2170 491">• Like many sectors, steel manufacturing relies on the decarbonisation of the grid to support its transition. If grid decarbonisation is slower than anticipated, the ability of crude steel manufacturers to decarbonise may be impacted.</li><li data-bbox="331 496 2170 549">• Particularly in the steel sector, there are inconsistencies between producers related to emissions boundaries. Progress is being made to establish more consistent boundaries. It is possible this boundary re-scoping may impact how pathways are calculated and/or the emissions of customers.</li></ul>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

### Aluminium – target detail and methodology

The Aluminium sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p>Aluminium production is a multi-step process. Mined bauxite ore is the basic raw material. The ore is crushed and mixed with caustic soda solution to dissolve the ore's alumina content. Further processing is applied to produce aluminium oxide (alumina). Alumina, a dry white powder, is then dissolved. A high-intensity electrical current is applied to create an electrolysis reaction that reduces the alumina into molten aluminium (smelting). The molten aluminium is cast into ingots, slabs, billets and T-bars for further processing before being manufactured into end-use products. Secondary aluminium is produced by melting scrap aluminium. As there is no electrolysis, or smelting, this process consumes less than 5% of the energy needed to produce primary aluminium.</p> <p>95% of primary aluminium production emissions lie within scope 1 and scope 2 of the refining and smelting processes. We include these processes in our boundary definition.</p> <p>We use ANZSIC (1993) codes 2721 (Alumina production) and 2722 (Aluminium smelting) to identify the customers in scope.</p> <p>Rehabilitation bonds are excluded.</p> <p>We exclude the extraction of bauxite ore in open-cut mining except where reported as part of vertically integrated operations. In line with our Steel target, we exclude end-product manufacture. We exclude secondary production, as it does not reflect our customers' activities, and due to data limitations.</p>
<b>Net-Zero Reference Scenario Pathway(s)</b>	<p>The International Aluminium Institute (IAI) 1.5°C pathway is a global, 1.5-degree aligned reference pathway. The pathway incorporates all production processes including bauxite mining, alumina refining and aluminium smelting.</p> <p>The IAI provides separate pathways for primary aluminium and secondary aluminium. We have applied the primary aluminium pathway as it most accurately represents our customers' reported activities. We have adjusted this pathway to reflect our target boundary by excluding bauxite mining and scope 3 activities. The availability of a secondary pathway will allow Westpac the flexibility to include secondary production in future target boundary expansion where relevant.</p> <p>A key assumption of this reference pathway is that aluminium demand will grow by 55% by 2050, the increase met predominantly by secondary production. A lack of post-consumer scrap means primary production will still be required into the second half of the century. The carbon intensity of primary metal under the 1.5 degree pathway reduces from 16.1 tCO<sub>2</sub>e/t Primary aluminium in 2018 to 0.5 tCO<sub>2</sub>e/t Primary aluminium by 2050, and total greenhouse gas emissions from the aluminium sector are expected to be 53 million tonnes, down from 1.1 billion tonnes in 2018. Decarbonisation levers for aluminium production include:</p> <ul style="list-style-type: none"> <li>• Electricity decarbonisation;</li> <li>• Direct emissions reduction from anode consumption in smelting, and fuel combustion across all production processes;</li> <li>• Recycling and resource efficiency. No aluminium is lost to landfills or incinerators due to better collection systems by 2050.</li> </ul>

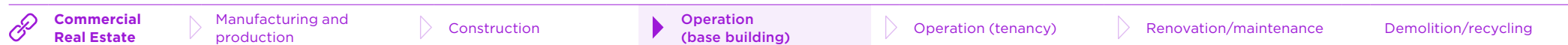
## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology</b>	<p>To calculate the emissions intensity associated with the sector target, we use customer and asset level data, when publicly available. We used data for the customers available as at 30 September 2023. TCE data is at a point in time while production and emissions intensity data is cumulative, over a 12-month period. Production data, emissions data, and financial data for customers is the most recent public data available as at 30 September 2023.</p> <p>We prioritise the use of absolute scope 1 and 2 emissions and production data reported by customers in their annual, sustainability and/or climate reports, as this is considered the most reliable source of data. We also use the most recent publicly available asset level data for estimating the emissions intensity for our lending associated with these assets when identifiable. All data for current in-scope customers is based on customer or asset information, where available.</p> <p>To estimate our aluminium portfolio intensity we use a weighted average emissions intensity, weighted using the TCE for each customer in the portfolio. The total emissions intensity for each customer is the scope 1 and 2 emissions from alumina refining, divided by tonnes of alumina production, and the scope 1 and 2 emissions from aluminium smelting, divided by tonnes of aluminium produced. The emissions intensity for alumina is expressed in terms of aluminium equivalent, using the industry recognised factor of 1.9 tonnes alumina production per 1.0 tonne of aluminium production.</p>
<b>Planned target reviews</b>	<p>In line with our NZBA commitment, we will review the sector target within five years of setting the target. As part of this, we will monitor any material changes to our chosen science-based pathway or any other dependencies on our target to ensure our methodology is appropriate.</p>
<b>Dependencies/Risks</b>	<p>Decarbonisation before 2030 may be constrained by:</p> <ul style="list-style-type: none"> <li>• Availability of technology to decarbonise emissions from alumina refining and aluminium smelting emissions (Scope 1).</li> <li>• Electrical grid capacity to electrify alumina refining processes.</li> <li>• A sufficient supply of firmed lower carbon energy source.</li> <li>• Contracted electricity supply from higher emissions sources.</li> <li>• Pivot of customer activities towards secondary aluminium production.</li> </ul>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

### Commercial Real Estate (Offices) – target detail and methodology

The Commercial Real Estate sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p>We use ANZSIC codes for Commercial Property Operators and Developers and Non-Residential Property Operators to identify the initial set of customers. These codes start with either 771- (ANZSIC 1993) or 671- (ANZSIC 2006).</p> <p>Our target applies to in-scope office facilities for commercial real estate customers in Australia and New Zealand, where the TCE is greater than or equal to \$5 million for Australian facilities, or NZ\$5 million for New Zealand facilities.</p> <p>Exposures associated with site finance and construction of offices are excluded.</p>
<b>Net-Zero Reference Scenario Pathway(s)</b>	<p>IEA NZE 2050 scenario, 2021.</p> <p>IEA NZE is a 1.5°C aligned decarbonisation reference scenario for the building sector at a global level and is based on a global dataset for building energy demand, energy sector emissions and building area.</p> <p>Key assumptions of the IEA NZE reference scenario include:</p> <ul style="list-style-type: none"> <li>• Electrification and energy efficiency are the two drivers of decarbonisation of the sector. That transformation relies primarily on technologies already available, including improved envelopes for new and existing buildings, heat pumps and energy-efficient equipment and appliances.</li> <li>• Increasing electrification of space heating and water heating.</li> <li>• Rapid shifts to zero-carbon-ready technologies enable the share of fossil fuels in energy demand to fall significantly.</li> <li>• By 2030, around 20% of the existing building stock worldwide will be retrofitted and all new buildings will comply with zero-carbon-ready building standards. Carbon pricing is introduced across all regions.</li> </ul> <p>Operational emissions in offices mainly arise from electricity consumption. The IEA NZE scenario identifies a number of variables that are expected to contribute to a decarbonisation pathway in the commercial real estate sector, such as the pace of electrification of building equipment and central services, decarbonisation of the grid through increased renewable generation, and expected energy demand. We calculated the target as a 59% reduction in emissions intensity (kgCO<sub>2</sub>-e/m<sup>2</sup> net lettable area) by 2030 from a 2022 baseline, based on the decarbonisation pathway laid out in the IEA NZE scenario.</p>



## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology</b>	<p>To estimate the emissions intensity of our customers, where possible, we use customer level data. We used the most recently available data for our customers as at 30 September 2023. TCE data is at a point in time as at 30 September. As customers' reporting cycles often differ from Westpac's, the bank selects the 12-month period ending either on 30 June or 31 December to align this data most closely with Westpac's reporting periods.</p> <p>Our Commercial Real Estate (offices) physical emissions intensity is estimated by taking the TCE weighted average emissions intensity for in-scope facilities. Each in-scope facility's emissions intensity is multiplied by its weight in Westpac's in-scope lending portfolio for the sector to determine the weighted average emissions intensity.</p> <ul style="list-style-type: none"> <li>• Scope 1 and 2 Emissions for our customers' facilities is based on information collected on, or disclosed by, customers, where available.</li> <li>• Where customer data was not available we have applied a proxy value determined from the National Australian Built Environment Rating System (NABERS) rating register for Australian customer facilities, or the New Zealand Green Building Council for New Zealand customer facilities.</li> <li>• The Australian proxy value estimates the emissions intensity of the 'below average' assets (with a rating between 0 and 4.5 Stars) from the NABERS rating register, and calculates the area-weighted average emission intensity. For the New Zealand proxy, we have used a value obtained from the NZ Green Building Council, based on the NABERSNZ benchmarking report from 2013.</li> </ul>
<b>Methodology changes</b>	<p>No material changes to the methodology since the prior reporting period.</p>
<b>Planned target reviews</b>	<p>In line with our NZBA commitment, we will review the sector target within five years of setting the target. As part of this, we will monitor any material changes to our chosen science-based pathway or any other dependencies on our target to ensure our methodology is appropriate.</p>
<b>Dependencies/Risks</b>	<ul style="list-style-type: none"> <li>• A significant part of the reduction is expected through grid decarbonisation, with additional contributions from on-site renewable energy and energy efficiency. We expect additional reductions from providing finance for customers as they develop and implement their transition plans.</li> <li>• Many of our large corporate customers are progressing towards achieving net-zero carbon for their office portfolios.</li> <li>• Since expanding the boundary, we have captured more customers and are working on our engagement plan to determine how we can support their transition journeys.</li> </ul>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

### Residential Real Estate (Australia) – target detail and methodology

The Residential Real Estate sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p>Australian Mortgages, including owner occupier and investment loans. The target boundary includes scope 1 (excluding fugitive and LPG emissions) and scope 2 emissions.</p> <p>Exclusions:</p> <ul style="list-style-type: none"> <li>• Scope 3 emissions.</li> <li>• Mortgages on vacant land.</li> <li>• Equity access loans (a line of credit using a mortgage as security).</li> <li>• Construction loans.</li> </ul>
<b>Net-Zero Reference Scenario Pathway(s)</b>	<p>Carbon Risk Real Estate Monitor (CRREM) Australia Multi-family homes (MFH) scenario, 2023.</p> <ul style="list-style-type: none"> <li>• The CRREM pathways have been developed in partnership with the Science Based Targets Initiative (SBTi) as part of a technical collaboration to provide 1.5°C in-use emissions decarbonisation pathways for the buildings sector.</li> <li>• CRREM has derived country-specific carbon reduction pathways by downscaling the IEA NZE 2050 scenario.</li> <li>• The assumed rate of grid decarbonisation appears to be conservative compared to the rate of expected grid decarbonisation in Australia.</li> <li>• Westpac’s baseline emissions intensity may not be directly comparable with CRREM due to differences in methodologies and assumptions.</li> </ul>

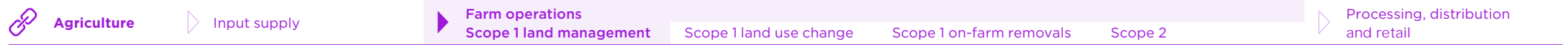
## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology</b>	<p>Westpac does not currently capture customer-level emissions data, as a result proxies have been used to estimate emissions for residential buildings.</p> <p><b>Data sources:</b></p> <ul style="list-style-type: none"> <li>• Energy consumption data was sourced from the Australian Energy Regulator’s residential customers electricity and gas benchmark report 2020.</li> <li>• Electricity and gas emission factors were sourced from National Greenhouse Accounts Factors.</li> <li>• Floor area for the majority of our portfolio is from external providers.</li> </ul> <p><b>Calculation methodology:</b> The approach to estimating emissions depends on availability of data:</p> <ul style="list-style-type: none"> <li>• Where floor area is known, building emissions were estimated as a function of energy consumption per floor area for each dwelling type and State, floor area, and energy emission factors by State.</li> <li>• Where floor area was unknown, building emissions were estimated as a function of energy consumption per dwelling type and State, number of buildings, and energy emission factors by State.</li> </ul> <p>These approaches are in line with PCAF data quality scores 4 and 5, respectively.</p> <ul style="list-style-type: none"> <li>• To calculate the emission intensity, where floor area was unknown, floor area was estimated using the average of known floor area by State and dwelling type.</li> <li>• The portfolio emission intensity was calculated by dividing sum of attributed scope 1 and 2 emissions by attributed floor area. The attribution factor is calculated using the loan-to-value ratio (outstanding balance divided by value at origination).</li> </ul>
<b>Methodology changes</b>	<p>No material changes to the methodology since the prior reporting period.</p>
<b>Planned target reviews</b>	<p>In line with our NZBA commitment, we will review the sector target within five years of setting the target.</p>
<b>Dependencies/Risks</b>	<p>The target is heavily dependent on grid decarbonisation. Achievement of the target is unlikely if the grid does not decarbonise as quickly as expected.</p>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

### Agriculture – Australia Beef and Sheep – target detail and methodology

The Agriculture sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p>Commercial relationship-managed and institutional agriculture customers with TCE ≥\$1.5 million. Includes those whose banking needs are looked after by designated Relationship Managers.</p> <p><b>ANZSIC (1993) codes used for scope:</b> 0125 Beef Cattle Farming, 0124 Sheep Farming, 0123 Sheep-Beef Farming and 0122 Grain-Sheep and 0126 Grain-Beef Cattle Farming.</p> <p><b>Inclusion of sheep:</b> It was deemed appropriate to include sheep farming into our target despite SBTi FLAG not having a sheep-specific pathway. Sheep farming contributes materially to Australia’s overall agricultural emissions at approximately 19%. Our assessment indicates the emissions profiles between cattle and sheep are similar<sup>a</sup>. Livestock enteric (methane) emissions reduction opportunities do not distinguish between sheep and beef<sup>b</sup>.</p> <p><b>Other inclusions:</b></p> <ul style="list-style-type: none"> <li>• Scope 1 land management emissions which include biogenic methane from ruminant livestock, emissions from nutrient management, manure management, and fertiliser use.</li> </ul> <p><b>Exclusions:</b></p> <ul style="list-style-type: none"> <li>• Scope 1 emissions relating to fuel use, land-use change and removals due to data limitations.</li> <li>• Scope 2 and 3 emissions are not included in the reference scenario selected for target setting and are therefore excluded from our targets.</li> </ul>
<b>2030 Target and metric</b>	<p>Sector-specific emissions intensity for customers’ scope 1 emissions related to land management tCO<sub>2</sub>-e (tonnes of carbon dioxide equivalent) per tonne of Fresh Weight (FW) of carcase, where carcase is defined as animal meat, fresh, chilled or frozen, with bone in.</p>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Net-Zero Reference Scenario Pathway(s)</b>	<p><b>Pathway selected:</b> Science Based Targets Initiative (SBTi) Forest, Land and Agriculture (FLAG) Oceania Beef Commodity Land Management pathway, 2022</p> <p><b>Selection considerations:</b></p> <ul style="list-style-type: none"> <li>• Alignment to the 1.5°C ambition; a specific NZBA requirement.</li> <li>• Commodity granularity and informed as much as possible by Australian data.</li> <li>• Data and modelling methodology limitations inherent to the sector.</li> <li>• Complexity of the Scope 1 emissions profile in agriculture, containing three categories (Land Management, Land Use Change and Removals) with distinctly different abatement opportunities and data challenges.</li> <li>• Variability of agricultural production systems, emissions sources and abatement opportunities across the globe.</li> <li>• Variability of production outputs dependent on climatic and market conditions.</li> </ul> <p><b>Pathway key assumptions<sup>c</sup>:</b></p> <ul style="list-style-type: none"> <li>• Emissions reductions will follow different pathways for major agricultural commodities and regions. This enables target-setting to focus on the majority of the sector's emissions (beef/sheep meat and dairy) as well as providing a level of specificity to the emissions profile of Australian agriculture.</li> <li>• Emissions reduction pathways are distinct for three emissions categories (Land Management, Land Use Change and Removals). This enables target-setting to focus on the majority of the sector's emissions (Land Management category) and reduce the immediate data challenges (by keeping Land Use Change and Removals separate).</li> <li>• The SBTi FLAG pathway supports target setting on an emissions-intensity basis.</li> <li>• Agricultural production increases to 2050 (per SBTi FLAG Guidance).</li> <li>• The SBTi FLAG pathway is within the IPCC greenhouse gas budgets for CO<sub>2</sub>, methane and nitrous oxide.</li> <li>• There will be no further conversion of natural forest to agricultural land use within farming systems after 31 December 2025.</li> </ul>
<b>Methodology</b>	<p>We have used the following data and steps to generate an emissions intensity:</p> <ol style="list-style-type: none"> <li>1. Obtain State/Territory emissions data for beef and sheep from Australia's National Greenhouse Accounts (NGA).</li> <li>2. The emissions data is converted to an emissions intensity by using Australian meat production for beef and sheep from the Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES), apportioned to state production by the count of animals for each State and Territory in the Activity Tables used by the NGA.</li> <li>3. These State-based emissions intensities are applied to each customer based on their State location and weighted by their contributions to total portfolio TCE.</li> <li>4. Emissions baseline is the sum of weighted emissions intensities from customers.</li> </ol> <p>The methodology and data used are the best available, though we acknowledge the limitations and assumptions which have been applied in our calculations. The methodology and data used have been developed to produce an emission intensity metric with the same unit as the SBTi FLAG pathway. The use of a TCE weighting provides a mechanism for reflecting the composition of our portfolio. ABARES and NGA are reputable sources of data informed by industry research.</p> <p>We will seek to address data limitations and improve our emissions intensity calculation through our ongoing engagement with customers, government and industry.</p>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

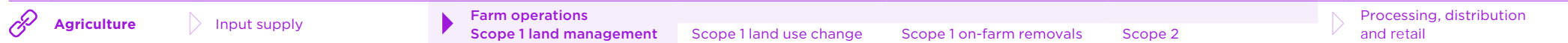
ELEMENT	DETAIL
<b>Methodology changes</b>	No material changes to the methodology since the prior reporting period.
<b>Planned target reviews</b>	In line with our NZBA commitment, we will review the sector target within five years of setting the target.
<b>Dependencies/Risks</b>	<p>The following government-led initiatives relating to the agriculture and land sector may impact our modelling and target-setting in the future:</p> <ul style="list-style-type: none"> <li>• <b>ABS Agricultural Statistics Program modernisation<sup>d</sup>:</b> Following a joint ABS-ABARES review in 2015, a number of initiatives are underway which may change the source statistics used in NZBA modelling, with a knock-on impact on methodology.</li> <li>• <b>Climate Change Authority Sector Pathways Review<sup>e</sup>:</b> This review is looking at technology transition and emissions pathways to support Australia’s transition to net-zero by 2050. This review may result in the publication of emission factors for the agriculture sector which may be more appropriate for our modelling than our current data.</li> <li>• <b>Agriculture and Land Sectoral Plan<sup>f</sup>:</b> Net-zero plan under development by the Australian Government, to outline how transitioning to a net-zero economy can be achieved. The plan will detail how agriculture will contribute to reaching the national goal, and will look to identify risks associated with climate change and opportunities for the industry.</li> <li>• <b>Ag2050 Scenarios Report<sup>g</sup>:</b> Modelling by CSIRO to explore plausible alternative futures for Australian agriculture, to motivate discussions and encourage collaboration across the industry with a view to driving long-term transformative system change.</li> </ul> <p>We will continue to monitor these initiatives and update our assumptions and methodologies as required.</p>

- a. [Wiedemann, S & Dunn, J., V.SCS.0016 Carbon accounting technical manual, page 6 \(2021\).](#)
- b. [Black, J. et al., B.CCH.6000 National Livestock Methane Program – National Needs and Gaps Analysis, page 10 \(2015\).](#)
- c. [Science Based Targets Initiative \(SBTi\), Forest, Land and Agriculture \(FLAG\) Science-Based Target-Setting Guidance \(2022\).](#)
- d. [Australian Bureau of Statistics \(ABS\), Modernising ABS agricultural statistics \(2023\).](#)
- e. [Climate Change Authority, Sector Pathways Review \(2024\).](#)
- f. [Department of Agriculture, Fisheries and Forestry \(Australia\), Agriculture and Land Sectoral Plan \(2024\).](#)
- g. [CSIRO, Ag2050 Scenarios Report \(2024\).](#)

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

### Agriculture – Australia Dairy – target detail and methodology

The Agriculture sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p>Commercial relationship-managed and institutional agriculture customers with TCE <math>\geq</math>\$1.5 million.</p> <p>Commercial relationship-managed customers are those whose banking needs are looked after by designated Relationship Managers.</p> <p><b>ANZSIC (1993) code used for scope:</b> 0130 Dairy Cattle Farming.</p> <p><b>Inclusions:</b></p> <ul style="list-style-type: none"> <li>• Scope 1 land management emissions which include biogenic methane from ruminant livestock, emissions from nutrient management, manure management and fertiliser use.</li> </ul> <p><b>Exclusions:</b></p> <ul style="list-style-type: none"> <li>• Scope 1 emissions relating to fuel use, land-use change and removals due to data limitations.</li> <li>• Scope 2 and 3 emissions are not in the reference scenario and are therefore excluded from our targets.</li> </ul>
<b>2030 Target and metric</b>	<p>Sector-specific emissions intensity for clients' scope 1 emissions related to land management tCO<sub>2</sub>-e (tonnes of carbon dioxide equivalent) per tonne of Fat Protein Corrected Milk (FPCM)<sup>a</sup>. FPCM is milk corrected for its fat and protein content to a regional standard.</p>



## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Net-Zero Reference Scenario Pathway(s)</b>	<p><b>Pathway selected:</b> Science Based Targets Initiative (SBTi) Forest, Land and Agriculture (FLAG) Oceania Dairy Commodity Land Management pathway, 2022.</p> <p><b>Selection considerations:</b></p> <ul style="list-style-type: none"> <li>• Alignment to the 1.5°C ambition; a specific NZBA requirement.</li> <li>• Commodity granularity and informed as much as possible by Australian data.</li> <li>• Data and modelling methodology limitations inherent to the sector.</li> <li>• Complexity of the scope 1 emissions profile in agriculture, containing three categories (Land Management, Land Use Change and Removals) with distinctly different abatement opportunities and data challenges.</li> <li>• Variability of agricultural production systems, emissions sources and abatement opportunities across the globe.</li> <li>• Variability of production outputs dependent on climatic and market conditions.</li> </ul> <p><b>Pathway key assumptions<sup>b</sup>:</b></p> <ul style="list-style-type: none"> <li>• Emissions reductions will follow different pathways for major agricultural commodities and regions. This enables target-setting to focus on the majority of the sector’s emissions (beef/sheep meat and dairy) as well as providing adequate specificity to the emissions profile of Australian agriculture.</li> <li>• Emissions reduction pathways are distinct for three emissions categories (Land Management, Land Use Change and Removals). This enables target-setting to focus on the majority of the sector’s emissions (Land Management category) and reduce the immediate data challenges (by keeping Land Use Change and Removals separate; GHG Protocol Land Sector Guidance in draft currently).</li> <li>• The SBTi FLAG pathway supports target setting on an emissions intensity basis.</li> <li>• Agricultural production increases to 2050 (per SBTi FLAG Guidance).</li> <li>• The SBTi FLAG pathway is within the IPCC greenhouse gas budgets for CO<sub>2</sub>, methane and nitrous oxide.</li> <li>• There will be no further conversion of natural forest to agricultural land use within farming systems after 31 December 2025.</li> </ul>
<b>Methodology</b>	<p>We have used the following data and steps to generate an emissions intensity:</p> <ol style="list-style-type: none"> <li>1. Obtain State/Territory emissions data for dairy from Australia’s National Greenhouse Accounts (NGA).</li> <li>2. The emissions data is converted into an emissions intensity by using State milk production from the Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES), converted to fat and protein corrected milk (FPCM).</li> <li>3. These State-based emissions intensities are applied to each customer based on their State location and weighted by their contributions to total portfolio TCE.</li> <li>4. Emissions baseline is the sum of weighted emissions intensities from customers.</li> </ol> <p>The methodology and data used are the best available, though we acknowledge the limitations and assumptions which have been applied in our calculations. The methodology and data used have been developed to produce an emission intensity metric with the same unit as the SBTi FLAG pathway. The use of a TCE weighting provides a mechanism for reflecting the composition of our portfolio. ABARES and NGA are reputable sources of data informed by industry research.</p> <p>We will seek to address data limitations and improve our emissions intensity calculation through our ongoing engagement with customers, government and industry.</p>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology changes</b>	No material changes to the methodology since the prior reporting period.
<b>Planned target reviews</b>	In line with our NZBA commitment, we will review the sector target within five years of setting the target.
<b>Dependencies/Risks</b>	<p>The following government-led initiatives relating to the agriculture and land sector may impact our modelling and target-setting in the future:</p> <ul style="list-style-type: none"> <li>• Net-zero plan under development by the Australian Government, to outline how transitioning to a net-zero economy can be achieved. The plan will detail how agriculture will contribute to reaching the national goal, and will look to identify risks associated with climate change and opportunities for the industry<sup>c</sup>.</li> <li>• Modelling by CSIRO to explore plausible alternative futures for Australian agriculture, to motivate discussions and encourage collaboration across the industry with a view to driving long-term transformative system change<sup>d</sup>.</li> </ul>

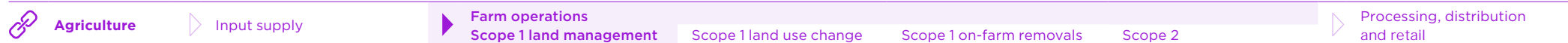
We will continue to monitor these initiatives and update our assumptions and methodologies as required.

- a. [Gislon, G. et al. \(2020\). Looking for high-production and sustainable diets for lactating cows: A survey in Italy, \*Journal of Dairy Science\*, 103\(5\), 4863 - 4873.](#)
- b. [Science Based Targets Initiative \(SBTi\), Forest, Land and Agriculture \(FLAG\) Science-Based Target-Setting Guidance \(2022\).](#)
- c. [Department of Agriculture, Fisheries and Forestry \(Australia\), Agriculture and Land Sectoral Plan \(2024\).](#)
- d. [CSIRO, Ag2050 Scenarios Report \(2024\).](#)

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

### Agriculture – New Zealand Beef and Sheep – target detail and methodology

The Agriculture sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p><b>ANZSIC (2006) code used for scope:</b> 0141 Sheep Farming, 0142 Beef Cattle Farming, 0143 Beef Cattle Feedlots, 0144 Sheep-Beef Cattle Farming</p> <p><b>Inclusions:</b></p> <ul style="list-style-type: none"> <li>• Scope 1 emissions which include enteric methane from ruminant livestock and manure management and also nitrous oxide from the application of fertilisers and livestock excreta.</li> </ul> <p><b>Exclusions:</b></p> <ul style="list-style-type: none"> <li>• Customers with &lt; NZ\$1 million of TCE.</li> </ul>
<b>Net-Zero Reference Scenario Pathway(s)</b>	<p>Science Based Targets Initiative (SBTi) Forest, Land and Agriculture (FLAG) Oceania Beef Commodity Land Management pathway, 2022.</p> <p>The Oceania region was used as this is the most appropriate regional selection available to be applied to New Zealand of the 26 regions under FLAG.</p> <p>The reference pathway has three independent categories. The land management (on-farm emissions) category was used. Due to data limitations, land use change and carbon removal (on-farm sequestration) categories were excluded from the reference pathway calculations.</p> <p>The beef commodity pathway was used, SBTi FLAG does not have a sheep-specific pathway but we have included sheep farming in our target because it was deemed appropriate as sheep have very similar emission profiles as beef cattle and are farmed on similar, and in a lot of cases, the same, farming systems in New Zealand.</p>
<b>Methodology</b>	<p>Due to not having sufficient customer emission and production data collected, regional proxies for these have been used.</p> <p>Regional emissions data was sourced from a third party who supplies software to a portion of New Zealand farms that enables them to calculate on-farm emissions.</p> <p>The regional emissions data was converted into emissions intensity by using regional production data from Statistics NZ.</p> <p>The regional production data included total sheep and cattle fresh weight and an estimate for the amount of dairy cattle was calculated and subtracted from this.</p> <p>These calculated regional emissions intensities were applied to each customer based on their respective regional location and weighted by their contribution to portfolio TCE.</p>

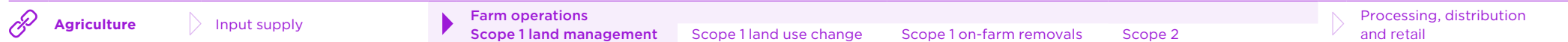
## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology changes</b>	No material changes to the methodology since the prior reporting period.
<b>Planned target reviews</b>	In line with our NZBA commitment, we will review the sector target within five years of setting the target. As part of this, we will monitor any material changes to our chosen science-based pathway or any other dependencies on our target to ensure our methodology is appropriate.
<b>Dependencies/Risks</b>	<p>Emissions and production data used is at a regional level and incorporating customer level data will help improve the accuracy of the target. Emissions reductions have a dependence on efficiency and productivity improvements in farming systems.</p> <p>There remains uncertainty over:</p> <ul style="list-style-type: none"> <li>• The availability and scalability of emissions reduction technologies and management practices;</li> <li>• Customers’ ability to adopt efficiency and productivity improvements in farming systems;</li> <li>• Seasonal variations may affect farm practices meaning the path to our target is unlikely to be linear; and,</li> <li>• The extent to which market forces and government policy will incentivise decarbonisation.</li> </ul>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

### Agriculture – New Zealand Dairy – target detail and methodology

The Agriculture sector value chain is represented by the diagram below. We have highlighted in a darker colour the elements of the value chain that are in-scope of our NZBA sector target.



More detail on what is in-scope for this target is in the boundary and methodology for this target outlined in the table below.

ELEMENT	DETAIL
<b>Sector definition</b>	<p><b>ANZSIC (2006) code used for scope:</b> 0160 Dairy Cattle Farming</p> <p><b>Inclusions:</b></p> <ul style="list-style-type: none"> <li>Scope 1 emissions which include enteric methane from ruminant livestock and manure management and also nitrous oxide from the application of fertilisers and livestock excreta.</li> </ul> <p><b>Exclusions:</b></p> <ul style="list-style-type: none"> <li>Customers with &lt; NZ\$1 million of TCE.</li> </ul>
<b>Net-Zero Reference Scenario Pathway(s)</b>	<p>Science Based Targets Initiative (SBTi) Forest, Land and Agriculture (FLAG) Oceania Dairy Commodity Land Management pathway, 2022.</p> <p>The Oceania region was used as this is the most appropriate regional selection available to be applied to New Zealand of the 26 regions under FLAG.</p> <p>The reference pathway has three independent categories. The land management (on-farm emissions) category was used. Due to data limitations, land use change and carbon removal (on-farm sequestration) categories were excluded from the reference pathway calculations.</p>
<b>Methodology</b>	<p>Due to not having sufficient customer emission and production data collected, regional proxies for these have been used.</p> <p>Regional emissions data was sourced from a third party, who supplies software to a portion of New Zealand farms that enables them to calculate on-farm emissions.</p> <p>The regional emissions data was converted into emissions intensity by using regional production data sourced from Dairy NZ.</p> <p>The baseline regional emissions intensity was adjusted to be the respective 75th percentile (those who emit more than the average).</p> <p>This adjustment was done to take a precautionary approach to balance the potential for emissions-efficient and productive farms being overrepresented in the regional emissions and production data used.</p> <p>This same percentage adjustment was applied to 2022 and 2023.</p> <p>Regional emissions intensity was converted to FPCM using the International Dairy Federation formula and national production data sourced from Dairy NZ.</p> <p>These calculated regional emissions intensities were applied to each customer based on their respective regional location and weighted by their contribution to portfolio TCE.</p>

## SECTION II. METHODOLOGY – NZBA SECTOR EMISSIONS TARGETS

ELEMENT	DETAIL
<b>Methodology changes</b>	No material changes to the methodology since the prior reporting period.
<b>Planned target reviews</b>	In line with our NZBA commitment, we will review the sector target within five years of setting the target. As part of this, we will monitor any material changes to our chosen science-based pathway or any other dependencies on our target to ensure our methodology is appropriate.
<b>Dependencies/Risks</b>	<p>Emissions and production data used is at a regional level and incorporating customer level data will help improve the accuracy of the target. Emissions reductions have a dependence on efficiency and productivity improvements in farming systems.</p> <p>There remains uncertainty over:</p> <ul style="list-style-type: none"> <li>• The availability and scalability of emissions reduction technologies and management practices;</li> <li>• Customers’ ability to adopt efficiency and productivity improvements in farming systems;</li> <li>• Seasonal variations may affect farm practices meaning the path to our target is unlikely to be linear; and,</li> <li>• The extent to which market forces and government policy will incentivise decarbonisation.</li> </ul>

# SECTION III. METHODOLOGY – GROUP FINANCED EMISSIONS ESTIMATION

## 1. Introduction

### 1.1 Overview

Financed emissions are the indirect greenhouse gas emissions attributable to financial institutions associated with their financing and investment activities. For Westpac, these are the GHG emissions of our lending to customers, including the emissions associated with the activities of institutional, commercial and small and medium business customers along with the emissions associated with household energy use of retail mortgage customers.

Estimating financed emissions is fundamental to the Group's ambition to become a net-zero, climate resilient bank. This is because reducing our financed emissions is the most significant impact we can have on addressing climate change. Measuring our financed emissions is also key in delivering on our commitment to the Net-Zero Banking Alliance (NZBA), helping to identify our most emissions-intensive sectors and where we should prioritise our efforts.

At the same time, the approach to estimating financed emissions for the entire Group lending portfolio is necessarily different to the approaches applied to estimating financed emissions for some of our NZBA sector emissions targets (i.e. our NZBA sector targets). Refer to the [2024 Climate Report](#) and the [Methodology – NZBA Sector Emissions Targets](#) section in this Supplement (page 11) for more information on our NZBA sector targets, along with how we arrived at each.

In FY23, we refined our data collection methods to improve alignment with both the PCAF Standard, where applicable, and the distinct methodologies used to estimate emissions for our NZBA sector targets.

For our FY24 reporting, our estimated Group portfolio financed emissions are reported one year in arrears (consistent with the progress reporting of our NZBA sector targets).

In FY24, we refined our estimate of the Group's financed emissions for FY23 by incorporating updated data. Refer to Table 8 in our 2024 Climate Report for the updated Group scope 3 financed emissions by sector for FY23.

### 1.2 Approach to estimating our financed emissions

Since FY21, Westpac has estimated and disclosed its financed emissions and each subsequent year we have worked to improve the quality of our estimates. This year, we have calculated our financed emissions for three broad asset classes:

1. Business, commercial and institutional lending.
2. Commercial real estate.
3. Residential mortgages.

The methodologies used for these asset classes were informed by principles in the Partnership for Carbon Accounting Financials (PCAF)'s Global GHG Accounting and Reporting Standard: Part A – Financed Emissions 2nd edition (the PCAF Standard). We have sought to align with the PCAF Standard wherever possible, although we have deviated in some instances to account for local applicability, the availability of data, and other commercial considerations, as highlighted further in this document. At the date of publication, Westpac is not a signatory to the PCAF Standard.

Informed by the PCAF Standard, we have used various approaches to estimate our financed emissions for each asset class. These approaches were selected as we seek to align with available data for customers and for their sectors. We have prioritised available data in accordance with the data hierarchies set out within this methodology, which are based upon the data quality scorecards within the PCAF Standard, for each asset class.

We excluded the following from our financed emissions estimation due to considerations of materiality (e.g., small in the context of our total lending), data limitations, and lack of appropriate methodologies:

- Non-mortgage personal lending (e.g., personal loans and credit cards);
- Businesses in our specialist business segment. This segment has now been wound up as operations have been sold;
- Equity investments and the operations of our wealth management business;
- Lending in our Fiji and PNG operations;
- Lending to Governments and Government-owned entities; and
- Holdings of liquid assets (mostly Government securities).

While we estimate financed emissions for project finance we do not use the specific methodology for these facilities.

For the purposes of estimating financed emissions, we have excluded equity investments and the operations of our wealth management business, as we believe these not to be material. Following business exits completed over recent years, Westpac no longer has material funds management and has exited the underwriting of insurance. Similarly, we no longer operate a large financial advice business. The Group has a small funds management business in New Zealand, but this is not material to the Group. The Group continues to operate a large funds administration business however the entity in question has no beneficial interest in the investments that it administers, nor does it provide financial advice to users of the administration platform in question. Westpac has a small number of direct equity investments but these are also not material in the context of the Group.



## SECTION III. METHODOLOGY – GROUP FINANCED EMISSIONS ESTIMATION

### FACILITATED EMISSIONS:

We have yet to calculate facilitated emissions (i.e. emissions associated with transactions we facilitate including debt capital markets activities and underwriting, arranging and/or bookrunning for syndicated loans) as part of our assessment of the Group's total scope 3 downstream emissions. This applies to both our portfolio emissions and emissions included in our NZBA sector targets.

Until recently, no universally agreed methodology existed for calculating facilitated emissions. This changed in December 2023 with the release of a new PCAF standard, followed by updates to the NZBA Guidelines for Climate Target Setting in April 2024 that introduced a requirement to include facilitated emissions in NZBA sector targets by 1 November 2025 – where data and methodologies allow.

As a commercial and retail bank, capital markets, underwriting and syndicated lending activities represent a small part of our business and as a result we expect facilitated emissions to have a limited impact on our overall portfolio emissions.

We are now analysing facilitated emissions to assess their scale and identify any potential duplication with financed emissions. We anticipate providing an update with our FY25 reporting.

### COMPARING EMISSIONS DATA OVER TIME:

Caution should be taken when comparing our financed emissions results from year to year. Changes to methodologies and underlying data (refer to the Data Sources section in the methodology for each asset class) may change the estimated financed emissions results and impact comparability over time. Changes could include changing data sources, company and property data, sector allocations, exchange rates, emissions factors, and financial ratios. Methodology changes are also possible as more analysis is completed on sectors and sub-sectors to better understand emissions. With different methodologies, and more timely data points, different results for a particular sector may occur over time, making comparison of the results difficult.

### INDEPENDENT ASSURANCE:

We have obtained independent limited assurance over our Group financed emissions estimates. Refer to the [Independent Assurance Statement](#) available on our website and in our 2024 Climate Report.

We highlight any material deviations between our Group financed emissions estimation methodologies and both the approaches applied to estimating financed emissions for some of our sector-level targets and the PCAF Standard below, where relevant.

### 1.3 Data

As indicated within the data hierarchies set out within this document, we prioritise available data from the most recent time periods relevant to our estimate calculations, supplemented by estimates and assumptions where applicable. As data quality varies across portfolios and sectors, in some instances we need to use proxy data to estimate emissions totals. Over time we are aiming to lift the quality and availability of our data and improve our PCAF data quality scores across our asset classes.

The following is a discussion of our major data elements and factors that may impact our estimates; it is not an exhaustive list.

### MEASURES OF LENDING:

For the purposes of estimating financed emissions, we use two different metrics to measure our lending:

- For our residential mortgages, we use outstanding loan balance.
- For our business, commercial and institutional lending, including loans secured by commercial real estate, we use Total Committed Exposure (TCE).

Collectively, these are termed our 'lending' to customers in this section. Refer to the Glossary in the 2024 Climate Report for more information on TCE.

Our approach of using outstanding loan amount for residential mortgages aligns with the approach recommended in the PCAF Standard for the 'Mortgages' asset class.

Our approach of using TCE is a conservative deviation from the approach recommended in the PCAF Standard of using the on-balance sheet outstanding loan amount for the 'Business loans' asset class. We consider TCE a more comprehensive approach, reflecting our decisions to extend credit to customers. It also allows better long-term measurement of our financed emissions as it avoids potential volatility due to customers' use of their facilities. However, all else being equal, using TCE is likely to lead to higher emissions estimates given the inclusion of undrawn amounts in this metric.

### TIMING OF DATA:

While we seek to use the most recent data in our estimates, we often need to apply data from different time periods depending on availability.

For example, while we use lending data at 30 September 2023 to estimate our result for FY23, the emissions factors, emissions intensities, company financials, and other input data to support the estimation, may be from periods prior to 30 September 2023. We may use more recent periods if more up-to-date data has been reported at a customer or sector level and better reflect the FY23 reporting period. In our disclosures, we aim to identify the applicable time periods for relevant input data.

### DATA QUALITY:

We evaluate the data quality of various data inputs in each asset class using Data Quality Scores based on the data quality scorecards within the PCAF Standard. These Data Quality Scores reflect the level of uncertainty in the data inputs using a scale of 1 to 5, with the lowest scores assigned to relatively more accurate and specific company/property-level inputs and the highest scores assigned to less specific inputs that are reliant more on assumptions and proxy data such as industry averages.

### INDUSTRY CLASSIFICATION CODES:

We use ANZSIC codes to identify customers' primary business activities and sectors that they are involved in. Using ANZSIC codes has limitations, however, as:

- it may not be reflective for diversified businesses, or where a business may have transitioned from one sector over time or as a result of corporate transactions such as acquisitions or divestments;

## SECTION III. METHODOLOGY – GROUP FINANCED EMISSIONS ESTIMATION

- where diversified customers are allocated to a specific ANZSIC sector, the estimated emissions may not reflect the actual business activities and therefore be under- or overstated; and,
- it necessitates mapping ANZSIC to NZSIOC codes to apply sector-level economic intensity emissions factors for New Zealand customers.

For many sectors, we can then proceed with a relevant estimation approach and apply sector-level economic intensity emissions factors and sector-level financial ratios at an ANZSIC code level. Where we are unable to do so, we apply relevant approaches, factors and/or ratios on a 'sector best-fit approach' to ANZSIC classification.

### PROPERTY-LEVEL INFORMATION:

We are unable to readily obtain property-level emissions or energy consumption data for most residential or commercial properties. Similarly, energy efficiency data for buildings is not readily available for most properties against which lending is secured. Accordingly, we apply regional averages and/or other regional proxy data to estimate the emissions for these properties. Given Westpac's portfolio is geographically diversified, the use of proxy data is expected to yield representative aggregate results.

### EXCHANGE RATES:

Where financial data used in our financed emissions estimations is denominated in a currency other than Australian Dollars, it is converted into Australian Dollars using a spot exchange rate at the end of the last month of the reporting period (i.e., end-September 2023 for the FY23 reporting year).

### MATERIALITY AND REASONABLENESS:

In estimating financed emissions we use approaches that we believe are both feasible and reasonable – while having regard to the desire to remain as consistent as possible with the PCAF Standard. At times, we may have the option of using more granular information or using more detailed methodologies.

However, we are cognisant that using more detailed information may not yield materially improved results and in fact may introduce more risks though complexity of calculations. In making these decisions we consider the PCAF Standard, data quality, and complexity of models and calculations (and associated risk), and materiality (e.g., whether it is appropriate to undertake a more detailed analysis of a sector if the related lending is immaterial to the Group). We also take into consideration that Westpac's loan portfolio across Australia and New Zealand is relatively representative geographically, demographically and across industries.

### 1.4 Looking ahead

We will continue to develop the estimation of our financed emissions as new and better data emerges, and estimation methodologies evolve. This will include:

- Keeping up-to-date on standards, guidance and industry approaches (including changes in the NZBA guidelines);
- Sourcing more accurate and/or granular customer- and/or property-level energy consumption, production data, reported emissions, and company financial data; and,
- Reviewing and refining our assumptions, calculations, and processes.

As part of this process (and consistent with our strategy of collaborating for impact) we will continue to advocate for publicly available emission factors for industry sectors and for the further development and standardisation of standards and methodologies that will assist stakeholders to compare results across companies, sectors and geographies.

In turn, this will assist us to better understand industry emissions profiles.

## 2. Methodology

### 2.1 Residential Mortgages

We estimate the financed emissions associated with our retail residential mortgage lending in Australia and New Zealand. This includes on-balance sheet loans to owner-occupiers and investors for the purchase and refinancing of residential property, including apartments, houses as well as multi-family dwellings with a small number of units. We estimate the scope 1 and 2 emissions associated with the properties held as security against these loans and then aggregate these estimates to determine portfolio emissions.

For each property we determine our share of estimated emissions using an attribution factor. That factor is the ratio of the loan amount over the property value, and adjusting the ratio if multiple properties are linked to the same loan.

We measure the property value as the value at the most recent credit assessment event<sup>1</sup> (e.g., when the loan was opened, increased, renewed, refinanced, or extended).

At a high level, total financed emissions for these portfolios are calculated by grouping properties with similar building and geographic characteristics<sup>2</sup> and aggregating the product of the estimated emissions for each group of properties across the portfolio and the attribution factor for each group.

Refer to Table 8 in our 2024 Climate Report for the weighted average data quality scores, which are weighted based on lending, as reported for our sectors and portfolios, for insight into the relative distribution of estimation methodologies applied in our estimation.

<sup>1</sup> We deviate from the PCAF Standard in that we do not use property value at origination, as we consider the valuation at the most recent credit assessment event to be more representative.

<sup>2</sup> Grouping approach applied to Australian residential mortgages portfolio due to data limitations. Financed emissions for the New Zealand residential mortgages portfolio are calculated on a property-by-property basis without grouping the properties together (effectively each property is considered as its own group).

## SECTION III. METHODOLOGY – GROUP FINANCED EMISSIONS ESTIMATION

Emissions are estimated in accordance with the following data hierarchies:

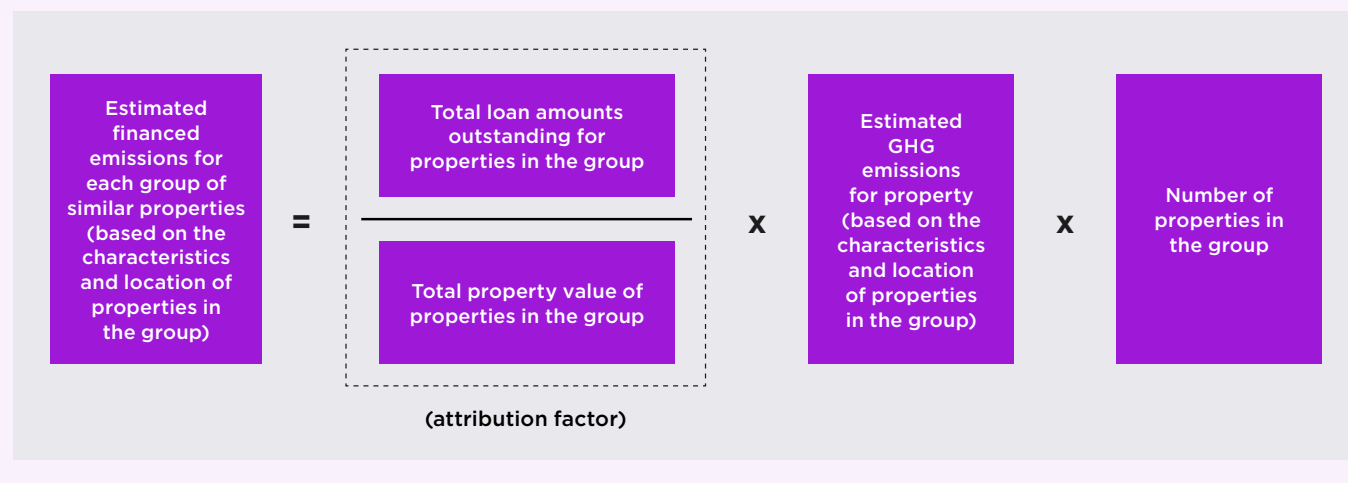
**TABLE 4: DATA QUALITY SCORES AND ASSOCIATED ESTIMATION METHODOLOGIES FOR RESIDENTIAL MORTGAGES**

DATA QUALITY SCORE	ESTIMATION METHODOLOGY
1 and 2	<p>Emissions are estimated based on actual property energy consumption (i.e. metered data) and supplier-specific emissions factors (Data Quality Score of 1) or average emissions factors (Data Quality Score of 2) specific to the respective energy source.</p> <p>This approach was not applied to any properties in our mortgage portfolios due to the limited availability of property energy consumption data.</p>
3	<p>Emissions are estimated based on estimated property energy consumption per unit of floor area (based on official building energy labels) and average emission factors specific to the respective energy source.</p> <p>This approach was not applied to any properties in our mortgage portfolios due to the limited availability of official building energy labels data for residential properties.</p>
4	<p>Emissions are estimated based on estimated property energy consumption per unit of floor area (based on building type and location-specific statistical data) and average emission factors specific to the respective energy source.</p> <p>This approach was applied to the majority of our portfolio where data on property floor area (being either actual floor area recorded or sourced from property market data providers, or the number of bedrooms as a proxy for floor area) and location information were available.</p>

DATA QUALITY SCORE	ESTIMATION METHODOLOGY
	<p>Average location-specific energy consumption benchmarks for electricity, natural gas, LPG, as well as wood and coal (for New Zealand only) were applied to estimate total energy consumption. As some benchmarks were expressed in the number of occupants per dwelling, we derived the number of occupants per dwelling from data on the number of bedrooms in each dwelling, where data was available, and location-specific statistics on the average occupants per household and the average number of bedrooms per dwelling. Where deemed appropriate and where data was available, we also estimated energy consumption by calculating benchmarks on a per unit of floor area basis, based on location-specific property floor area averages, and multiplying them by the property floor area. Emissions were then estimated based on the estimated total energy consumption and location-based</p>

DATA QUALITY SCORE	ESTIMATION METHODOLOGY
	<p>emission factors specific to the property and respective energy sources.</p>
5	<p>Emissions are estimated based on estimated property energy consumption per energy type per property (based on property type and location-specific statistical data) and average emission factors specific to the respective energy source.</p> <p>This approach was applied to properties in our mortgage portfolios where only the loan amount and property value were available.</p> <p>Where location information was unavailable, applied energy consumption benchmarks were averaged at the State, regional or national levels, where deemed appropriate (for New Zealand, certain benchmark averages were weighted by population across the islands).</p>

**FIGURE 1: OVERVIEW OF FINANCED EMISSIONS ESTIMATION METHODOLOGY FOR RESIDENTIAL MORTGAGES**



## SECTION III. METHODOLOGY – GROUP FINANCED EMISSIONS ESTIMATION

### DATA SOURCES:

#### Energy consumption benchmarks:

- Australian benchmark per-dwelling electricity consumption figures across climate zones and natural gas consumption figures across States were sourced from the Australian Energy Regulator (AER) for June 2021. Benchmark State-level liquefied petroleum gas (LPG) consumption figures were sourced from the Australian Government Department of Industry, Science, Energy and Resources – Australian Energy Statistics (Australian energy consumption, by State and Territory, by industry and fuel type, energy units) for September 2022.
- New Zealand benchmark per-dwelling electricity consumption figures across the islands and regions were sourced from the New Zealand Electricity Authority – Residential Consumption Trends for October 2022 to September 2023.
- New Zealand benchmark per-dwelling energy demand figures across the islands were sourced from the Energy Use in New Zealand Households – Final Report on the Household Energy End-use Project (HEEP) BRANZ Study Report SR 221 for 2010 (our research did not identify a more recent data source for this benchmark). Further details on the types and relative breakdown of heating used in New Zealand dwellings across the regions were sourced from Stats NZ for 2018 (i.e. New Zealand 2018 Census).

#### Property floor area benchmarks:

- Benchmark data on the average floor area of residential dwellings broken down by regions in New Zealand were sourced from a property market data provider for 2023.

#### Household and population statistics:

- Australian household statistics, including State-level data on dwelling numbers, average occupants, and average bedrooms, were sourced from the Australian Bureau of Statistics (ABS) census reports for 2021.
- New Zealand population statistics were sourced from Stats NZ for 2023 (i.e. New Zealand 2023 Census).

### Emissions factors:

- Australian emissions factors for the consumption of purchased or acquired electricity at the State level, and the combustion of natural gas and LPG, were sourced from Australian National Greenhouse Accounts Factors for August 2023.
- New Zealand emissions factors for the consumption of purchased or acquired electricity at the national level, and the combustion of natural gas, LPG, wood, and coal, were sourced from the New Zealand Government Ministry for the Environment emissions measurement guide for organisations released in 2024.

### NOTABLE EXCLUSIONS FOR THIS ASSET CLASS:

- Home equity loans and home equity lines of credit as these products are closer in nature to consumer loans for general purposes, and represent a small portion of the mortgage book.
- Construction loans and renovation loans as the emissions associated with construction and renovation activities would generally be attributable to the companies undertaking the activity, not the homeowner.
- Loans for the purchase of vacant land.
- Mortgages in regions outside of Australia and New Zealand.
- Customers' scope 3 emissions.

### 2.2 Business, commercial, and institutional lending

We estimate the financed emissions associated with our business, commercial and institutional lending in Australia and New Zealand. This includes customers in the Property sector where lending does not meet the definition of secured lending in the Commercial Real Estate asset class, where a separate methodology is used.

We estimate the scope 1 and 2 emissions associated with this lending and then aggregate these estimates across customers and portfolios. We have also estimated scope 3 emissions in certain sectors based on the NZBA guidelines. This includes customers in certain mining sectors

(including oil and gas extraction) and downstream sectors within manufacturing<sup>1</sup>.

We attribute a portion of the estimated emissions for each customer in these portfolios using an attribution factor. The attribution factor is the ratio of our lending over the company value. Depending on availability of financial data, we measure company value as either: the enterprise value including cash (EVIC) for listed companies or private companies' listed parent company groups; or, the sum of the total equity and debt<sup>2</sup> for private companies or their parent company groups.

At a high level, financed emissions for each customer are calculated as the product of the customer attribution factor (or the relevant sector-level financial ratio of company revenue to company value (refer to Table 5) multiplied by the sum of our lending to the customer), and the total reported or estimated emissions for each customer (or the relevant sector-level emissions factor).

Refer to Table 8 in our 2024 Climate Report for the weighted average data quality scores, which are weighted based on lending.

Emissions are estimated in accordance with the following data hierarchies:

**TABLE 5: DATA QUALITY SCORES AND ASSOCIATED ESTIMATION METHODOLOGIES FOR BUSINESS, COMMERCIAL AND INSTITUTIONAL LENDING**

DATA QUALITY SCORE	ESTIMATION METHODOLOGY
1 and 2	Emissions are estimated based on customer-specific emissions data, which have been verified by a third-party auditor (Data Quality Score of 1) or are unverified (Data Quality Score of 2).  This approach was applied to institutional banking customers in Australia and New Zealand where customer-specific financial data and

1 Scope 3 analysis limited to customers allocated to the following ANZSIC (1993) codes within the Mining sector (1101, 1102, 1200, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1319, 1411, 1419 and 1420) and Manufacturing sector (2510, 2520, 2531, 2532 and 2721).

2 Total tangible assets are used in place of total equity and debt for customers in certain Agriculture, Forestry, and Fishing sectors in instances where financial data on total tangible assets is available and a reliable attribution factor based on total equity and debt cannot be calculated.

## SECTION III. METHODOLOGY – GROUP FINANCED EMISSIONS ESTIMATION

DATA QUALITY SCORE	ESTIMATION METHODOLOGY
	<p>reported emissions data were available, such as listed customers.</p> <p>This approach was also applied to non-institutional customers in certain Agriculture, Forestry, and Fishing sectors, where reported farm emissions were available.</p> <p>For conservatism, we assumed all sourced emissions data to be unverified and hence not eligible for Data Quality Score 1.</p>
3	<p>Emissions are estimated based on primary activity data for the company's production and emission factors specific to that primary data.</p> <p>Where customer-specific financial data and production data were available, this approach was applied to estimate scope 1 and 2 emissions for customers in certain Agriculture, Forestry, and Fishing sectors (based on livestock and milk production statistics) and to estimate scope 3 emissions for customers in certain sectors (based on activity data such as tonnes of commodity material mined).</p>
4 or 5	<p>Emissions are estimated based on sector-level economic emissions intensity factors.</p> <p>In instances where customer-specific financial data was available but neither customer-specific emissions nor production data were available, attributed emissions were estimated as the product of our lending, the financial ratio specific to the company or parent group, and a sector-level economic emissions intensity factor (tCO<sub>2</sub>-e per AUD\$ of revenue) (Data Quality Score of 4).</p> <p>In instances where customer-specific financial, emissions or production data was not available, an estimated sector-level financial ratio was applied (Data Quality Score of 5).</p>

DATA QUALITY SCORE	ESTIMATION METHODOLOGY
	<p>In both instances, the relevant sector-level ratios and factors were applied on a 'sector best-fit approach' ANZSIC classification. In instances where we were unable to reliably source a customer ANZSIC code, we assigned codes that link ratios and factors to all-economy averages of Australia and New Zealand, respectively.</p>

### DATA SOURCES:

#### Reported emissions and activity data:

- Customers' publicly reported scope 1, 2, and 3 emissions were sourced for the latest available periods from a combination of: Australian Clean Energy Regulator NGER Corporate emissions and energy data for 2022-23; financial market data providers; and customers' publicly reported disclosures.
- Customers' reported activity data was sourced for the latest available periods from a combination of: internal

systems based on periodic customer filings of company production data (e.g., milk production statistics, livestock inventory) for certain Agriculture customers; and, customers' public disclosures (e.g., ounces of gold mined) and financial market data providers for certain customers in the Mining and Manufacturing sectors.

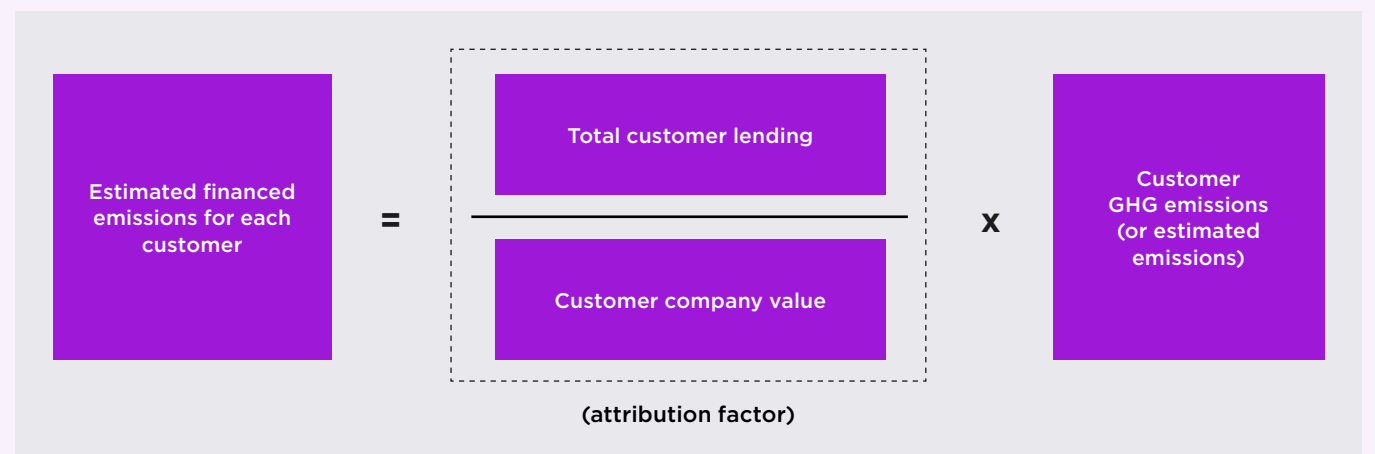
#### Customer financial data:

- Customers' financial data was sourced for the latest available periods from a combination of: internal systems based on periodic customer filings of company financial information; and, financial market data providers.

#### Sector-level emissions factors:

- Factors for scope 1 and scope 2 for Australian industry sectors were derived on a per-dollar revenue basis for each sector (i.e. tCO<sub>2</sub>-e per \$ of company revenue) based on publicly available information from a combination of:
  - Australian Government Department of Agriculture, Water and the Environment – National Greenhouse

**FIGURE 2: OVERVIEW OF FINANCED EMISSIONS ESTIMATION METHODOLOGY FOR BUSINESS, COMMERCIAL, AND INSTITUTIONAL LENDING**





## SECTION III. METHODOLOGY – GROUP FINANCED EMISSIONS ESTIMATION

Accounts – National inventory by economic sector for 2022;

- ABS – National inventory by economic sector for 2022; and,
- for certain customer subsets in the Agriculture sector: Australian Government Department of Agriculture, Water and the Environment – Agricultural Commodity Statistics for 2022 (series dated 2021); Australian Government Department of Agriculture, Water and the Environment – National Greenhouse Accounts – Paris Agreement Inventory for certain Agriculture sectors for 2022; and, Australian Bureau of Agricultural and Resource Economics (ABARES) Farm Data Portal publicly available data for 2022.
- Factors for scope 1 and scope 2 for New Zealand industry sectors were derived based on publicly available information from a combination of:
  - Stats NZ Greenhouse gas emissions (industry and household) for the year ended 2022.
  - Stats NZ Annual enterprise survey for the 2023 financial year.
- Emissions factors for scope 1 emissions related to land management per head of livestock in the Australian Agriculture industry were derived for certain livestock types based on the data in the Agriculture – Australia Dairy (Australia) Target methodology. Refer to the [NZBA Sector Emissions Targets](#) section in this Supplement (page 11) for further details).
- Emissions factors for scope 1 emissions related to land management per head of livestock in the New Zealand Agriculture industry were derived for certain livestock types based on publicly available information from a combination of:
  - New Zealand Government Ministry for the Environment emissions measurement guide for organisations released in 2024.
  - Stats NZ Fertilisers – nitrogen and phosphorus statistics released in 2021 for 2019.
- Emissions factors for downstream scope 3 emissions for non-energy commodities were derived for mining

sectors (including oil and gas extraction) and downstream sectors within manufacturing based on reference factors sourced from a combination of:

- publicly available Life Cycle Assessment databases.
- publicly available industry publications.
- In absence of other available information, scope 3 emissions factors were derived for mining sectors (including oil and gas extraction) and downstream sectors within manufacturing from known revenue figures and reported emissions totals of customers in these sectors.
- Sector-level emissions factors were calculated at the most granular ANZSIC (1993) code level, wherever data was available. Where required, emissions factors at a lower granularity were mapped to higher granularity sector codes on a sector best-fit approach ANZSIC classification, and New Zealand NZSIOC sector codes were also mapped to ANZSIC codes.

### Sector-level financial ratios:

- Ratios of company revenue to company value for Australian industry sectors were based on information from a combination of:
  - financial market data providers' data for Australian and New Zealand top companies up to September 2023; and,
  - for certain subsets of customers in the Agriculture sector: Australian Bureau of Agricultural and Resource Economics (ABARES) Farm Data Portal publicly available data for 2022.
- Ratios of company revenue to company value for New Zealand industry sectors were derived for each sector based on public data from Stats NZ Annual Enterprise Survey for 2023.

### NOTABLE EXCLUSIONS FOR THIS ASSET CLASS:

- Non-mortgage personal lending (e.g., personal loans and credit cards).
- Customers and/or accounts where a reliable ANZSIC code could not be identified including those for

which Australian Standard Classification of Occupations (ASCO) codes were assigned as industry identifiers.

- Lending to Governments and Government-owned entities as identified by certain ANZSIC codes<sup>1</sup>.
- Exposures identified as in-scope under the Commercial Real Estate asset class (avoid double counting).
- Intra-group lending between Westpac entities.

### 2.3 Commercial real estate lending

We estimate the financed emissions of our commercial real estate lending in Australia and New Zealand. This includes lending to business, commercial and institutional customers in the Property sector<sup>2</sup> that is secured by residential and/or commercial real estate.

We estimate the scope 1 and 2 emissions associated with the properties that we hold as security for these loans and then aggregate these for the portfolio. Estimating emissions for commercial real estate is challenging due to limited publicly available property-level emissions and energy data, particularly for smaller properties. Where emissions cannot be estimated due to data limitations, the business lending methodology is applied.

We attribute a portion of the estimated (or actual) emissions for each in-scope property based on attribution factors. The attribution factor is the ratio(s) of our customer lending secured by the property over the property value.

Depending on data availability, we measure the property value using a hierarchy of three options that together reflect the best available data. The following order of preference is applied: the value recorded at a credit assessment event<sup>3</sup> (e.g., when the loan was opened, increased, renewed, refinanced, or extended), noting that due to data limitations this may not necessarily be the latest credit assessment event; the value at a recent sale reported by property market data providers; or, the estimated value based on customer LVR data.

At a high level, total financed emissions for lending in the Australian portfolio are calculated by aggregating the estimated financed emissions across all included customers. Customer emissions are calculated as the sum of the product of actual or estimated emissions for each property

<sup>1</sup> As defined by ANZSIC codes under ANZSIC subdivisions 81 (Government Administration) and 82 (Defence).

<sup>2</sup> Limited to customers within ANZSIC (1993) codes that start with 771- (i.e., within the Property sector).

<sup>3</sup> We deviate from the PCAF Standard in that we do not use property value at origination, as we consider the valuation at the most recent credit assessment event to be more representative.

## SECTION III. METHODOLOGY – GROUP FINANCED EMISSIONS ESTIMATION

and the attribution factor relevant to each loan secured by that property.

Total financed emissions for lending in the New Zealand portfolio are calculated by grouping properties with similar building and geographic characteristics and aggregating the product of the estimated emissions for each group of properties across the portfolio and the attribution factor for each group.

Refer to Table 8 in our 2024 Climate Report for the weighted average data quality scores, which are weighted based on lending.

Emissions are estimated in accordance with the following data hierarchies:

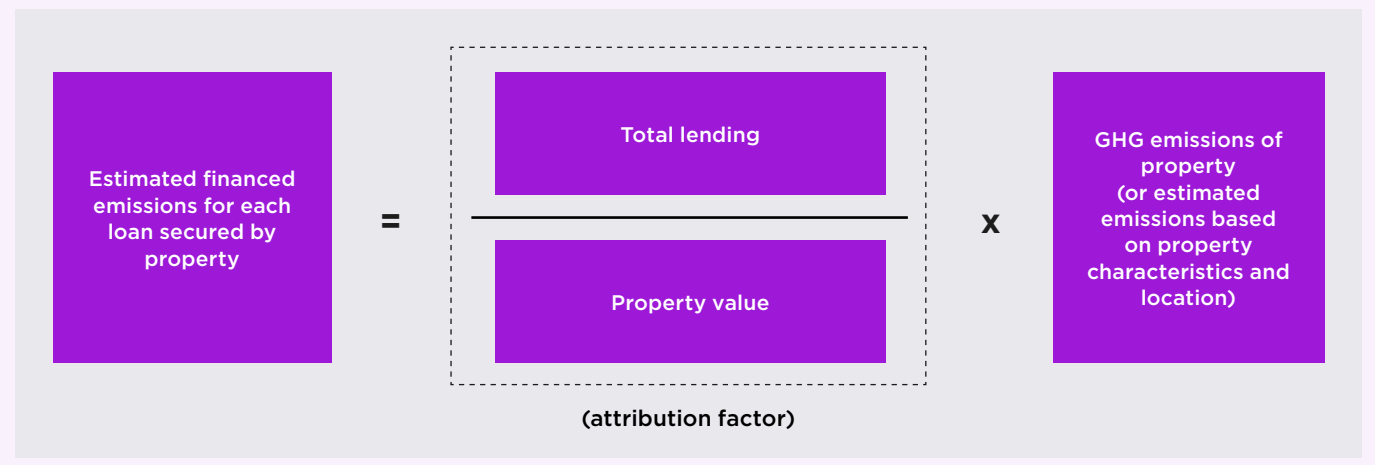
**TABLE 6: DATA QUALITY SCORES AND ASSOCIATED ESTIMATION METHODOLOGIES FOR COMMERCIAL REAL ESTATE LENDING**

DATA QUALITY SCORE	ESTIMATION METHODOLOGY
1 and 2	<p>Emissions estimated based on actual building energy consumption (i.e. metered data) and supplier-specific emissions factors (Data Quality Score of 1) or average emissions factors (Data Quality Score of 2) specific to the energy source.</p> <p>This approach was not applied to any properties due to the limited availability of actual building energy consumption data.</p>
3	<p>Emissions are estimated based on estimated building energy consumption per unit of floor area (based on official building energy labels) and average emission factors specific to the respective energy source.</p> <p>This approach was applied to properties recorded as security in our Australian commercial real estate lending where data on property floor area and NABERS rating was available.</p> <p>Emissions for each property were estimated by multiplying the actual or estimated property</p>

DATA QUALITY SCORE	ESTIMATION METHODOLOGY
	<p>floor area by the average emissions per unit of floor area that were derived for the property type, region and rating based on the NABERS rating register (average emissions for Retail properties are applied to Industrial properties due to data limitations).</p>
4	<p>Emissions are estimated based on estimated building energy consumption per unit of floor area (based on building type and location-specific statistical data) and average emission factors specific to the respective energy source.</p> <p>This approach was applied to properties recorded as security where data on property floor area (recorded or sourced from property market data providers) and location information were available.</p>

DATA QUALITY SCORE	ESTIMATION METHODOLOGY
	<p>Emissions for each property were estimated by multiplying the property floor area by the relevant energy consumption benchmarks and emissions factors appropriate for the location.</p>
5	<p>Emissions are estimated based on estimated building energy consumption per building (based on building type and location-specific statistical data) and average emission factors specific to the respective energy source.</p> <p>This approach was applied to the majority of properties in our Australian and New Zealand commercial real estate lending portfolios where only the loan amount and property value were available.</p>

**FIGURE 3: OVERVIEW OF FINANCED EMISSIONS ESTIMATION METHODOLOGY FOR COMMERCIAL REAL ESTATE LENDING**





## SECTION III. METHODOLOGY – GROUP FINANCED EMISSIONS ESTIMATION

DATA QUALITY SCORE	ESTIMATION METHODOLOGY
	Emissions for each property were estimated by multiplying the estimated property floor area (i.e. property value divided by the relevant market value per square metre) by the relevant energy consumption benchmarks and emissions factors appropriate for the location.

### DATA SOURCES:

#### Energy consumption benchmarks:

- Residential:
  - Australian benchmark per-dwelling electricity consumption figures across climate zones and natural gas consumption figures across States were sourced from the Australian Energy Regulator (AER) for June 2021.
  - Benchmark State-level liquefied petroleum gas (LPG) energy consumption figures were sourced from the Australian Government Department of Industry, Science, Energy and Resources Australian Energy Statistics for September 2022.
  - New Zealand benchmark per-dwelling electricity consumption figures across the islands and regions were sourced from the New Zealand Electricity Authority for October 2022 to September 2023.
  - New Zealand benchmark per-dwelling energy demand figures across the islands were sourced from the Energy Use in New Zealand Households – Final Report on the Household Energy End-use Project (HEEP) BRANZ Study Report SR 221 for 2010 (our research did not identify a more recent data source). Further details on the types of heating used in New Zealand dwellings across the regions were sourced from Stats NZ for 2018 (i.e. New Zealand 2018 Census).
- Commercial:
  - Australian buildings’ reported emissions profiles and net lettable area (NLA) figures were sourced from the National Australian Built Environment Rating System (NABERS) ratings register for April 2024.

- New Zealand benchmark per-building energy demand figures across the islands were sourced from the Building Energy End-use Study (BEES) Part 1: Final Report BRANZ Study Report SR 297/1 for 2014.

#### Property floor area and value benchmarks:

- Residential:
  - Estimated mean price per square metre measure for Australian properties was derived from a combination of data from ABS – Total Value of Dwellings (mean price of residential dwellings) for an average over the quarters ending December 2022 to September 2023, and ABS – Building Activity (average floor area of new properties) for December 2022.
  - Estimated mean price per square metre measure for New Zealand properties derived from a combination of data from Stats NZ median floor area of all homes series for December 2022 and median house price data sourced from property market research snapshots for the Residential sector prepared by a property market data provider for October 2022 to September 2023.
  - Benchmark data on the average floor area of residential dwellings broken down by regions in New Zealand sourced from a property market data provider for 2023.
- Commercial:
  - Estimated mean price per square metre across a range of regions in Australia and New Zealand were derived from a combination of average yield and average gross face rents data sourced from national property market research snapshots for retail, industrial, and office sectors prepared by property market data providers for Q2 2023 - Q1 2024 (Australia) and Q3 2023 (New Zealand).

#### Household and population statistics:

- Australian household statistics, including State-level data on dwellings numbers, average occupants, and average bedrooms, were sourced from the ABS census reports for 2021.

- New Zealand population statistics were sourced from Stats NZ for 2023 (i.e. New Zealand 2023 Census).

#### Emissions factors:

- Australian emissions factors for the consumption of purchased or acquired electricity at the State level, and the combustion of natural gas and LPG, were from Australian National Greenhouse Accounts Factors for August 2023.
- New Zealand emissions factors for the consumption of purchased or acquired electricity at the national level, and the combustion of natural gas, LPG, wood, and coal, were sourced from the New Zealand Government Ministry for the Environment emissions measurement guide for organisations released in 2024.

#### NOTABLE EXCLUSIONS FROM THE ESTIMATION OF FINANCED EMISSIONS FOR THIS ASSET CLASS:

- The following commercial property types (where these could be readily identified in the data) were deemed out of scope for the estimation:
  - freehold hotels and motels;
  - development lands (residential, industrial, office, and retail);
  - certain rural farm properties;
  - land investment subject to ground leases; and,
  - debenture securities and guarantees.

# SECTION IV. CLIMATE SCENARIO ANALYSIS APPROACH

## Climate scenarios used in climate scenario analysis

Westpac uses three scenarios as the basis for its scenario analysis. These are broadly aligned to an orderly low carbon transition, a delayed low carbon transition, and no transition. The scenarios and their sources are described in the table below.

**TABLE 7: CLIMATE SCENARIOS AND THEIR SOURCES**

Scenario	Description	Sources
<b>Net-Zero (1.5°C) scenario</b>	<ul style="list-style-type: none"> <li>A net-zero scenario that limits global warming to 1.5°C through stringent climate policies, reaching net-zero global emissions by 2050. The global response is coordinated and orderly.</li> </ul>	<ul style="list-style-type: none"> <li>Source of transition risk: NGFS (phase 4) Net Zero 2050.</li> <li>Source of physical risk: IPCC RCP2.6.</li> <li>Source of demographic changes: SSP2 Middle of the Road (as used by the NGFS).</li> </ul>
<b>Disorderly Transition (~1.8°C) scenario</b>	<ul style="list-style-type: none"> <li>A disorderly transition assumes a delay in policy response to address global greenhouse gas emissions, requiring strong policies from 2030 to limit global warming to well below 2°C.</li> <li>Emissions follow a disorderly trajectory, with only a moderate decline to 2030 before a steep decline approaching net-zero by 2050.</li> </ul>	<ul style="list-style-type: none"> <li>Source of transition risk: NGFS (phase 4) Delayed Transition.</li> <li>Source of physical risk: IPCC RCP4.5.</li> <li>Source of demographic changes: SSP2 Middle of the Road (as used by the NGFS).</li> </ul>
<b>Current Policies (&gt;3°C) scenario</b>	<ul style="list-style-type: none"> <li>A current policies scenario describes a business-as-usual (BAU) trajectory where limited action is taken to address global warming.</li> <li>Emissions follow a downward trajectory, aligned to current policy ambition; however, a significant volume of emissions continue to enter the atmosphere through to 2050.</li> </ul>	<ul style="list-style-type: none"> <li>Source of transition risk: NGFS (phase 4) Current Policies.</li> <li>Source of physical risk: IPCC RCP8.5.</li> <li>Source of demographic changes: SSP2 Middle of the Road (as used by the NGFS).</li> </ul>

The Net-Zero (1.5°C) scenario is consistent with the most ambitious global temperature goal set out in the Climate Change Act 2022 and the international Paris Agreement. The combination of this scenario and either of the remaining two scenarios meets the upcoming requirements of the Corporations Act 2001 for Westpac to disclose its climate resilience assessments against at least two relevant possible future states, one of which must be consistent with the most ambitious global temperature goal set out in the Climate Change Act 2022.

## How we select our scenarios

This year Westpac updated its approach to selecting scenarios to ensure the latest science and suite of scenarios are considered. Westpac considers a range of scenarios for conducting scenario analysis, where each scenario is assessed to ensure the appropriate combination of data granularity, plausibility, comparability and risk severity are included. Scenario analysis should include a wide range of plausible impacts, meet national and international disclosure requirements, and, lead to decision-useful outputs.

Scenarios are reviewed annually for the following reporting period. Ad-hoc adjustment to scenario analysis may be required following major industry updates, such as the next release of the NGFS scenarios suite if determined to be material.

Our process currently considers publicly available scenarios; however, as we continue to mature in this space, scenarios more relevant to the Bank's circumstances will be developed internally and applied.

## SECTION IV. CLIMATE SCENARIO ANALYSIS APPROACH

### Inputs and assumptions used in climate scenario analysis

Climate scenario analysis involves the use of a variety of inputs and assumptions. Some of these inputs and/or assumptions will vary depending on which scenario is being considered, while others are common between the scenarios.

Additional detail relating to certain key inputs and assumptions is outlined below.

**TABLE 8: KEY INPUTS INTO CLIMATE SCENARIOS**

Key input	Net-Zero (1.5°C)	Disorderly Transition (-1.8°C)	Current Policies (>3°C)
<b>Diversity of range of climate-related scenarios used</b>	These three scenarios cover a broad range of physical and transition risk outcomes, ranging from a high transition risk low-medium physical risk scenario (Disorderly Transition) to a low transition risk high physical risk scenario (Current Policies).		
<b>Climate-related transition risks or climate-related physical risks</b>	This scenario is most strongly associated with climate-related transition risk.	This scenario is most strongly associated with climate-related transition risk.	This scenario is most strongly associated with climate-related physical risk.
<b>Alignment with the latest international agreement on climate change</b>	This scenario is aligned to the Paris Agreement's aim of "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels."	N/A	N/A
<b>Ambition of global temperature goal</b>	This scenario is consistent with the most ambitious global temperature goal set out in the Climate Change Act 2022 and the international Paris Agreement.	These two scenarios meet the requirement of assessing against one other relevant possible future state.	
<b>Relevance to assessing resilience to climate-related changes, developments or uncertainties</b>	This scenario is appropriate for assessing the resilience of the Group's business model as it aligns to the stated goal of the Paris agreement and is consistent with the Group's 1.5-degree temperature ambition.	This scenario is appropriate for assessing the resilience of the Group's business model as it outlines a severe transition risk scenario.	This scenario is appropriate for assessing the resilience of the Group's business model as it outlines a severe physical risk scenario.
<b>Time horizons used</b>	<ul style="list-style-type: none"> <li>• Short-term: Less than 1 year</li> <li>• Medium-term: 1 to 5 years</li> <li>• Long-term: Over 5 years</li> </ul>		
<b>Scope of operations used in the analysis</b>	The scope of operations used in scenario analyses will depend on the type of analysis employed. For example, assessing physical peril risk for the Group's domestic mortgage portfolio limits the scope to domestic mortgages; assessing transition risk across our sectoral exposure limits the scope to our domestic non-retail lending portfolio.		

## SECTION IV. CLIMATE SCENARIO ANALYSIS APPROACH

TABLE 9: KEY ASSUMPTIONS IN CLIMATE SCENARIOS

Key assumption	Net-Zero (1.5°C)	Disorderly Transition (-1.8°C)	Current Policies (>3°C)
<b>Climate-related policies in the jurisdictions in which Westpac operates</b>	<ul style="list-style-type: none"> <li>Transition risks are expected to be high as immediate, strict global policy action is required.</li> <li>Due to the restrictive nature of carbon policies, renewables are deployed rapidly and at-scale, reaching full grid decarbonisation by 2050, supported by large-scale batteries and residential solar and batteries.</li> <li>For the purposes of our scenario analysis, shadow carbon prices (a hypothetical carbon price which represents policy action) are higher in scenarios where greater climate policy is enacted to reduce further global warming.</li> </ul>	<ul style="list-style-type: none"> <li>Due to the need to take aggressive action to address the impacts of climate change, introduced policies will be restrictive, sudden and severe.</li> <li>As a result, transition risk will be highest in this scenario.</li> <li>This is further exacerbated by the need for countries mitigating climate change to take greater action to make up for countries not taking action or taking insufficient action to address emissions.</li> <li>For the purposes of our scenario analysis, shadow carbon prices are higher in scenarios where greater climate policy is enacted to reduce further global warming.</li> </ul>	<ul style="list-style-type: none"> <li>Transition risks in this scenario are minimal as little action is taken to address climate change.</li> <li>No additional policies are enacted beyond the policies that are currently in place to address climate change.</li> </ul>
<b>Macroeconomic trends</b>	<ul style="list-style-type: none"> <li>Restrictive policies and high carbon prices will have flow-on impacts to energy prices and emissions-intensive production, causing inflation to increase generally.</li> <li>Gross Domestic Product (GDP) experiences a slight decline in growth rates due to the restrictive policies implemented.</li> <li>GDP resumes baseline level growth from 2040 with impacts from physical damages relatively low.</li> </ul>	<ul style="list-style-type: none"> <li>Macroeconomic impacts will be severe from 2030 due to the disruptive and restrictive nature of the policies deployed, acutely felt in emissions-intensive and energy-intensive industries.</li> <li>Policies will be sudden and severe from 2030, with significant flow-on disruptions to economic activity. GDP will be unaffected in the short term, before a notable decline in economic growth from restrictive policy.</li> <li>Physical damages will also be greater in this scenario relative to a net-zero scenario, due to the initially delayed policy response, limiting economic growth as funding is redirected to recovery.</li> </ul>	<ul style="list-style-type: none"> <li>Macroeconomic impacts are negligible initially, with notable declines in economic growth in later decades due to increased physical risks, natural disasters and economic damages.</li> <li>GDP continues to worsen relative to the baseline with increasingly significant damages and lower economic growth rates expected over time, driven by climate inaction and exacerbated physical risks.</li> </ul>
<b>National- or regional-level variables</b>	<ul style="list-style-type: none"> <li>In the short to medium term, acute physical risks are expected to continue as existing GHG concentrations have already locked in climate change impacts over the coming decades. Increases in severity and/or frequency are expected to be relatively limited due to achieving an ambitious temperature goal.</li> <li>Chronic risks will similarly worsen (heat stress, sea level rise) however these risks are relatively much lower than in other scenarios.</li> <li>Demographic assumptions are consistent across all scenarios, aligned to the SSP2 Middle of the Road scenario as employed in the NGFS scenario suite.</li> </ul>	<ul style="list-style-type: none"> <li>The increased frequency and severity of physical risks places pressure on policymakers to take decisive actions to mitigate future physical risk impacts.</li> <li>Acute and chronic physical risks, although similar initially to a net-zero scenario, are expected to worsen post 2030 with worse outcomes in 2050.</li> <li>Demographic assumptions are consistent across all scenarios, aligned to the SSP2 Middle of the Road scenario as employed in the NGFS scenario suite.</li> <li>Due to the need for a rapid transition post 2030, restrictive policy will be implemented on</li> </ul>	<ul style="list-style-type: none"> <li>Acute and chronic physical risk impacts will be similar to the other scenarios in the short/medium term due to the locked-in impacts from existing GHG concentrations.</li> <li>Impacts are expected to be more severe and continuing to worsen to 2100.</li> <li>Acute physical risks will increase in severity and/or frequency.</li> <li>Chronic risks will become more severe post 2050, including extreme temperatures, changes in precipitation and sea level rise, further exacerbating acute risks (including storm surge, storms, fires, and flooding).</li> </ul>

## SECTION IV. CLIMATE SCENARIO ANALYSIS APPROACH

Key assumption	Net-Zero (1.5°C)	Disorderly Transition (-1.8°C)	Current Policies (>3°C)
	<ul style="list-style-type: none"> <li>Land use change (from vegetation to pastureland) is limited due to the need for carbon sinks and the emissions-intensive nature of deforestation and livestock agriculture.</li> <li>Increased capital expenditure will be deployed in the electricity sector to cater to growing demand, increased electrification, distributed resources and the need for significant upgrades to transmission and distribution networks.</li> </ul>	<p>unsustainable deforestation and limitations placed on any further land-use change.</p>	<ul style="list-style-type: none"> <li>Demographic assumptions are consistent across all scenarios, aligned to the SSP2 Middle of the Road scenario as employed in the NGFS scenario suite.</li> <li>Land-use change will follow current trajectories, catering to the food production requirements of an increasing population.</li> </ul>
<b>Energy usage and mix</b>	<ul style="list-style-type: none"> <li>Primary energy is increasingly converted to renewables with a significant scaling of electrification.</li> <li>Remaining fossil fuel generation is converted to renewables.</li> <li>Although buildings, vehicles and devices become more energy-efficient, the decline in energy usage driven by efficiencies is offset by the significant scale of electrification across industrial production.</li> </ul>	<ul style="list-style-type: none"> <li>Primary energy and grid decarbonisation follows a business-as-usual trend to 2030.</li> <li>Restrictive policy forces fuel switching, electrification and a rapid increase in renewable energy projects.</li> </ul>	<ul style="list-style-type: none"> <li>Renewable energy continues to make up a greater share of total energy composition; however, a significant volume of fossil fuel energy remains in the system over all time horizons.</li> <li>Energy demand continues to increase, with little offsetting impact from increased energy efficiency.</li> </ul>
<b>Developments in technology</b>	<ul style="list-style-type: none"> <li>Only hard-to-abate emissions remain in the economy post 2050, offset by negative emissions technologies and sequestration.</li> <li>Negative emissions technologies and nature-based sequestration are increasingly deployed to reach the aspirational goal of the Paris agreement.</li> <li>Technological advances in energy efficiency (industry, buildings, vehicles and devices) help to offset growing energy demand.</li> <li>Hydrogen and sustainable fuels production take a greater share of oil and gas combustion in hard-to-abate sectors, such as marine and air transport.</li> </ul>	<ul style="list-style-type: none"> <li>Limited use of carbon removal technology due to the delayed nature of the transition and slow roll-out of negative emission technology.</li> <li>Limited development of sustainable fuels as the majority of renewable electricity is dedicated towards decarbonisation of the electricity grid.</li> </ul>	<ul style="list-style-type: none"> <li>No carbon removal technologies or additional carbon sequestration projects are employed.</li> <li>No major technological developments.</li> </ul>
<b>Reporting period</b>	Scenario analysis is performed in the current reporting period.		

# SECTION V. DISCLAIMER

The information in this document is general information about the Group and its activities as at the date of this Climate Methodologies Supplement. It is given in summary form and is therefore not necessarily complete. It is not intended that it be relied upon as advice to investors or potential investors, who should be seeking independent professional advice depending on their specific investment objectives, financial situation or particular needs. The material contained in this document may include information, including, without limitation, methodologies, modelling, scenarios, reports, benchmarks, standards, tools, metrics and data, derived from publicly available or government or industry sources that have not been independently verified. No representation or warranty is made as to the accuracy, completeness or reliability of the information.

This document contains statements that constitute “forward-looking statements” within the meaning of Section 21E of the US Securities Exchange Act of 1934. Forward-looking statements are statements about matters that are not historical facts. Forward-looking statements and metrics appear in a number of places in this document and include statements regarding our current intent, belief or expectations with respect to our business and operations, macro and micro economic and market conditions, results of operations and financial condition, capital adequacy and risk management, including without limitation, climate change, net-zero, emissions intensity and other sustainability related statements, commitments and targets, projections, scenarios, risk and opportunity assessments, pathways, forecasts and metrics, forecasted economic indicators and performance metric outcomes, financial support to certain borrowers, indicative drivers, estimated emissions and other proxy data. These are subject to known and unknown risks, and there are significant uncertainties, limitations, risks and assumptions in the metrics and modelling on which these statements rely. In particular, the metrics, methodologies and data relating to climate and sustainability are rapidly evolving and maturing, including variations in approaches and

common standards in estimating and calculating emissions, and uncertainty around future climate- and sustainability-related policy and legislation. There are inherent limits in the current scientific understanding of climate change and its impacts. Forward-looking statements may also be made by members of Westpac’s management, directors, officers or employees (verbally or in writing) in connection with this document. Such statements are subject to the same limitations, uncertainties, assumptions and disclaimers in this document. We use words such as ‘will’, ‘may’, ‘expect’, ‘indicative’, ‘intend’, ‘seek’, ‘would’, ‘should’, ‘could’, ‘continue’, ‘anticipate’, ‘believe’, ‘probability’, ‘risk’, ‘aim’, ‘target’, ‘plan’, ‘estimate’, ‘outlook’, ‘forecast’, ‘goal’, ‘guidance’, ‘ambition’, ‘assumption’, ‘projection’, or other similar words that convey the prospective nature of events or outcomes and generally indicate forward-looking statements. These forward-looking statements reflect our current best estimates, judgements, assumptions and views as at the date of this document with respect to future events and are subject to change, certain known and unknown risks and uncertainties and assumptions and other factors which are, in many instances, beyond the control of Westpac, its officers, employees, agents and advisors, and have been made based upon management’s current expectations, understandings or beliefs concerning future developments and their potential effect upon us.

Although management currently believes these forward-looking statements have a reasonable basis, there can be no assurance that future developments or performance will be in accordance with our expectations or that the effect of future developments on us will be those anticipated. There is a risk that the best estimates, judgements, assumptions, views, models, scenarios, projections used may subsequently turn out to be incorrect. Actual results, performance, conditions, circumstances or the ability to meet commitments and targets could differ materially from those we expect or are expressed or implied in such statements, depending on various factors, including without limitation significant uncertainties in climate change and sustainability related metrics and modelling as well

as further development of methodologies, reporting or other standards which could impact metrics, data and targets (noting that climate and sustainability science, standards, methodologies and reporting are subject to rapid change and development). There are usually differences between forecast and actual results because events and actual circumstances frequently do not occur as forecast and their differences may be material. Factors that may impact on the forward- looking statements made include, but are not limited to, those described in this document and in the section titled ‘Risk Management’ in our [2024 Annual Report](#), as well as the Risk Factors document available at [www.westpac.com.au](http://www.westpac.com.au). Investors should not place undue reliance on forward-looking statements and statements of expectation, including targets, particularly in light of the current economic climate and the significant global volatility.

These statements are not guarantees or predictions of future performance and Westpac gives no representation, warranty or assurance (including as to the quality, accuracy or completeness of this document), nor guarantee that the occurrence of the events expressed or implied in any forward-looking statement will occur. When relying on forward-looking statements to make decisions with respect to us, investors and others should carefully consider such factors and other uncertainties and events, and the judgments and data presented in this document are not a substitute for investors and other readers’ own independent judgements and analysis. Investors and others should also exercise independent judgement, with the advice of professional advisers as necessary, regarding the risks and consequences of any matter contained in this document. To the maximum extent permitted by law, responsibility for the accuracy or completeness of any forward-looking statements, whether as a result of new information, future events or results or otherwise, is disclaimed. Except as required by law, we assume no obligation to update any forward-looking statements contained in this document, whether as a result of new information, future events or otherwise, after the date of this document.

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