

C H ● R U S

Climate Statements FY24

Climate-Related Disclosures (CRD) under Part 7A of the FMCA

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Foreword

Chorus is pleased to release our first Climate Statements, containing our climate-related disclosures (CRD) for FY24, prepared in accordance with the requirements of the Aotearoa New Zealand Climate Standards.¹

The Climate Statements reflect our ongoing commitment to sustainability and transparency. We welcome the new CRD regime as a step forward. The disclosures required under the regime are crucial for building momentum and ensuring accountability as New Zealand transitions to a low-emissions, climate-resilient future. New Zealand is leading the way with this CRD regime, and it is encouraging to see global commitment to match our efforts is underway.

The telecommunications sector has a role to play in climate mitigation and adaptation, as more businesses, individuals and communities look to technology to help reduce emissions and adapt to a more uncertain climate.

Fibre networks provide more energy efficient digital infrastructure than copper because they transmit data via light over large distances, offering additional environmental benefits.² In 2022, the World Broadband Association noted that fixed broadband service providers will play a key role in reducing the environmental impact of the telecommunications sector, particularly fibre-to-the-home (FTTH) networks.³ Chorus' withdrawal of copper services and transition to an all-fibre network remains a key part of our Emissions Reduction Plan.

Chorus is mindful of the importance of maintaining a strategic focus on both climate mitigation and adaptation. Chorus' ability to identify and act on the risks and opportunities that climate change may bring is integral to the future resilience of our business.

We have had a sustainability strategy and have reported voluntarily⁴ for the last three years, using the TCFD framework.⁵ This year we are stepping into the mandatory disclosure regime and have invested in making sure we meet the disclosure needs of our primary users through the development of these Climate Statements. Although we are well on our way with our sustainability journey, we recognise that there is still more for us to do. Sustainability is a continuous process requiring constant adaptation and improvement. We are committed to making meaningful progress, not just for today but for future generations.



Mark Cross
Chair



Kate Jorgensen
Chair Audit & Risk Management Committee

¹ See Statement of compliance below.

² Sapere Report, 'Assessing the emissions footprint of the fibre networks relative to other fixed broadband options in NZ', 2021, at 4.1.

³ World Broadband Association, 'Importance of Environmental Sustainability in Telecom Service Providers' Strategy', 2022.

⁴ Chorus, Sustainability, <https://company.chorus.co.nz/sustainability>

⁵ Task Force on Climate-Related Financial Disclosures, <https://www.fsb-tcf.org/>

An aerial photograph of a residential neighborhood, likely in San Francisco, showing a dense cluster of houses with grey roofs and green trees. In the background, a large bridge spans across a body of water, and a tall building is visible. A large, semi-transparent blue circle is overlaid on the left side of the image, containing the text '1. Introduction'.

1. Introduction

1.1 Introduction

Chorus is New Zealand's largest fixed line telecommunications network operator providing wholesale telecommunications services to broadband retailers. Our fibre network offers individuals, communities, and businesses access to high-speed, reliable, and world-class fibre broadband.

This report contains Chorus' first Climate Statements under the new mandatory reporting regime for financial year 1 July 2023–30 June 2024 (FY24) and relates to Chorus Limited and its wholly owned subsidiary (and operating company) Chorus New Zealand Limited (together, Chorus). The scope of reporting entity is consistent with Chorus' FY24 financial statements.

The Climate Statements have been prepared in accordance with the requirements of the Financial Markets Conduct Act 2013 (FMCA), and the Aotearoa New Zealand Climate Standards 1, 2 and 3 across the four key thematic areas of Governance, Strategy, Risk Management and Metrics & Targets.⁶

Through our disclosures, we seek to provide primary users with a better understanding of how Chorus identifies, assesses and manages the physical and transitional climate-related risks and opportunities that may affect Chorus over the short, medium and long term, as well as our approach to addressing the resulting impacts. The disclosures are designed to help primary users make decisions about investing in Chorus. Primary users are defined in the Climate Standards⁷ as existing and potential investors, lenders and other creditors.⁸

Statement of compliance

Adoption provisions

Chorus has elected to use the following adoption provisions available under NZ CS 2:

- Adoption Provision 1 (paragraphs 10–11 of NZ CS 2) – Current financial impacts
- Adoption Provision 2 (paragraphs 12–14 of NZ CS 2) – Anticipated financial impacts
- Adoption Provision 3 (paragraphs 15–16 of NZ CS 2) – Transition planning (noting that Chorus has described its progress towards developing the transition plan aspects of its strategy, as required by NZ CS 2)
- Adoption Provisions 6 and 7 (paragraphs 20–22 of NZ CS 2) – Comparatives for metrics, and analysis of trends

Chorus' climate-related disclosures otherwise comply with the mandatory requirements of the Aotearoa New Zealand Climate Standards issued by the External Reporting Board. The table below contains a summary of where key disclosures can be found.

Table 1. Table of disclosures

NZ CS 1 requirement	Reference
Governance	
Identity of governance body responsible for oversight of climate-related risks and opportunities – para 7(a)	Section 2.1 – page 7
Governance body oversight – para 7(b) and 8(a), (b), (c) and (d)	Section 2.1 – pages 7-10
Management's role – para 7(c), 9(a), (b) and (c)	Section 2.2 – page 11
Strategy	
Current physical and transition impacts – para 12(a)	Section 3.1 – page 13
Current financial impacts – para 12(b) and (c)	Adoption relief
Scenario analysis undertaken – para 13	Section 3.2 – pages 14-16
Climate-related risks and opportunities – para 14(a), (b) and (c)	Section 3.3 – pages 17-20
Anticipated impacts – para 15(a)	Table 5 – page 18-20
Anticipated financial impacts – para 15 (b), (c) and (d)	Adoption relief
Transition planning – current business model and strategy – para 16(a)	Section 3.3 and 3.4 – pages 21-24
Transition planning – transition plan aspects of strategy and extent of alignment with internal capital deployment – para 16 (b) and (c)	Adoption relief, but progress described in section 3.4 – pages 23-24 as required by NZ CS 2 para 16
Risk management	
Processes for identifying, assessing and managing climate-related risks – para 18(a), and 19 (a), (b), (c), (d) and (e)	Section 4.1-4.4 – pages 26-30
Integration into overall risk management processes – para 18(b)	Section 4.1 – pages 26-28
Metrics & targets	
Metric categories (GHG emissions) – para 22(a) and (b)	Section 5.2 – see Table 6 (pages 35-37), Table 7 (page 38) and Table 8 and 9 (page 39)
Metric categories (Other) – paras 22(c) to (h), and para 21(b) and (c)	Section 5.2 – pages 39-41
Targets – para 23(a) to (e)	Section 5.1 – pages 32-33
GHG Emissions – para 24 (a) to (d)	Section 5.2 – page 34

⁶ In relation to NZ CS 2, we have relied on certain 'adoption provisions' this year, as outlined in the Statement of compliance.

⁷ XRB, Aotearoa New Zealand Climate Standard 1.

⁸ For the purposes of these Climate Statements, Chorus considers its primary users to include our existing and potential shareholders or debtholders, Chorus' bank lending group, credit ratings agencies, Crown Infrastructure Partners (as the holder of equity and debt securities), and our insurers.

Introduction continued

Important note

Climate-related information

This report contains statements that are based on data, methodologies, assessments and judgements that are subject to significant uncertainty, limitations and assumptions, and which may change. While Chorus has sought to provide accurate information in respect of the reporting period ended 30 June 2024, we caution reliance being placed on information in this report, which may be necessarily less reliable than Chorus' other public reporting. The climate-related data and other inputs we have used (including from third parties and our supply chain) may be incomplete, inconsistent, unreliable or unavailable, and we may have needed to rely on assumptions, estimates or proxies instead. Similarly, climate modelling and scenarios are emerging methodologies that rely on significant assumption and judgements and may not reliably predict future events.

Forward-looking statements

This report also contains forward-looking statements, including with respect to climate-related scenarios, impacts, targets and ambitions, forecasts and projections, as well as Chorus' business plans and operations, future operating environment and market conditions, which may not eventuate as predicted. The risks and opportunities described here may not eventuate or may be more or less significant than anticipated. There are many factors that could cause Chorus' actual results, performance or achievement of climate-related metrics (including targets) to differ materially from that described, including economic and technological viability, as well as climatic, government, consumer, and market factors outside of Chorus' control. We similarly caution reliance being placed on such statements, which are necessarily subject to significant risk, uncertainty and assumptions. We have based our statements and opinions on reasonable information known to us at the time of publication, but these may change including for reasons beyond Chorus' control. We reserve the right to update those statements in future, as the quality and completeness of inputs and information improves, and our organisational strategy evolves. This note should be read with the specific limitations, dependencies, uncertainties set out below, in particular sections 3.2-3.4, 5.1 and 5.2.

Chorus gives no representation, guarantee, warranty or assurance that actual outcomes or performance will occur in line with forward-looking statements, and accepts no liability for any loss arising from use of information contained in this report. Nothing in this report should be interpreted as capital growth, earnings or any other legal, financial, tax or other advice or guidance. For detailed information on our financial performance, please refer to our Annual Report.

2. Governance

Chorus' Board and Audit & Risk Management Committee (ARMC) oversee our climate response, underpinned by governance arrangements that seek to maintain accountability for climate risks and opportunities across the business.



2.1 Governance body oversight of climate risks and opportunities

Identity of the governance body and governance body oversight

Our Board is ultimately responsible for setting Chorus' strategy, risk management and governance frameworks. This includes governance of sustainability (incorporating climate-related risks and opportunities). The Board operates under a written Charter⁹ outlining the roles and responsibilities of the Board and setting out the relationship between the Board and management. The Board also delegates certain functions to Board Committees to assist and advise the Board on specific matters set out in the respective Committee Charters. The Board's specific responsibilities with respect to sustainability governance include:

- monitoring the effectiveness of Chorus' sustainability governance policies and practices including satisfying itself that an appropriate framework exists for information to be reported by management to the Board,
- approving Chorus' sustainability strategy,¹⁰ and
- overseeing the social, ethical, and environmental impact of Chorus' activities.¹¹

The Board delegated oversight of Chorus' climate-related risks and opportunities, including overseeing and monitoring progress in the implementation of Chorus' climate strategy and the preparation of CRD to Chorus' ARMC, a sub-committee of the Board, in February 2023. Prior to this appointment, the ARMC had been overseeing Chorus' climate progress and reporting as part of its broader audit and risk management responsibilities. The work of the ARMC underpins the Board's strategic oversight of Chorus' sustainability performance.

⁹ Chorus Board approved policy, **Board Charter**, April 2024

¹⁰ These responsibilities reflect amendments made to the Chorus board Charter in December 2022, after Chorus' current sustainability strategy was developed. Since the Charter update, any new sustainability strategy or substantive updates to our existing strategy must be approved by the Board – this has not been required to date.

¹¹ Chorus Board approved policy, **Board Charter**, April 2024 (Para 5 – 'Governance and Sustainability').

Table 2. Chorus' governance structure

The following figure shows Chorus' governance structure for the oversight and management of Chorus' sustainability framework and strategy that applied in FY24, including with respect to Chorus' climate strategy and climate-related risks and opportunities:

Organisation Chart and Information flow	Regularly (monthly to quarterly)	Annually / Bi-Annually	As required
<p>The diagram illustrates the governance structure. At the top is the CHORUS BOARD OF DIRECTORS, which approves the business strategy. Below it is the AUDIT AND RISK MANAGEMENT COMMITTEE (ARMC), which oversees the implementation of the sustainability strategy. The CHORUS EXECUTIVE TEAM proposes the business strategy and reviews climate risks and opportunities annually. The HEAD OF SUSTAINABILITY (HOS) designs and implements the sustainability strategy, identifying material focus areas. The SUSTAINABILITY NETWORK (HOS / SUSTAINABILITY TEAM) monitors progress on strategy, risks, and opportunities, and provides sustainability leadership. At the bottom, ALL CHORUS PEOPLE SUPPORT EXECUTION.</p>	<ul style="list-style-type: none"> As part of its broader leadership and oversight role, oversees the social, ethical and environmental impact of Chorus' activities. 	<ul style="list-style-type: none"> Reviews sustainability progress (including targets) (bi-annually). 	<ul style="list-style-type: none"> Sets the business strategy.
<p>Oversees the implementation of Chorus's Sustainability strategy</p> <p>Propose new sustainability targets and programme of work</p> <p>Reviews climate risks and opportunities and presents to ARMC annually</p>	<ul style="list-style-type: none"> Oversees and monitors progress in the implementation of Chorus' sustainability strategy and compliance with the CRD regime. 	<ul style="list-style-type: none"> Reviews climate-related risks and opportunities (annually). Reviews our climate-related disclosures compliance and recommends climate statement for approval by Board (annually). 	
<p>Provides Sustainability Leadership</p> <p>Designs and implements Sustainability Strategy – identifies material focus areas to guide business activity and internal resource allocation</p>	<ul style="list-style-type: none"> Provides sustainability leadership within Chorus. 	<ul style="list-style-type: none"> Monitors progress against the sustainability strategy (bi-annually). Reviews any new sustainability targets proposed by the Head of Sustainability (annually). Reviews climate related risks and opportunities. Receives a general sustainability progress report (bi-annually). 	<ul style="list-style-type: none"> Proposes the business strategy for board endorsement. Reviews any new sustainability targets proposed by the Head of Sustainability. CEO reviews Sustainability Policy.
<p>Monitors and reports on progress on risks and opportunities, targets and metrics bi-annually</p>	<ul style="list-style-type: none"> Designs and implements the sustainability strategy. 	<ul style="list-style-type: none"> Reports on sustainability progress to Executive, ARMC and Board (bi-annually). 	<ul style="list-style-type: none"> Proposes sustainability strategy, targets, goals and programmes of work to CEO and executive team. Communicates sustainability strategy and progress with key stakeholders. Reviews sustainability policy.
<p>Monitors and reports on progress on strategy, risks and opportunities and disclosure compliance</p>	<ul style="list-style-type: none"> Work across Chorus to improve sustainability performance and integrate sustainability initiatives into the business. Develops and communicates quarterly emission reduction dashboards to senior leaders (executive members and their direct reports). Provide input into sustainability programmes and activities to help us progress towards our targets. 	<ul style="list-style-type: none"> Reviews the climate-related risks and opportunities register (bi-annually). 	<ul style="list-style-type: none"> Inputs into the Chorus sustainability strategy and targets as required.
<p>ALL CHORUS PEOPLE SUPPORT EXECUTION</p>	<p>Support execution of sustainability priorities and consider sustainability impacts in decision making, where applicable.</p>		

Governance body oversight of climate risks and opportunities continued

Chorus underwent an organisation restructure, which became effective in Q2 of FY24.¹² As a result, some aspects of our internal governance, management and reporting procedures have been updated over this time.

Climate reporting processes and frequency – governance body

Chorus has a dedicated climate-related risks and opportunities register.¹³ This is reviewed and updated every six months by the Sustainability team. In FY24, the register was reviewed and updated in December 2023 and May 2024. The Executive team usually reviews those climate-related risks and opportunities annually, with a high-level overview provided to the ARMC for noting either as part of our risk and assurance updates or as a specific climate/sustainability related update.

In FY24, the ARMC received two updates regarding the climate-related risks and opportunities as well as updates on a number of other climate-related workstreams. The ARMC meets four times a year (including in FY24), with all directors welcome to attend.

A broader sustainability update is provided to the Board at least bi-annually by the Head of Sustainability. Two such updates were provided in FY24. The Board also approved the process for the preparation of our CRD, received advice from external advisers in relation to that process, and reviewed and approved these Climate Statements.

Climate skills and competencies

Chorus uses a skills matrix to ensure its Board and, by extension, the ARMC, has an appropriate range of skills and competencies to govern Chorus and to identify any areas for upskilling. Skills and competencies that Chorus considers relevant to ensuring appropriate oversight of climate-related risks and opportunities for the Chorus business include financial and legal expertise, governance, regulatory and infrastructure experience. Given the increasing focus on climate change management, the Board continues to build its sustainability and climate expertise through ongoing education, climate-related training sessions with external experts, as well as receiving and discussing sustainability updates with the Sustainability Team. This is in addition to the Board's broader skills and competencies across related disciplines including governance, regulation and infrastructure.

In FY24, climate-related Board education focused on the requirements of the new CRD regime. Chorus also conducted an Internal Audit to assess our readiness against the Climate Standards, the findings of which were presented to the ARMC in February 2024 with an action plan to address opportunities for improvement. Sustainability/climate governance attributes are also now a consideration when recruiting new directors.

Consideration of climate-related risks and opportunities in Chorus' strategy

The Chorus Board sets our overall strategy.¹⁴ In FY24, climate-related considerations sat under the 'Thriving Environment' pillar of our organisational strategy. Our strategic priorities under the Thriving Environment pillar are set out in section 3.3 – page 22, below.

Key commitments we have made in working towards a thriving environment are set out in our Sustainability Policy, which is approved by our Board.¹⁵ These include: implementing and maintaining an emissions data and reporting system, disclosing our annual GHG emissions, identifying and innovating to create a sustainable value chain, and reducing waste, energy, and emissions.

The Sustainability Team also prepares a sustainability strategy, with help from the strategy and enterprise performance team, as part of Chorus' overall strategy. This involves reviewing our current settings and international trends, as well as reaching out to stakeholders to discuss their views in the sustainability space. As part of the strategy development, climate-related risks and opportunities also help inform our Emissions Reduction Plan and business considerations for new capital requests and financial planning rounds, predominately as part of physical network and asset management planning. The Board and ARMC receive updates on progress against the sustainability strategy.

¹² Media Release, May 2023 – New Operating model announcement <https://company.chorus.co.nz/media/releases/chorus-announces-operating-model-and-executive-team-changes>

¹³ Refer to section 3.3 below 'Climate-related risks and opportunities'.

¹⁴ Chorus' strategy continues to evolve, and is updated periodically. This report is focused on our FY24 strategy, in line with NZ CS 1 requirements.

¹⁵ Chorus, Sustainability Policy, April 2024.

Governance body oversight of climate risks and opportunities continued

Setting and overseeing climate metrics and targets

Our current climate targets were designed by the Head of Sustainability, approved by the CEO and noted by the Board. These are the building blocks for our sustainability strategy, Emissions Reduction Plan, and climate-related workplans. Our current climate-related targets are:

- **Science-aligned target:** Reduce 62% scope 1 and 2 emissions (based on FY20 tonnes CO₂e emissions levels) by FY30.
- **Science-aligned target:** 70% of our suppliers, by spend, have a science-based target in place by FY29.

Monitoring progress against the targets and recording metric data is delegated to the Head of Sustainability and our in-house Sustainability Team. The Head of Sustainability reports to the Board every six months setting out the approved targets, progress against those targets and any focus areas for the coming six-month period. The Head of Sustainability also reports to the ARMC periodically, providing updates on climate-related workstreams including metrics and targets.

Some members of our Executive have KPIs linked to the execution of our sustainability strategy (for example, our Chief Corporate & Regulatory Officer). The CEO and all Executives have a strategy execution KPI, of which implementation of our sustainability plan and reducing emissions is one measure. As part of this, Executives have a specific electricity use reduction target for each financial year. These KPIs are taken into account along with other KPIs when assessing Executive performance and remuneration.

The Chorus Board oversees achievement of metrics and targets through Board reports from the ARMC, sustainability updates, and the annual performance review process for the CEO (as the individual primarily responsible for implementing Chorus' strategy). The CEO's performance is reviewed by the People, Performance and Culture Committee each year, which makes recommendations to the Board in respect of key performance objectives.

2.2 Management's role

Chorus management's role in assessing and managing climate risks and opportunities

The Board delegates management responsibility for Chorus' risks and implementing Chorus' strategy to the CEO.¹⁶ The CEO further assigns responsibility to relevant members of the Executive. The Executive and their teams are given appropriate guidelines for the day-to-day management of risk, including climate risk where applicable, through Chorus' Managing Risk Policy¹⁷ and Sustainability Policy. See further details of Chorus' climate risk management framework in section 4 below.

Delegation of climate-related responsibilities within Chorus

As above, our CEO has overall management responsibility for Chorus' treatment of climate-related risks and opportunities, supported primarily by the Chief Corporate & Regulatory Officer (the Executive sponsor of the sustainability strategy and supporting programmes of work), the Head of Sustainability and the Head of Risk, Internal Audit and Compliance (RIAC).

The Head of Sustainability leads the internal Sustainability team, coordinates the sustainability strategy, climate targets and programmes of work, as well as reporting to the Executive, ARMC and Board on sustainability progress, including key climate and energy efficiency initiatives. The Sustainability team works across Chorus within a cross-functional 'sustainability network' that aims to improve sustainability performance and integrate sustainability considerations into day-to-day business planning and strategy, risk management, processes and culture.

An outline of key sustainability roles and responsibilities within Chorus can be found in the Governance Structure Chart in table 2.

The Head of RIAC is responsible for enterprise-wide risk assessment and management, including the incorporation of risks into Chorus' risk register and reporting to the CEO, Executive and ARMC. Risks are assigned to relevant members of the Executive. For example, operational risks related to climate change are identified within our risk management framework, particularly regarding core service availability and network resilience. The Chief Technology Officer is responsible for operational risks related to our nationwide physical network. Mitigation measures include planning for network deployment and protection, as well as ongoing maintenance and fault management.

The Chief Corporate & Regulatory Officer and Head of Sustainability share the climate-related risks and opportunities with the ARMC annually, and broader sustainability updates are provided to the ARMC and Board at least bi-annually.

Climate reporting processes and frequency – management

Our Executive members review the management of climate-related risks and opportunities assigned to their areas of the business annually, as well as ensuring key decisions take risk factors into account and are consistent with the Board's risk appetite.

The Head of RIAC convenes our Risk & Compliance Executive Steering Group at least quarterly. This Steering Group is chaired by the CEO, and facilitates Executive review of risk, compliance, internal audit, fraud and certain other non-financial papers (including sustainability-related) presented to the ARMC or Board. The climate-related risks and opportunities will generally be reviewed by the full Executive annually, with a high-level overview provided to the ARMC. The Head of Sustainability also updates the Executive half yearly on progress against our agreed sustainability targets and discusses new strategy initiatives ahead of those being presented to the ARMC.

Sustainability and climate considerations are also embedded into different operational workstreams at Chorus, such as our 'initiative-to-market' process which includes assessing any sustainability impacts associated with new initiatives.

¹⁶ Chorus, Board Charter, April 2024.

¹⁷ Chorus, Managing Risk Policy, May 2023

3. Strategy

'Thriving environment' was a strategic focus for our business in FY24, as the New Zealand economy transitions towards a low-carbon climate resilient future. We continue to monitor climate risks, impacts and opportunities and explore ways to build resilience capability across our business and operations.



3.1 Current climate-related impacts

In FY23, climate-related weather events tested the resilience of the Chorus network.¹⁸ Cyclone Gabrielle led to the widespread loss of electricity and the subsequent loss of telecommunications services in the Gisborne, Wairoa and East Cape regions. Service interruptions were significant, largely due to power outages and multiple fibre breaks. However, physical damage to Chorus' core fibre network was reasonably limited – no Chorus exchange buildings were damaged. In response to service impacts, Chorus responded rapidly, including, in the most extreme cases, by laying temporary fibre cable by helicopter to restore services. Other restoration activities included fibre cable and network equipment replacement, and site infrastructure repairs (e.g. cabinets).

The cyclone and associated flooding across the North Island in 2023 also tested the resilience of our copper network, which is more susceptible to water damage than the fibre network. This is because the copper network relies on powered equipment in suburban streets to transmit signals, whereas fibre is a passive network with data transmitted via light. Copper network customers were up to 10 times more likely to lose service than those on fibre, with longer restoration times.

Chorus did not suffer any significant network interruptions from extreme weather events in FY24. However, FY24 did require additional capex expenditure for further fibre and copper network restoration activities as a result of Cyclone Gabrielle.¹⁹ Chorus also experienced increased property insurance premiums for FY24, and considers this may be, in part, related to climate-related extreme weather events such as Cyclone Gabrielle and other regional flooding.

Based on our analysis of climate-related risks in FY24, the operational risk created by extreme weather remains our main physical climate-related risk over the short to medium term (0–15 years). In FY23, post Cyclone Gabrielle, Chorus contributed to a telecommunications industry plan, led by the New Zealand Telecommunications Forum, to identify opportunities for enhanced network resilience and collaboration with government.²⁰ In FY24 this working group continued, alongside Chorus' ongoing programme of network resilience projects. Further information on Chorus' current climate-related impacts is contained in Table 5 below.

Chorus' climate change impact assessment in FY23, network information and experience from past extreme weather events inform our ongoing network planning and management practices. To manage transition risk, our Emissions Reduction Plan focuses on emissions reduction and energy efficiency opportunities. Our transition planning includes two core workstreams – copper network withdrawal and our Emissions Reduction Plan. Further information on our Emissions Reduction Plan is set out in section 3.4 below.

Over the last 18 months, Chorus has introduced environmental questions as part of new technology and product consideration processes.

¹⁸ While our CRD relates to FY24, Cyclone Gabrielle illustrated the potential for climate-related weather events to impact our network, and continued to have implications in FY24, as noted below.

¹⁹ As set out below, Cyclone Gabrielle resulted in a \$7m EBITDA impact in FY23, and \$3.3 million of new capital expenditure in FY24.

²⁰ New Zealand Telecommunications Forum (TCF) – **Enhancing Resilience in Telecommunications** – industry plan and suggested areas for collaboration with government, May 2023.

3.2 Scenario analysis

Overview

Chorus continues to build capability as part of our climate scenario analysis. In 2019, Aon investigated potential climate change impacts from sea level rise on Chorus assets. In 2022, Aon built on its previous work by reassessing climate change impacts based on an updated asset portfolio and extended scope to consider coastal, pluvial, and fluvial flooding across two global emissions scenarios (to 2040 and 2090).

In FY23, we established our climate-related risks register, and later that year expanded the register to include climate-related opportunities. At the start of FY23 we published our first Emissions Reduction Plan,²¹ which details how we intend to reach our target of reducing 62% of our scope 1 and 2 emissions by FY30 as against FY20 levels. These initiatives, and learnings from them, continued to inform our work in FY24. We continue to review and remodel the Emissions Reduction Plan as we refine our climate strategy. As part of our revision in FY24, we identified a small potential gap in the initiatives we are pursuing to reach our FY30 emissions reduction target, so have initiated an energy audit to help us identify further opportunities to reduce our emissions.

In June 2023, the Telecommunications Forum (TCF) established a Climate Change Working Group.²² This development saw members of the New Zealand telecommunications sector come together to better understand the potential climate scenarios that we could face as a sector. Chorus’ Head of Sustainability, Sustainability Team and Chorus’ Principal Solution Architect, who is responsible for drafting Chorus’ resiliency strategy, attended two full day workshops to bring their sector expertise to this engagement process and provide the inputs for the scenario development. The Head of Sustainability joined a smaller project management team and wider stakeholder group to support and oversee the work. Tonkin & Taylor was engaged to provide expertise and facilitate this scenario analysis programme, which spanned most of FY24. The main data sources used by Tonkin + Taylor, and the working group were the IPCC Shared Socioeconomic Pathways (SSPs) as a global data source and NIWAs representative concentration pathways (RCPs) as a New Zealand based data source. Given our input into the sector scenario analysis work programme, Chorus considers the scenarios are relevant and appropriate to deepen our assessment of Chorus’ resilience to climate-related risks and opportunities (adapted to our business as an infrastructure provider of fixed-line networks). The Orderly Transition and Hot House World scenarios were chosen as they align with the 1.5C and >3C scenarios mandated by the New Zealand Climate Standards. Disorderly Transition was considered appropriate as a third scenario as it contains a mix of physical and transition impacts that test the resilience of Chorus’ business model and strategy.

Shortlisted drivers,²³ being the key factors outside of Chorus’ or the telecommunications sector’s control that could have the greatest influence in shaping outcomes for our sector, were identified and mapped across three climate scenarios. A select number of drivers were chosen to be ‘featured’ or key to the scenario narrative, while others were ‘supporting’.²⁴ Each of the narratives were presented in a timeline that stretches across the three timeframes established for the sector (see opposite).

The ARMC provided oversight of the scenario analysis process by having the opportunity to provide feedback on the draft Tonkin & Taylor report. The final Tonkin & Taylor report dated 15 July 2024 is available on the TCF website. The scenario analysis process was conducted externally, and separate to Chorus’ strategy processes. However, its findings have continued to inform internal workstreams.

The three climate scenarios Chorus has adopted based on the telecommunications sector analysis are:

1. Scenario 1: Orderly Transition (Paris Agreement aligned transition scenario)
2. Scenario 2: Hot House World (high-warming scenario)
3. Scenario 3: Disorderly Transition (additional scenario).

The climate scenario narratives are summarised below.

Table 3. Telecommunications sector climate scenarios – summary of narratives

Orderly Transition	Hot House World	Disorderly Transition
Aotearoa New Zealand (NZ) and the world transitions to net zero by 2050 with strong policy and market changes clearly signalled by the government. Physical impacts from climate change are limited and align with the SSP1-1.9 scenario. Average global temperatures are limited to 1.5 degrees above preindustrial levels by 2050.	NZ and the world abandon net zero targets, and there is no national or global movement to reduce emissions. Existing policies are reversed, and fossil fuel use continues. Physical impacts from climate change are severe with annual average global temperatures rising to 2 degrees above pre-industrial levels by 2050 and 3.6 degrees by 2100 (in alignment with SSP3–7.0).	NZ and the developed world are delayed in their transition to net zero and continue to use fossil fuels over the short-term. This results in a steady increase in temperature and physical impacts in alignment with SSP2–4.5 (2 degrees by mid-century). By 2030, NZ and the developed world realise that urgent action is needed to reach net zero, which results in abrupt and poorly signalled policy and market changes.

While the scenarios are considered plausible stories about conditions and events which may occur, they are not presented as predictions about what will occur given the significant uncertainty surrounding climate events and the extent to which global efforts to reduce GHG emissions will be successful. As such, scenario analysis is not a one-time process – Chorus intends to review and, if necessary, refresh its scenarios as part of periodic reporting cycles.

²¹ Chorus, Sustainability Report 2022, page 15

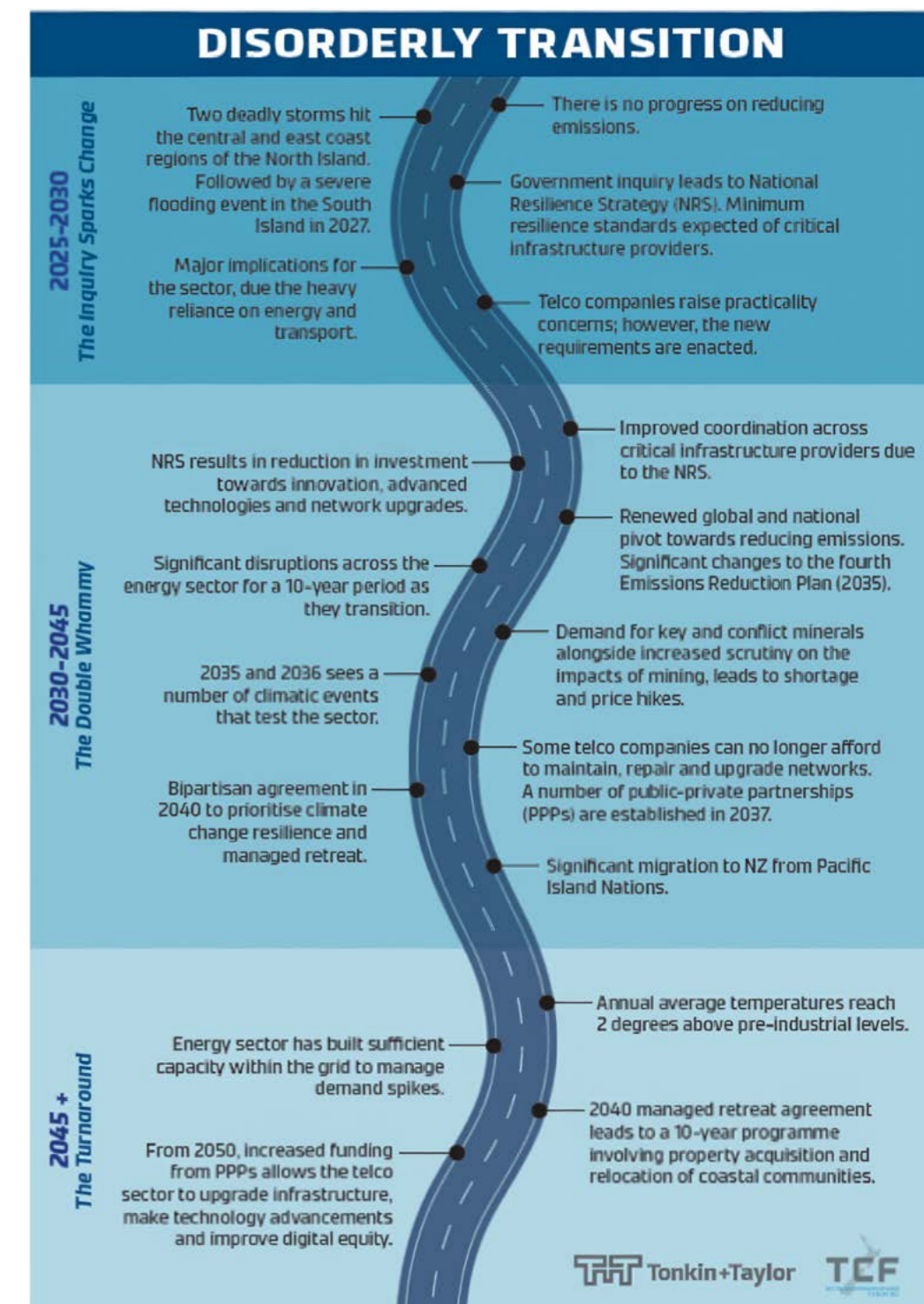
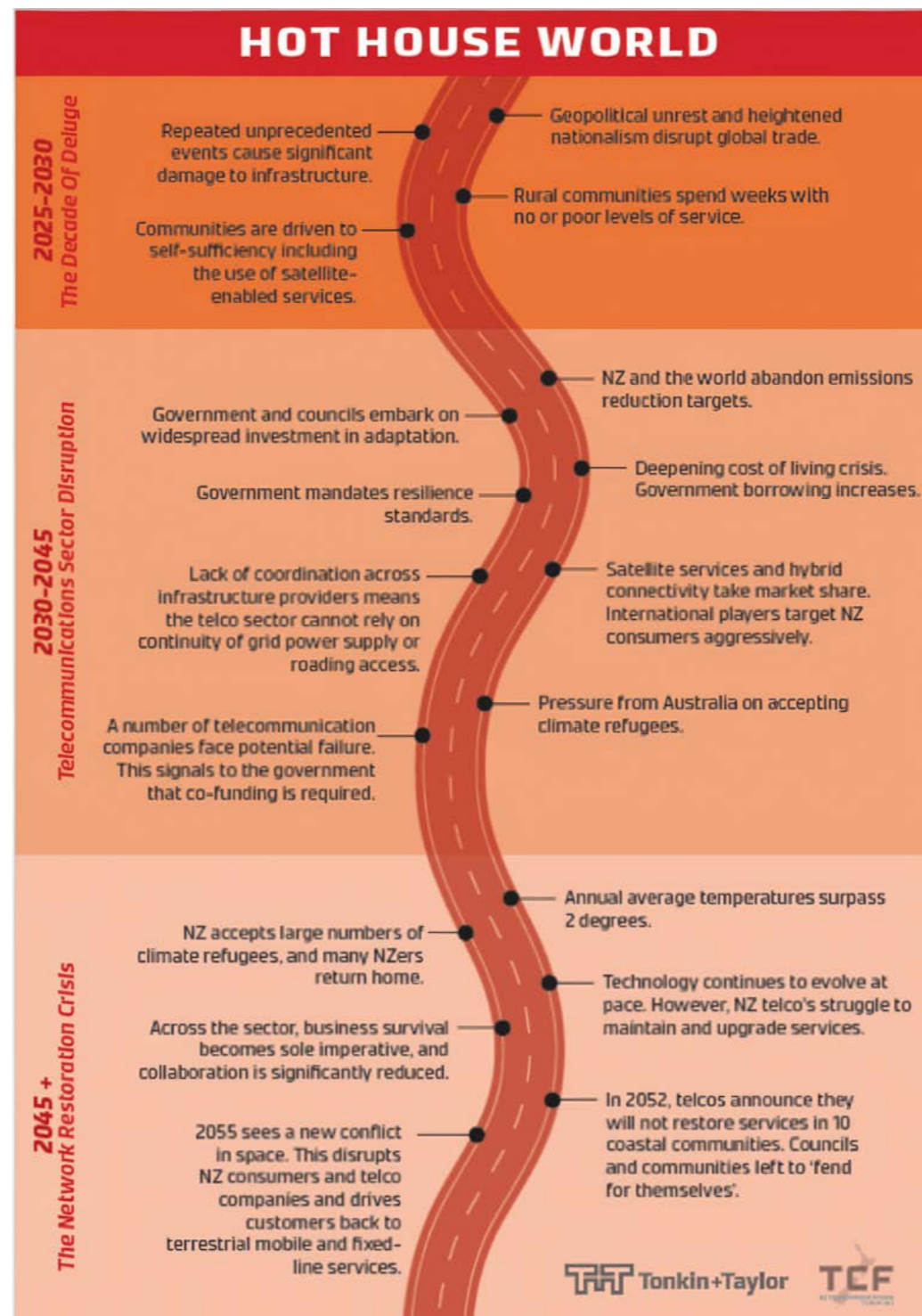
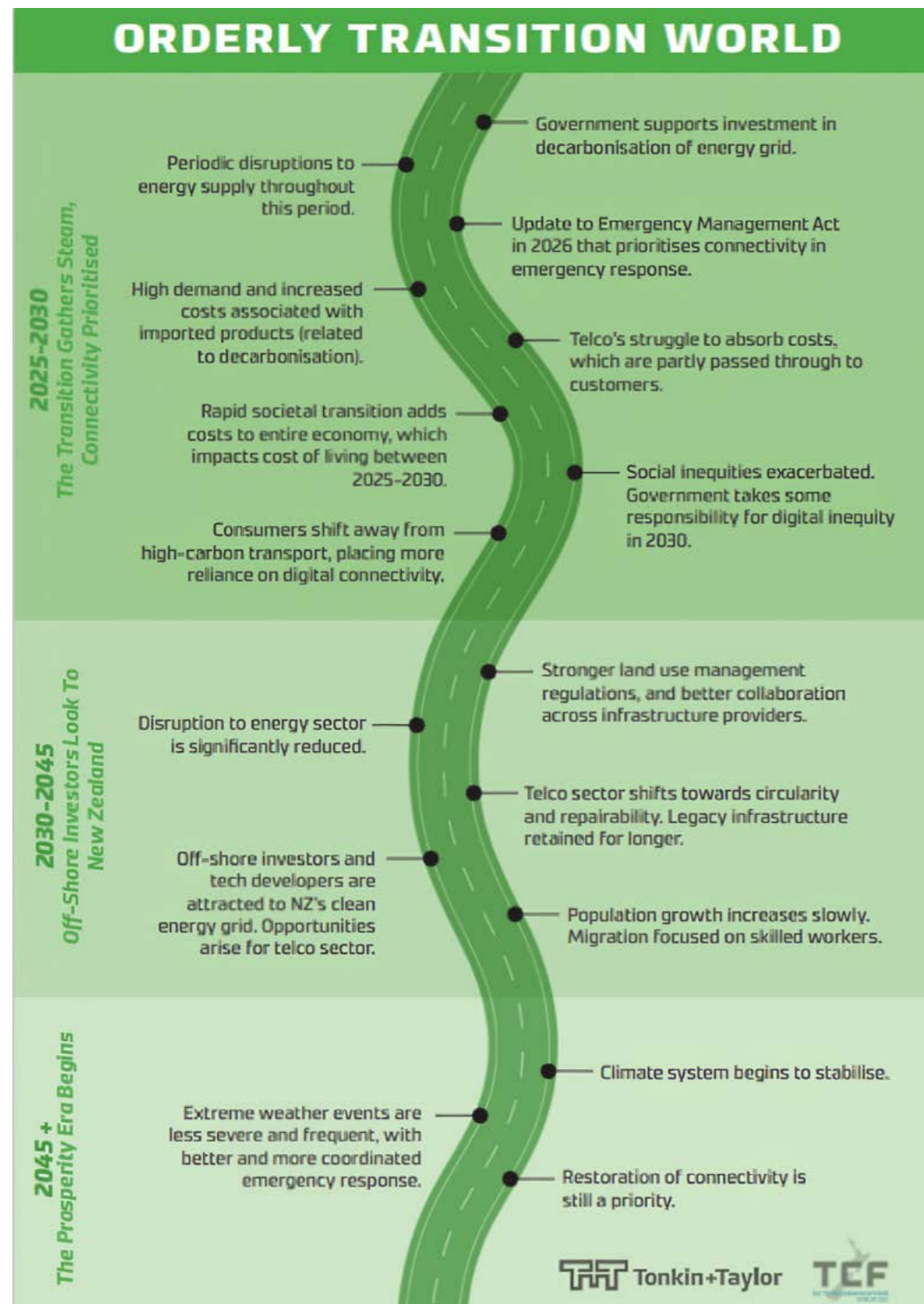
²² Telecommunications Forum (TCF), Climate Change Working Group.

²³ TCF, Telecommunications Sector Climate Change Scenarios | NZ Telecommunications Forum (tcf.org.nz), published 6 August 2024, page 20.

²⁴ While carbon sequestration from afforestation and nature-based solutions were part of the underlying SSPs used to build the scenarios, they were not shortlisted drivers, and therefore not included in the sector scenarios

Scenario analysis continued

The pathway assumptions for each scenario are summarised below:



Source: Tonkin + Taylor, Telecommunications Forum (TCF, July 2024)

Scenario analysis continued

Given the final telecommunications sector scenario analysis report only became available in July 2024, Chorus has relied on the sector scenario archetypes in the Tonkin & Taylor report and has not undertaken any separate or additional modelling. When producing the Telecommunications Sector scenario analysis, the following international and national scenario parameters were considered:

Table 4. International and national scenario parameters

Category	Worlds		
	Orderly Transition	Hot House World	Disorderly Transition
Global climate and socio-economic parameters	SSP1-1.9 (IPCC)	SSP3-7.0 (IPCC)	SSP2-4.5 (IPCC)
NZ specific climate parameters	RCP 2.6 (NIWA ²⁵ downscaled reporting)	RCP 8.5 (NIWA downscaled reporting)	RCP 4.5 (NIWA downscaled reporting)
NZ specific transition pathway parameters	'Tailwinds' (CCC)	'Current policy Reference' (CCC)	'Headwinds' (CCC)

Climate scenarios – time horizons

Chorus' time horizons, set out below, align with the telecommunications sector scenario analysis assessment. However, they may differ from other sectors due to the lifespan of telecommunication infrastructure and technology. The time horizons applied to the scenario analysis broadly align to aspects of Chorus' operational and strategic planning horizons and the typical duration of telecommunications asset lives and were also informed by international emissions reductions targets. The endpoint of our current scenario analysis is 2050.

1. Short-term (0 to 5 years: 2024–2029) – aligns to telecommunications organisations emissions reduction targets (including Chorus) and our regulatory proposal period)
2. Medium-term (5 to 15 years: 2029–2044) – aligns with Chorus' 10-year strategic planning horizon, along with average life of electronic network equipment
3. Long-term (15 to 30+ years: 2044+) – aligns with potential materialisation of physical risks, particularly infrastructure impacts and aligns to New Zealand's 2050 net zero ambition)

The draft sector scenario analysis was shared with climate change risk and opportunity owners across Chorus in FY24, and a workshop was held to consider which parts of the analysis were appropriate for the Chorus business. We also applied the different scenario analysis narratives to our climate-related risks and opportunities to consider whether they were still appropriate or required further refinement – see section 3.3 below. An update on the workshop outcomes was reported to the ARMC in May 2024. The sector scenario analysis is expected to inform our risk management approach and sustainability strategy over subsequent reporting years. The Sustainability team will use the final report to analyse any gaps in Chorus climate-related risks and opportunities in the early part of FY25, before reporting an updated assessment of Chorus' register to the ARMC.

25 Climate change scenarios for New Zealand | NIWA

3.3 Overview of risks and opportunities

Overview of climate-related risks and opportunities

In FY24, Chorus reviewed its assessment of climate-related risks and opportunities that could impact our business. As part of that review, we reconsidered existing risks together with their classification, and grouped key risks by thematic area. The results of this exercise are shown in Table 5 below. As part of our risk identification processes, each climate risk or opportunity is assigned a time horizon (short, medium, or long) based on when it is likely to materialise, which we also reconsidered in FY24 to align with the time horizons of the telecommunications sector scenario analysis.

Time horizons and link to Chorus' strategic planning and capital deployment plans

Our time horizons for assessing climate risks and opportunities were re-evaluated in FY24 as follows:

1. Short-term (0 to 5 years: 2024–2029) – aligns to telecommunications organisations emissions reduction targets (including Chorus) and our regulatory proposal period
2. Medium-term (5 to 15 years: 2029–2044) – aligns with Chorus' 10-year strategic planning horizon, along with average life of electronic network equipment
3. Long-term (15 to 30+ years: 2044+) – aligns with potential materialisation of physical risks, particularly infrastructure impacts and also aligns to New Zealand's 2050 net zero ambition)

These time horizons align to the telecommunications sector scenario analysis and Chorus' Transition Roadmap (refer to section 3.4 'Transition Planning' below). They also align to aspects of Chorus' operational and strategic planning horizons, as above.

Climate-related risks and opportunities

The new CRD reporting framework delineates climate-related risks into two core categories: physical and transitional.

Physical risks are those relating to the physical impacts of climate change, including via temperature, rainfall, storms, extreme weather events, and sea-level rise. Transition risks are those related to the transition to a fair and equitable, low-emissions, climate-resilient global and domestic economy, such as policy, legal, technology, market and reputation changes associated with the mitigation and adaptation requirements relating to climate change.

Based on our analysis of climate-related risks in FY24, the main physical risks to the Chorus business and operations stem from possible weather events and their impacts on our network. The main transitional risks to our business are potential economic, social, and regulatory changes. This includes consequences and effects related to the ongoing global and local economic transition to a lower-carbon society, and regulatory constraints that may slow or limit our progress towards climate resilience – for example, if regulation restricts our ability to retire our copper network efficiently this could lead to additional electricity and maintenance costs.

Overview of risks and opportunities continued

The table below provides an overview of identified risks and opportunities specific to Chorus (both physical and transitional), anticipated impacts, and risk mitigation to address those risks.

Table 5. Chorus climate-related risks and opportunities

Risk	Summary of current and anticipated impacts	Key controls/mitigations	Type
Increase in frequency and intensity of extreme climate events including storms, extreme wind, rainfall and fire.	<p>Current impact: We did not suffer any significant network interruption from extreme weather events in FY24. However, in FY23, Cyclone Gabrielle and the Auckland floods gave a real example of extreme weather event risk, which resulted in a \$7m EBITDA impact²⁶ (however, all services were restored with no significant damage to any of our exchanges).</p> <p>Anticipated impact: Prolonged service disruption may have a detrimental financial and/or reputational impact, particularly where it impacts a large area or number of consumers (e.g. damage to key fibre routes or widespread loss of electricity). Significant damage may require replacement or relocation of assets.</p> <p>Extreme temperatures or cascading climate-related events affect our people’s ability to work.</p>	<ul style="list-style-type: none"> – A detailed climate risk analysis by Aon in FY23 (the Aon Report) identified potential exposure to sea-level rise, pluvial and fluvial flooding across a range of Chorus network assets. These findings have informed our asset management planning and were a consideration when preparing our FY24 10-year business plan (which also flowed through to our regulated fibre investment proposal to the Commerce Commission for 2025-2028). – Chorus will continue to use data, mapping, and insights to assess climate impact and build resilience across our network, prioritising fibre uptake and shutdown of copper because fibre is less susceptible to weather-related faults. – Ongoing investment programmes to enhance network resiliency (e.g. mobile exchanges on wheels, fibre backhaul upgrades, installing fibre on the downriver side of bridge crossings to increase robustness compared to having it on the upriver side). 	<p>Type: Physical</p> <p>Time horizon: Short to medium term</p>
Insufficient electricity, generated through any means, could lead to demand outstripping supply or energy blackouts	<p>Current impact: We have had power shortfall warnings this year, however no significant network-level impacts occurred.</p> <p>Anticipated impact: Energy rolling blackouts could occur, especially during peak energy use times which could affect the delivery of telecommunications services to our customers (retail service providers) and their end users. We could also see increased carbon emissions, rolling black-outs and increased electricity prices.</p>	<ul style="list-style-type: none"> – Copper withdrawal and upgrading key network equipment will reduce our electricity use significantly over the next five years. – An energy audit has been initiated to understand and implement further energy efficiency opportunities across our network. – Chorus plans to install solar PV on some of our exchanges. This is a multi-year programme of work, with six sites confirmed for roof mounted solar PV build from FY25. – To help minimise increased carbon emissions, Chorus has selected its main electricity supplier, Ecotricity, in part because of its sustainability credentials of being Toitū climate positive certified.²⁷ 	<p>Type: Physical</p> <p>Time horizon: Short to medium term</p>
Projected risk of damage to our network assets from sea-level rise or coastal flooding	<p>Current impact: Nil</p> <p>Anticipated impact: Damage to cables or buildings could affect the delivery of telecommunications services to our customers (retail service providers) and their end users.</p>	<ul style="list-style-type: none"> – The impact assessment in the Aon report screened key network assets. Findings have been incorporated into long-term asset management planning. – Chorus will continue to use data, mapping and insights to assess climate impact and build resilience across our network. 	<p>Type: Physical</p> <p>Time horizon: Long term</p>
Supply chain disruption	<p>Current impact: Nil</p> <p>Anticipated impact: Extreme weather events could disrupt supply channels, or telecommunication equipment could be hard to source due to material shortages particularly where there is reliance on international supplies.</p>	<ul style="list-style-type: none"> – Completion of the UFB rollout programme has reduced Chorus’ reliance on large volumes of equipment. – We continue to monitor and plan for potential supply chain disruptions. 	<p>Type: Physical</p> <p>Time horizon: Medium</p>

²⁶ Chorus Annual Report 2023 – page 5 insert.

²⁷ Toitū climate positive certification pushes climate leaders beyond neutrality to make a positive impact on society, on top of taking meaningful science-led action to decarbonise. Ecotricity are Toitū climate positive certified | Ecotricity NZ

Overview of risks and opportunities continued

Risk	Summary of current and anticipated impacts	Key controls/mitigations	Type
Insufficient priority and investment on climate mitigation and adaptation	<p>Current impact: Chorus has an emissions reduction target for scope 1 and 2 emissions, along with a supporting Emissions Reduction Plan. Key activities include energy efficiency, energy reduction and switching to EV/Hybrid fleet. Investment to support Chorus achieving its target are already in the 10-year financial plan. Chorus has a resiliency strategy in development.</p> <p>Anticipated impact: Potential increase in unplanned capital spend for frequent and extensive service and network restoration activities. Regulatory framework could see insufficient allowance for weather related opex or asset investment.</p>	<ul style="list-style-type: none"> – We are working to develop a climate-related capital deployment strategy, co-designed by our Finance and Sustainability teams. This is intended to help us scope the future investment required and record costs associated with climate-related activities. 	<p>Type: Transition</p> <p>Time horizon: Short to medium term</p>
Government policy & regulation restricts our ability to act	<p>Current impact: Minimal</p> <p>Anticipated impact: The Commerce Commission or the New Zealand government could limit our ability to invest in climate mitigation or adaptation, or mandate requirements that are unanticipated and/or problematic for our business.</p> <p>For example, if the Commerce Commission provides insufficient expenditure allowance for sufficient asset management practices, resilience and adaptation planning, this could result in us needing to deprioritise climate-resilience initiatives in favour of core activities, including to ensure we meet service quality standards.</p> <p>More broadly, Government could mandate ‘over-investment’ requirements where this is deemed necessary to provide climate futureproofing or avoid a disorderly transition scenario. Depending on the scale and timing of such requirements, and the extent of alignment to our existing strategy and investments, such requirements could result in a low return, and redirect focus from core activities.</p>	<ul style="list-style-type: none"> – Chorus monitors proposed legislative and policy changes that might impact our business, and inputs into relevant legislative and other processes (e.g. MBE’s Electricity Demand and Generation, National Adaptation Plan and National Emissions Reduction Plan, and recent ‘Enhancing telecommunications regulatory and funding framework’ consultation) – We have strong relationships with most policymakers and Government stakeholders. Timeframes for significant regulatory change are typically long, meaning we have time to respond. We monitor, and attempt to influence, any broader policy and regulatory developments that could affect our business and pursuit of climate-resilience initiatives. – Through our regulatory engagement processes with the Commerce Commission, we work to forecast and secure appropriate expenditure allowances. 	<p>Type: Transition</p> <p>Time horizon: Commerce Commission expenditure allowance constraints – short term</p> <p>Broader legislative and policy changes – medium to long term</p>
Social cohesion erodes	<p>Current impact: Minimal</p> <p>Anticipated impact: Physical or transitional climate impacts could widen the digital divide for low socio-economic communities and reduce access to telecommunications services. The need for managed retreat from certain low-lying areas could exacerbate inequality.</p>	<ul style="list-style-type: none"> – Chorus has recruited a Digital Equity lead in FY24 to focus on equity products and services. – Chorus has a programme of work, with charitable partnerships, that focus on digital inclusion, to help bridge the digital divide. – We continue to monitor this area (link to FY24 Sustainability Report). 	<p>Type: Transition</p> <p>Time horizon: Medium term</p>

Overview of risks and opportunities continued

Opportunity category	Summary of current and anticipated opportunities	Key controls	Type
Renewable energy generation	<p>Current impact: Electricity is our largest source of scope 1 and 2 carbon emissions (location-based method) at 5,474.35 tonnes-CO₂e in FY24. Continuation of supply is key to maintaining our services, and this was an issue during Cyclone Gabrielle, with national grid outages affecting our services.</p> <p>Anticipated impact: Generating our own renewable electricity and having the ability to potentially store electricity on-site could strengthen both our resilience and that of local communities in the event of extreme weather events and reduce operating costs for electricity.</p>	<ul style="list-style-type: none"> – We have budget allocated to invest in solar PV for our exchange buildings with six pilot site builds planned from FY25. – We will continue to monitor for emissions reduction opportunities that may reduce our overall footprint. 	<p>Type: Opportunity – Transition and Physical</p> <p>Time horizon: Short to medium term</p>

In assessing the materiality of climate-related risks and opportunities, we considered quantitative and qualitative factors and the potential relevance²⁸ of the information to primary user decision-making.

Climate-related risks and opportunities as an input to capital deployment

Chorus’ climate-related risk and opportunities register helps inform our business consideration for new capital requests and financial planning rounds, predominately as part of physical network and asset management planning. For example, the findings in the FY23 Aon report were a consideration in Chorus’ asset management planning and investment decisions when preparing our FY24 10-year business plan, which in turn flowed through to our RP2 proposal to the Commerce Commission.

In FY24, we updated the register to reflect the findings of the telecommunications sector scenario analysis as noted above. We have also started a programme of work to understand how climate-related risks and opportunities can form part of our consideration for new capital requests, and plan to further develop our climate-related capital deployment strategy ahead of future financial planning rounds.

²⁸ Our assessment has been guided by the materiality provisions of NZ CS 3, and whether the information could be reasonably expected to influence the decisions that primary users make.

Overview of risks and opportunities continued

Strategic positioning during transition to low emissions economy

Chorus' FY24 business model/strategy is outlined as follows:



Overview of risks and opportunities continued

In FY24, sustainability (including climate-related considerations) was integrated into our business strategy with three pillars representing our commitment to improving environmental, social, and governance performance: Thriving Environment; Sustainable Digital Futures; and Thriving People. Our Sustainability Policy²⁹ sets out our overall strategic commitments as well as the roles and responsibilities of the various governance bodies within Chorus, from the Board to the wider sustainability network embedded across the business.

While the three pillars of our Sustainability strategy are enduring, the activities within them evolve over time to ensure we continue to be responsive to a changing operating environment and the needs of our stakeholders. Our current climate-related activities sit under the 'Thriving Environment' pillar as set out below:



29 Chorus, Sustainability Policy, April 2024.

3.4 Transition planning progress

Chorus continues to develop and embed transition planning into our business through a number of initiatives, including our Emissions Reduction Roadmap. While these have not been prepared as a standalone ‘transition plan’, we continue to progress this aspect of our strategy. The transition planning initiatives outlined below reflect actions Chorus is currently taking to manage climate-related risks and opportunities.

Transition Roadmap

Our transition roadmap (a guide towards achieving our science-aligned targets discussed in section 5) is described at a high-level below:

Publishing our emissions reduction plan	Accelerating the action	Scaling up	Future focused
<p>Our base year to measure our targets against is FY20 and a time to understand our impact.</p> <p>At the start of FY23, we published our first Emissions Reduction Plan, which details how we intend to reach our target of reducing 62% of our scope 1 and 2 emissions by FY30.</p> <p>For scope 3, our target is that 70% of our suppliers (by spend) will have a science-based target in place by FY29.</p>	<p>Our milestones and progress</p> <ol style="list-style-type: none"> 100% climate-positive Toitū-certified electricity used to power our network from FY23 and still today. Future Fit was introduced in FY23 to help our people understand and reduce their own carbon footprint. It continues to be available for our employees and actively promoted by our internal comms team. Six exchanges are scheduled to have solar installed in a pilot programme from FY25. We plan to switch our car fleet to EV or Hybrid by the end of FY27 with new EVs continuing to replace our fleet (most recently in FY23). Copper network switch off and removal of legacy kit to lower electricity 15% planned by end of FY25. In FY24, we reduced our electricity usage a further 3% from FY23 levels. Sustainability Forum with key suppliers with a focus on minimising waste, reducing emissions, and exploring innovation. 	<p>Our milestones</p> <ol style="list-style-type: none"> We’re planning for 20–25% of our electricity use from solar generation on our exchanges by FY30, dependant on solar trials. Energy management will be a key part of how we operate as we replace legacy metering with smart metering and improve electricity monitoring. All plastic ducting will be reused and recycled across our network. 	<p>Our goal</p> <p>We’re aiming for renewable energy to power Chorus’ network, which will be lean and energy efficient.</p> <p>We’re planning for broadband technology to be helping others to be net zero with the Internet of Things (IoT) and smart cities and locations.</p>
<p>Further detail on these Targets is provided in the Metrics & Targets section below.</p>	<p>We aim to lower electricity consumption by 15% by the end of FY25 from a base year of FY20.</p> <p>Energy management is a key part of how we operate, and to help achieve this we are exploring producing our own electricity from solar generation on certain exchange buildings, with trials starting from FY25 as noted above.</p>	<p>We aim to achieve our science-aligned targets:</p> <ul style="list-style-type: none"> By FY30, our scope 1 and 2 emissions will be reduced by 62% (based on FY20 emissions levels). By FY29, 70% of our suppliers (by spend) will have a science-based target in place. <p>By FY30, we also plan to achieve a 25% reduction in our electricity use, measured against a base year of FY20*, and intend for all electricity to be 100% renewable where possible**</p> <p><small>* Between FY20 and FY24, Chorus has reduced electricity usage by approximately 6.5% (including 3% in the last financial year).</small></p> <p><small>**In FY24, Chorus sourced 99% of its electricity from Toitū certified electricity provider, Ecotricity</small></p>	<p>Our future ambition:</p> <p>By 2050, we aim to reach net zero emissions (across scope 1, 2 and 3), recognising the potential challenges we’ll face. (as described on p.24 below)</p>

FY20 base year emissions (tonnes CO₂e)



Transition planning progress continued

Our pathway forward

Chorus has a future ambition to be net zero, or as close as we can, by 2050. This long-term ambition was identified as part of the development of our Emissions Reduction Plan and is intended to align to the New Zealand government's domestic net zero carbon target, which it set in 2019.³⁰

Our future focus will include consideration of whether we are ready to take this further and formalise a net zero target (including endorsement by our Board), including what a supporting transition plan and enabling activities would involve, having regard to emerging international and domestic guidance.³¹

We acknowledge that getting to net zero is challenging and would require significant action, coordination and partnership not just from Chorus but also multiple external stakeholders including Government, industry and across our supply chain. Our ability to achieve net zero – and some of the other milestones noted above – faces various limitations, risks and uncertainties. For example, they assume that Chorus' business model, strategy and scope of operations remains relatively static over time, and that financial investment in emissions reduction, climate-resilience and associated initiatives is enabled by Chorus' regulatory and financial framework including the Commerce Commission and our investors, with scope for offsets.

Our progress towards net zero, and several of the interim milestones outlined above, will also rely on the wider policy, technology, economic and regulatory settings in place over time, financial/ investor considerations, and collaboration with industry on emissions reduction opportunities. In respect of our scope 3 emissions, we are highly reliant on the ability of our suppliers to set and achieve emissions reduction targets, which in turn are subject to dependencies that are outside of Chorus' control. We are playing our part to help but recognise that this poses a risk to Chorus' ability to achieve our long-term ambition.

Emissions Reduction Plan

We have developed an Emissions Reduction Plan that focuses on opportunities to reduce carbon emissions and the energy costs associated with our network to achieve our target of reducing 62% of our scope 1 and 2 emissions by FY30 (based on FY20 emissions levels). We carry out regular modelling based on a range of assumptions to review those reduction opportunities and assess progress against our targets. Our senior leaders across the business (who report directly to the Executive team) receive a quarterly dashboard that updates our progress against our emissions reduction targets.

We also have a scope 3 target of having 70% of our suppliers (by spend) having a science-based target in place by FY29. Our targets are science-aligned, following guidance from the Science Based Targets Initiative (SBTi) for the Information Communications Technology (ICT) sector.³² For more information regarding our targets, refer to section 5.2 'Climate-related Targets'.

Network electricity consumption accounts for most of our combined Scope 1 and 2 emissions, so we are reviewing our energy management as the primary focus to reduce those emissions. We also plan to trial solar generation on six of our exchanges, to gauge the effectiveness of self-generation and to help manage our energy use. We aim to reduce our use of electricity by 15% by end of FY25, and by 25% by FY30 (in each case from FY20 levels).

We are also identifying ways to switch off our legacy equipment, including the copper network where fibre is available. As well as a reduction in energy use, the shutdown of the copper network will reduce the number of assets exposed to damage from weather events – the fibre network is more resilient to water ingress than the copper network because fibre cables do not carry an electrical signal and fibre nodes in suburban streets do not contain electrical equipment.

Our commitment to fibre as a low-emissions technology

Fibre is inherently a low-emissions technology³³ compared to other broadband options such as copper, and Chorus is looking to extend its fibre footprint further,³⁴ contingent on commercial feasibility, market and regulatory developments.

Industry collaboration on transition planning

We are part of the Climate Leaders Coalition³⁵ (a CEO-led community of close to 90 organisations leading the response to climate change in New Zealand through collective, transparent and meaningful action on mitigation and adaptation) as part of our commitment to act and drive change.

As noted above, Chorus also forms part of the TCF's Climate Change Working Group and took part in its sector scenario analysis work to support understanding of plausible climate scenarios and implications for the industry.

Alignment with capital deployment and funding decision-making processes

We are working to develop a climate-related capital deployment strategy and endeavouring to ensure that climate-related risks and opportunities – both existing and new – are discussed at business area level by finance business partners during our 10-year business planning cycle. Energy efficiency is now part of our assessment of potential equipment purchases, and sustainability impacts are considered as part of our 'initiative-to-market' process, as noted above. Chorus is also investigating use of an internal carbon price (ICP) to further inform funding and investment decision making.

³⁰ Climate Change Response (Zero Carbon) Amendment Act 2019. See also Ministry for the Environment, **Emissions reduction targets**.

³¹ For example, United Nations, Climate Action – High Level Expert Group, "Integrity Matters: Net Zero Emissions Commitments of Non-State Entities". A decision to formalise a net zero target would require endorsement from our Board.

³² Science Based Target Initiative, Information and Communication Technology (ICT) sector specific guidance – <https://sciencebasedtargets.org/sectors/ict>

³³ World Broadband Association, 'Importance of Environmental Sustainability in Telecom Service Providers' Strategy', 2022; Sapere Report, 'Assessing the emissions footprint of the fibre networks relative to other fixed broadband options in NZ', 2021, at 4.1.

³⁴ Chorus Media Release, 'Chorus extends Fibre', February 2024 – <https://company.chorus.co.nz/media/releases/chorus-extends-fibre-to-10-000-homes-and-businesses>

³⁵ Climate Leader Coalition snapshot report, Page 15 <https://climateleaderscoalition.org.nz/wp-content/uploads/2023/11/CLC-5th-Anniversary-Snapshot-Report.pdf>

4. Risk management

Chorus' climate-related risks are identified, assessed, and managed in alignment with Chorus' enterprise-wide risk framework.



4.1 Our risk management frameworks

Chorus’ risk management frameworks allow us to proactively manage risks and embed management of, and accountability for, those risks in our day-to-day business operations and decision-making processes.³⁶ Our climate risk and opportunity framework is aligned to, and integrated into, Chorus’ enterprise-wide risk framework which is managed by the Risk, Internal Audit and Compliance Function.³⁷

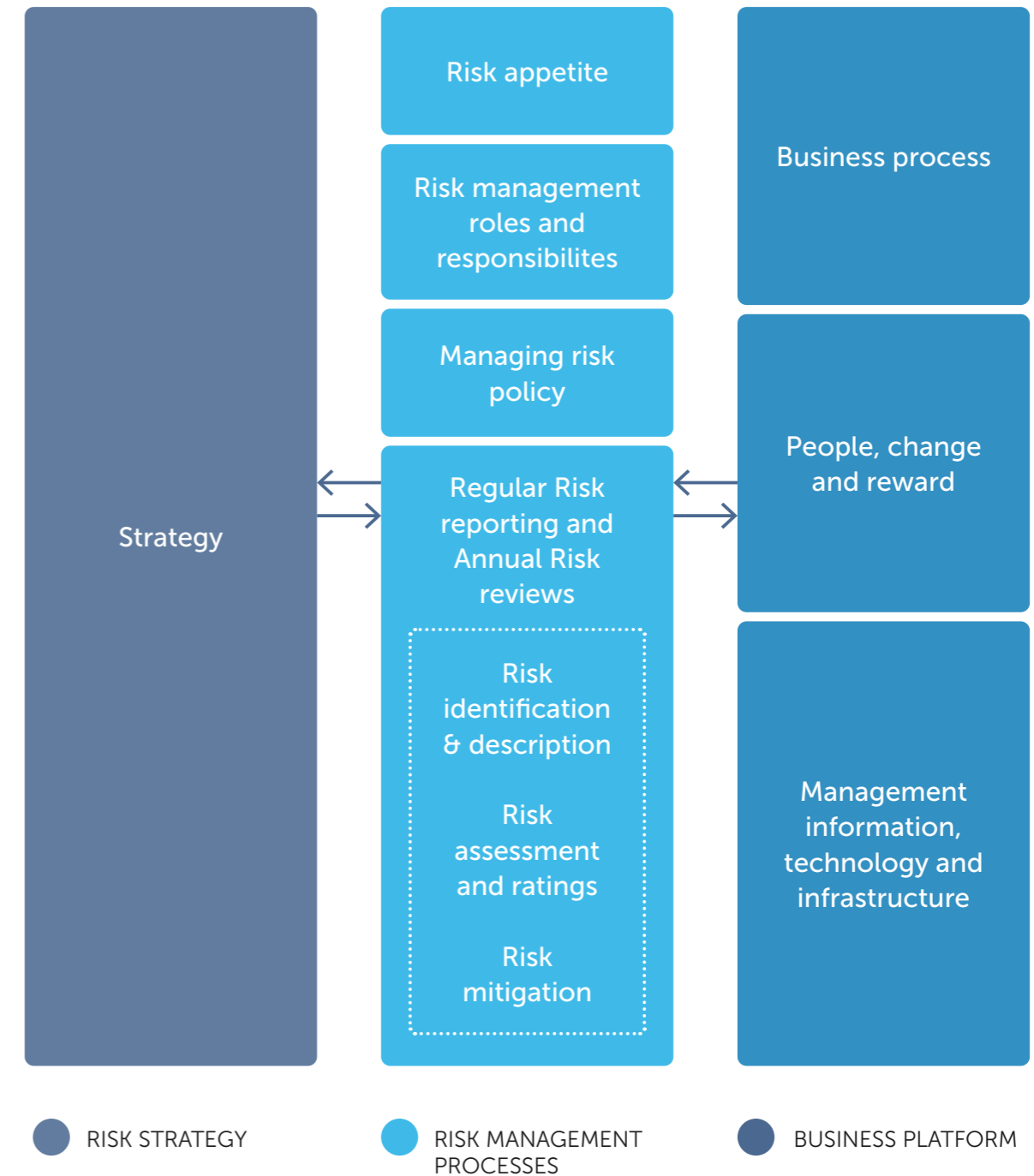
The climate risk and opportunity framework uses the same approach, principles, tolerances, impact and likelihood scales used in Chorus’ broader risk management processes, and in line with the risk management policy endorsed by the Chorus Board.

Chorus Enterprise Risk Management Process

Enterprise risk management is a process, effected by Chorus’ board of directors, management and teams, applied in strategy setting and across the enterprise, designed to identify potential elements – both risk and opportunity – that may impact Chorus’ ability to achieve its objectives, and to manage within relevant risk appetites set by the Board.

The diagram below depicts our enterprise-wide risk management framework at a high level. This framework supports our Managing Risk Policy and is approved by our Board. It is used to identify potential risks to achieving Chorus’ strategy and facilitate the management of those risks. Climate change is considered to be an issue that cuts across all business units and relevant to key aspects of our strategy (see section 3 above).

The Enterprise Risk Management Strategic Processes



³⁶ See Chorus, *Managing Risk Policy*, dated May 2023.

³⁷ Further information regarding Chorus’ general risk management framework is contained in the ‘Risk management’ section of our financial statements.

4.2 Climate risk identification

Chorus’ overall risk approach is shaped around four interlinking risk elements: Unforeseen and Emerging Risk; Principal Risk and Business Unit Risk, in line with our Managing Risk Policy. In FY24, climate change was classified and managed as both an ‘Emerging Risk’ and ‘Principal Risk’ under this framework.³⁸ However, in recent years, climate risks have been managed under a dedicated risk management framework, as noted above. This framework remains aligned to, and consistent with, Chorus’ broader risk management framework, and uses similar processes to identify, assess and manage climate risks which are tracked in a dedicated climate risk and opportunity register (see above table 5 in section 3.3 which summarises key climate risks identified during FY24).

The diagram to the right depicts the key elements of Chorus’ enterprise-wide risk management processes, which we adhere to in relation to climate risks. We follow the principals of ISO-31000 – Risk management across each core process.

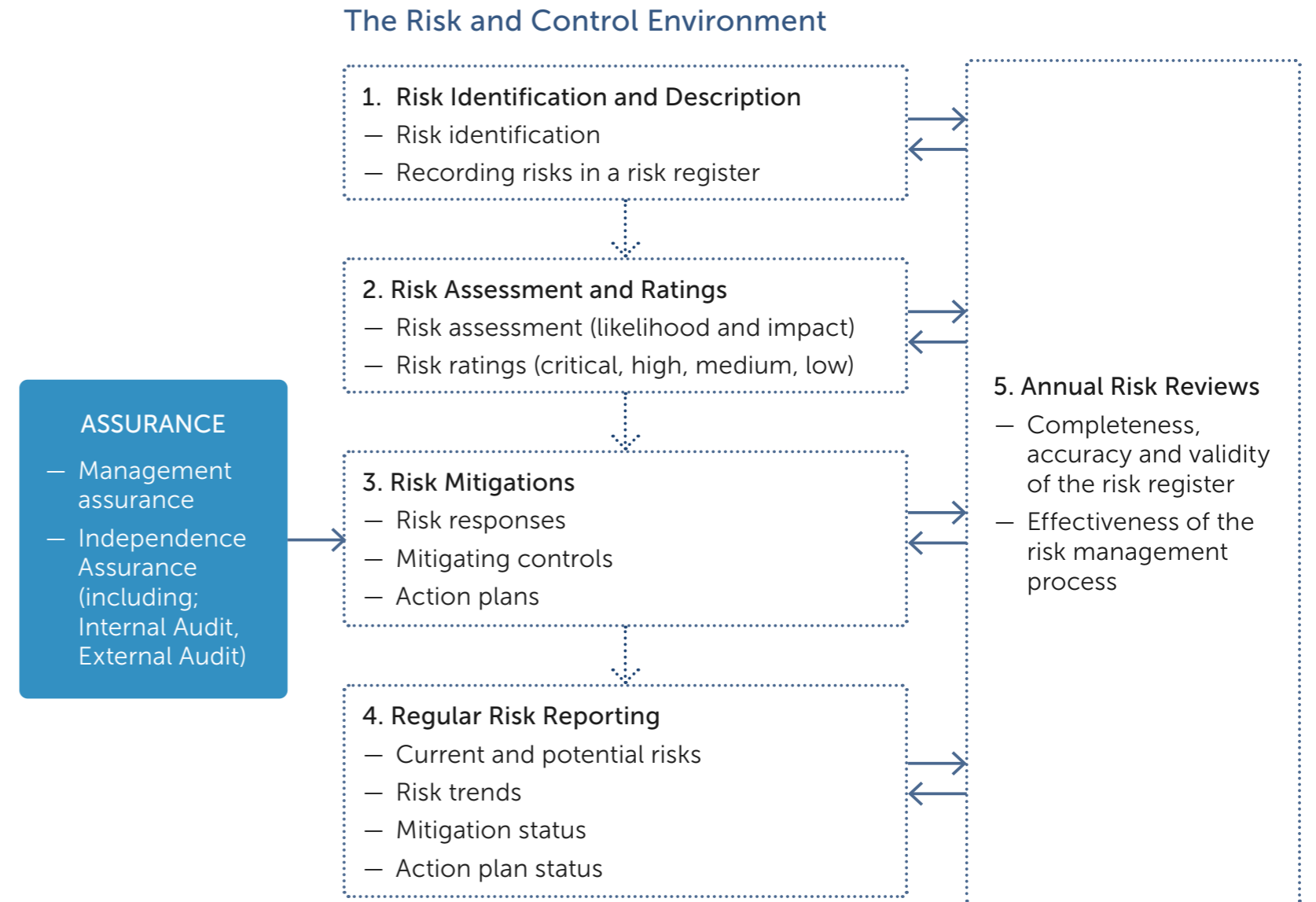
Identifying climate-related risks – tools and methods

As above, Chorus has a climate-related risks and opportunities register which operates within our enterprise-wide risk management framework. This has been in place since FY23.

We hold workshops annually with representatives from across the business to identify any new risks and review the existing register. As part of this, we consider whether key risks and their classifications remain appropriate and endeavour to ensure lessons from recent events, reports or stakeholder feedback are taken into account and corresponding actions confirmed.

Climate risks are identified through a number of additional channels, including workshops, third party assessments, stakeholder feedback and involvement in sector-wide analysis, and 1-to-1 conversations with our people. Expert input from our third-party providers often involves GIS mapping and other tools to support their assessments.

Within the wider enterprise-risk management framework, the impacts of climate change continued to be identified as a ‘Principal risk’ and ‘Emerging risk’ in FY24. The ARMC receives quarterly reporting outlining how principal risks are being managed to assist in the achievement of strategy, risk drivers and areas for potential discussion.



³⁸ ‘Emerging Risks’ reflect those which are known to some degree, but not likely to materialise or have an impact in the near term. ‘Principal Risks’ reflect key strategic or operational risks facing Chorus which are subject to annual Board review. See Chorus, **Managing Risk Policy**, dated May 2023.

Climate risk identification continued

Within the dedicated climate risk framework, we identify information including:

- Risk trigger – what causes the risk
- Implications/outcome – what could occur if the risk materialises
- Physical/transitional – whether the risk is physical, transitional, or both
- Time horizon – what time horizon the risk could materialise over (i.e. short, medium or long term)
- Risk owner – Business unit senior leader assigned responsibility for assessment and mitigation
- Primary and secondary risk areas to our business – This includes the following categories:
 - People Health and Safety,
 - Commercial/Financial Sustainability,
 - Performance of Core Services,
 - Stakeholder and Customer Confidence/Reputation,
 - People and Skills Availability, and
 - Regulatory, Legal and Contractual.
- Inherent likelihood and impact – likelihood and impact of the risk occurring on a scale of 0–50.

Once a climate risk is identified within this framework, consideration is given to mitigating controls, and assignment of actions, ownership and due dates to manage any residual risk outside of risk tolerances. This is discussed further in the following section.

4.3 Climate risk assessment and management

Assessing and managing climate-related risks – tools and methods

Consistent with our enterprise-wide risk management framework, climate risk is assessed in terms of a combination of the impact and likelihood of an event occurring. A risk assessment matrix provides Executives guidance on the assessment of the impact (on a scale of 1–5) and likelihood (on a scale of 1–5) of risks.

The combination of the impact and likelihood of the risk assessment will result in a risk rating of ‘critical’, ‘high’, ‘medium’ or ‘low’. Chorus’ risk assessment methodology utilises both financial and non-financial impacts to allow for consistency in assessment across all risk types, including climate risks.

Once climate-related risks are identified and assessed, they are managed within our enterprise-wide risk management framework and practices. Business owners are assigned to each risk who endeavour to manage and mitigate that risk, with half-yearly reviews with the risk owner and action owner (if different). For any significant risks, additional mitigation activities are confirmed and implemented.

The overall purpose of risk reporting is to enable effective and ongoing assessments of whether current risk positions are acceptable. This includes considering the acceptability of inflight/proposed actions and timelines and whether additional actions, budget and/or resources are required to mitigate the risk.

Examples of specific mitigations

For example, we utilise external data, experience with extreme weather events, and ongoing network planning and management practices for network risks related to flooding or sea-level rise. Mitigation measures include building maintenance and flood protection for at-risk exchanges, geotechnical surveys for selecting fibre routes, placement of cables on the downstream side of bridges, and network expansion projects to enhance route diversity and network robustness.

Post Cyclone Gabrielle, river crossing build techniques are being revisited, with separate aerial connection being considered. As parts of our copper network are shut down, at-risk network assets are being phased out.

One initiative for at-risk exchanges has been the development of two mobile exchanges on wheels, or MEOWs. Repairing and reinstating an entire exchange building could take months, depending on the damage. Using six-metre long ‘datablok’ containers, a MEOW can be transported by road and can connect up to 25,000 fibre connections. This means we can restore services more efficiently in the event of disaster impacts to an exchange building.

Time horizons for risks

Chorus’ climate risk horizon is based on short, medium and long-term timeframes, as outlined below:

- Short-term (0–5 years)
- Medium-term (5–15 years)
- Long-term (15–30+ years)

These time horizons align to the telecommunications sector scenario analysis, discussed above. Prior to this, Chorus’ climate-related time horizons were short-term (0–3 years), medium-term (3–10 years) and long-term (10+ years), which was based on the approach reflected in our broader risk management framework.

Frequency of risk assessments

Chorus’ climate-related risks and opportunities reviews take place annually. This is led by the Head of Sustainability, and the Sustainability Team with input from the Head of Risk & Compliance, where required. A summary is presented to our Executive team, and a high-level overview to the ARMC.

Internal climate related risk workshops are held every six months with representatives from across the business to identify any new climate risks and review existing risks. Identified risks and related actions are monitored and updated quarterly. If risks exceed an approved risk tolerance, additional mitigation activities are agreed and updated in the register.

Additionally, as part of our enterprise-wide risk management framework, ‘principal’ and ‘business unit’ risk assessments (pre and post mitigations) and ratings are formally reviewed by the Executive and the ARMC quarterly. ‘Unforeseen’ and ‘emerging risks’ are discussed every six months with the ARMC.

Value chain exclusions

Chorus does not specifically exclude any parts of the value chain from our climate risk processes.

We monitor for opportunities to encourage our supply chain to reduce emissions. For example, as part of our Emissions Reduction Plan, we have established a supplier sustainability forum to enable the open and collaborative exchange of ideas and information about sustainability, and help Chorus better understand its Scope 3 emissions and reduction opportunities. We have also committed to 70% of our suppliers (by spend) having a science-based target in place by FY29. See further details in section 5 below.

4.4 Other matters

Prioritisation of climate-related risks

As above, Chorus manages climate-related risks in accordance with our broader risk management framework. This means climate-related risks are managed using a consistent framework, using the rating system described above, and subject to Executive oversight. That assignment of ratings to key risk areas inherently involves prioritisation, and reflects the hierarchy: 'principal risks', 'business unit risks', 'emerging risks' and 'unforeseen risks'.

Within the climate risk register specifically, individual risks are similarly afforded a 'critical', 'high', 'medium' or 'low' rating. Risks are then assigned to a risk owner (normally a direct report of an Executive) for management, and risk mitigation initiatives are identified. Management and mitigation initiatives are prioritised to reflect, among other things, those which have the most significant potential impact, any cost/benefit analysis undertaken, executive preference and resource availability.

5. Metrics and targets

Our climate targets reflect our commitment to reducing our emissions and impact on the planet. Having clear and measurable targets allows us to track our progress and collaborate with others.



5.1 Climate targets

Chorus is committed to reducing its environmental impact and working towards a low emissions future. Chorus has reported on progress in our previous Sustainability Reports over the last three years.

Our science-aligned climate targets are as follows:

Science-aligned target: Reduce our scope 1 and 2 emissions by 62% by FY30 from a FY20 base year.

This is an absolute contraction target for Scope 1 and 2 emissions. The target is aligned with the detail provided by the Science Based Target initiative (SBTi) in Guidance for ICT companies setting Science Based Targets and does not rely on offsets. The scope 1 and 2 emissions reduction target will be reported using the location-based method of reporting emissions from electricity use.

Current progress:

The rollout of our fibre-to-the home network has contributed to the transition to a more energy-efficient and resilient network. As at 30 June 2024, we've achieved a 71% uptake of the fibre network for those areas where fibre is available. By increasing fibre uptake, we can reduce our carbon footprint through reduced electricity usage from the legacy copper network. We estimate that the shutdown of parts of our copper network, in addition to other energy initiatives, will reduce electricity needs and emissions by about 25% by FY30.

We anticipate reducing scope 2 emissions as fibre uptake increases. Fault-related activity is also lower on our fibre network, as compared to copper. More broadly, fibre broadband offers high-speed capability with lower emissions when compared to some other technologies.³⁹ Average data usage per connection on our network is growing each year.

Chorus has achieved a reduction of 39% in scope 1 and 2 against the base year (FY20).⁴⁰

Our focus for FY24 included reducing electricity use and exploring renewables. In FY24, we achieved a 3% reduction in electricity (against FY23). This is mainly due to our copper network switch off and upgrading or removing legacy network equipment. As above, we also completed a solar feasibility assessment and report, which has led to the solar PV programme for six of our exchanges with build expected to start in FY25. We aim to reduce our use of electricity by 25% by FY30, measured against a base year of FY20.

Science-aligned target: 70% of our suppliers, by spend, will have a science-based target in place by FY29.

Current progress:

Key areas to address scope 3 emissions include purchased goods and services, fuel and energy-related use (technician van fuel) and use of sold products (downstream). We have established a supplier sustainability forum to enable open and collaborative exchange of ideas and information about sustainability, and to help Chorus better understand our Scope 3 emissions as well as opportunities to reduce them. We are engaging with key suppliers to encourage science-based emissions reduction targets, but there is no guarantee that all suppliers will commit to those targets.

In terms of scope 3 emissions progress, we are working with our key suppliers towards improving data quality and refining the information we receive to be supplier specific. This will allow us to understand better the opportunities and benefit from our suppliers' efforts towards reducing their own emissions (as we will work with them to have Science-Based Targets). At the end of FY24, 30% of our suppliers had a validated Science-Based Target, and a further 20% had a commitment, as per the Science Based Target dashboard.

How our targets contribute to limiting global warming to 1.5 degrees Celsius

SBTi has provided specific guidance for the Information Communications Technology (ICT) sector to which Chorus belongs.⁴¹ The key components of this guidance are:

- The ICT sectoral target-setting method follows an absolute contraction approach, as opposed to intensity metrics.
- Emissions factors have been developed for the ICT sector which can be applied to the baseline to provide the tCO₂e target for FY30.
- Where the company operates a mix of fixed and mobile networks a sub-sector approach can be taken, which applies different emissions factors to each sub-sector group.
- ICT companies that operate with a fixed network should broadly target an emissions reduction trajectory which results in a 62% reduction between 2020 and 2030.

As a fixed-line network operator, Chorus has set its targets in line with the SBTi guidance and methodology. SBTi methodologies are designed to result in 1.5°C aligned science-based targets.⁴²

Key initiatives associated with achieving our targets is set out in the Transition planning section above.

³⁹ See World Broadband Association, 'Importance of Environmental Sustainability in Telecom Service Providers' Strategy', 2022. See also Sapere Report, 'Assessing the emissions footprint of the fibre networks relative to other fixed broadband options in NZ', 2021, at 4.1.

⁴⁰ Chorus' sustainability reports describe our scope 1 and 2 emissions in FY20, FY21, FY22 and FY23.

⁴¹ Science Based Target Initiative, Information and Communication Technology (ICT) sector specific guidance, Guidance for ICT companies including fixed line.pdf

⁴² See, for example, <https://sciencebasedtargets.org/news/sbti-raises-the-bar-to-1-5-c>

Climate targets continued

SBTi validation

Chorus submitted our targets to the SBTi for validation in November 2022, and is currently listed on its website as 'Targets Set' as below:⁴³

Target language: Chorus New Zealand Limited commits to reduce absolute scope 1 and 2 GHG emissions 62% by FY2030 from a FY2020 base year. Chorus New Zealand Limited also commits that 70% of its suppliers and customers by spend covering purchased goods and services, capital goods, fuel and energy related activities, waste generated in operations, business travel, and use of sold products will have science-based targets by FY2029.

TARGETS/COMMITMENTS							
ACTION	STATUS	TARGET	SCOPE	TARGET CLASSIFICATION	BASE YEAR	TARGET YEAR	DATE PUBLISHED
Target	N/A	Engagement	3	N/A	FY20	FY29	2024-07-11
Target	N/A	Absolute	1+2	1.5°C	FY20	FY30	2024-07-11
Commitment	Target set	N/A	N/A	N/A	N/A	N/A	2022-06-01

In FY24, BraveGen⁴⁴ also performed a review of our targets, measured against the SBTi standard and guidance for Information Communication Technology (ICT) sector,⁴⁵ concluding that: *“Collectively, the Scope 1 and 2 emissions target, Scope 3 supplier requirements and Net Zero emissions ambitions provide confidence that Chorus is acting to limit global warming to 1.5 degrees”*.

⁴³ <https://sciencebasedtargets.org/target-dashboard>. As at publication of this report, we are awaiting official notification from SBTi.

⁴⁴ <https://www.bravegen.com/>

⁴⁵ Science Based Target Initiative, Information and Communication Technology (ICT) sector specific guidance, [Guidance for ICT companies including fixed line.pdf](#)

5.2 Metric categories

GHG inventory and emissions reduction progress

Chorus has been measuring its carbon emissions since 2012 and has set a base year of FY20. Between FY20 and FY24, Chorus reduction electricity usage by ~6.5%. Chorus is removing legacy and unused copper network equipment to accelerate energy savings from FY25 and initiated an energy audit to identify further reduction opportunities. While limited assurance of our GHG emissions disclosures is not mandatory until FY25, Chorus engaged KPMG to provide limited assurance of our GHG inventory for the FY24 period.

Like many organisations, our scope 1 and 2 emissions reflect a smaller percentage of our overall emissions inventory – scope 1 and 2 emissions represent 12.2% of our inventory while scope 3 emissions represent 87.8%. This is why we are committed to working with our suppliers to reduce emissions, and this is a key focus. Electricity is the largest source of our scope 1 and 2 emissions (representing 85.7%) and therefore our biggest focus to work towards meeting our science-aligned targets for scope 1 and 2. We use Ecotricity, New Zealand's first Toitū climate positive certified electricity provider to power our network. They provide 100% renewable energy sourced from wind, hydro and solar and have their own science-based reduction plan to reduce emissions.

We aim to lower electricity consumption by 15% by the end of FY25, and by 25% by FY30, measured against a base year of FY20. In terms of progress, we have reduced our overall electricity use by approximately 6.5% over FY20-FY24, including 3% in the last financial year, and plan to continue our efforts in FY25. Given energy management is a key part of how we operate, we further aim to produce some of our own electricity from solar generation on exchange buildings over the next five years, with trials starting from FY25 as noted above. Options for further investment in solar are being explored subject to trial findings and capital management/business plan approval).

GHG emissions standards

GHG emissions have been measured in accordance with:

- Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard⁴⁶
- Greenhouse Gas Protocol – Corporate Value Chain (Scope 3) Accounting and Reporting⁴⁷
- Greenhouse Gas Protocol – Technical Guidance for Calculating Scope 3 Emissions⁴⁸

Other guidance used:

- ISO 14064 – 1:2018 – Greenhouse gases Part 1
- GSM Association (GSMA), the Global Enabling Sustainability Initiative (GeSI) and the International Telecommunication Union (ITU-T) – Scope 3 Guidance for Telecommunication Operators⁴⁹
- Ministry for Environment – Measuring emissions: A guide for organisations.⁵⁰

⁴⁶ Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard

⁴⁷ Greenhouse Gas Protocol – Corporate Value Chain (Scope 3) Accounting and Reporting

⁴⁸ Greenhouse Gas Protocol – Technical Guidance for Calculating Scope 3 Emissions

⁴⁹ GSM Association (GSMA), the Global Enabling Sustainability Initiative (GeSI) and the International Telecommunication Union (ITU-T), Scope 3 Guidance for Telecommunication Operators, 2023

⁵⁰ Ministry for Environment – Measuring emissions: A guide for organisations

⁵¹ Dual reporting illustrates the role of supplier choice, onsite renewable energy generation and contractual instruments in managing indirect emissions from energy alongside any ongoing energy efficiency and reduction efforts.

⁵² Thinkstep anz, Spend-based emission factors for New Zealand, May 2024.

⁵³ Bravetrace, Residual Supply Mix factor publication, FY24.

⁵⁴ As agreed in decisions 18/CMA.1 and 5/CMA.3, parties to the Paris Agreement are required to use the 100-year time-horizon GWP (GWP100) values, as listed in table 8.A.1 of the Fifth Assessment Report (AR5) of the IPCC, excluding the value for fossil methane.

Consolidation approach

In measuring GHG emissions, we employ an operational control consolidation approach defined by the GHG Protocol that includes Chorus New Zealand Limited only, as our operating company and sole subsidiary of our parent company, Chorus Limited.

Source of emission factors and GWP rates

Chorus reports its GHG emissions in tonnes of CO₂ equivalents (tCO₂e). As part of our reporting, activities contributing to all relevant seven Kyoto Protocol gases were considered: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃) in compliance with the requirements set by the GHG emissions standards listed on the left.

All purchased and generated energy emissions are dual reported⁵¹ using both the location-based method and market-based method. The sources of emissions factors and associated Global Warming Potential (GWP) rates for our emissions were:

1. New Zealand Ministry for the Environment's 2023/2024 Guidance for Voluntary Greenhouse Gas Reporting
2. Business, Energy & Industrial Strategy (BEIS) Formerly, Department for Environment, Food and Rural Affairs (Defra) (UK) – Greenhouse gas reporting: conversion factors 2023
3. Thinkstep-anz – Greenhouse Gas Emissions for Commodities and Industries v1.1 May 2024⁵²
4. Bravetrace residual supply factor for Market based reporting⁵³

The emission factor sources are based on global warming potentials (GWPs) varying from AR5–AR6. The latest Ministry for the Environment (MfE) emission factor publication updated the GWP values to align with the requirements for GHG inventory reporting under the Paris Agreement.⁵⁴

It is a requirement under ISO14064–1:2018 and the Greenhouse Gas Protocol to consider, assess and disclose the uncertainty associated with a Greenhouse Gas Inventory. The nature of GHG emissions inventory reporting means there will always be a level of uncertainty, especially within scope 3. To minimise this uncertainty, source data has been used where possible. Where uncertainty exists or source data is unavailable, a conservative estimation approach has been taken so understatement of emissions does not occur. Where emission factors are historical (i.e. Thinkstep-anz – Greenhouse Gas Emissions for Commodities and Industries v1.1 May 2024), an adjustment for inflation has been applied. These estimation uncertainties have been disclosed in the below table, in alignment with the standards (listed above) requirements.

Table 6 provides an overview of our calculation method, data quality and uncertainty and total emissions per emission source.

Metric categories continued

Table 6: GHG emissions in metric tonnes of carbon dioxide equivalent (t-CO₂e)

Scope – Category	Category	GHG emission source	Calculation method	Methodology and Data Source	Data quality and uncertainty	FY24 (t-CO ₂ e)	% of total emissions
SCOPE 1							
1 – Direct	Stationary combustion	Diesel generator fuel.	Fuel-based method	Invoices and excel reports records of fuel purchased.	Low uncertainty and high data quality.	236.38	0.45%
1 – Direct	Stationary combustion	Natural gas (LPG use in exchanges).	Fuel-based method	Invoices with monthly meter readings.	Low uncertainty and high data quality.	103.52	0.20%
1 – Direct	Fugitive emissions	Fugitive emissions from air-conditioning systems	Supplier-specific method	Records from service providers maintenance reports and supporting invoices.	Low uncertainty and high data quality.	441.88	0.84%
1 – Direct	Mobile Combustion	Chorus vehicle fleet fuel	Fuel-based method	Invoices and excel reports records of fuel purchased.	Low uncertainty and high data quality.	131.28	0.25%
SCOPE 2							
2 – Purchased electricity	Electricity	Location based	Hybrid-based method (supplier and estimated)	Supplier' excel report, small suppliers' invoices with meter reading. Accurate records of electricity purchased. Within multiple exchanges, we rent space from Spark sites and due to limited equipment electricity metering, Spark and Chorus invoice each other electricity usage based on a usage (kWh) per equipment type. ⁵⁵	Low uncertainty and high data quality.	5,474.35	10.46%
		Market based ⁵⁶			Moderate uncertainty and high data quality.	[603.73] ⁵⁷	–
SCOPE 3							
3 – Indirect	Category 1 – Purchased goods and services. and	Financial annual spend records of all suppliers	Spend-based method ⁵⁹	Where no supplier information was available or the data was too uncertain, we used a spend-based method from internal finance annual spend records by service type x emission factor sourced from Greenhouse Gas Emissions for Commodities and Industries emissions modelling.	High data quality with high uncertainty around the emission factors selection.	24,337.274	46.51%
3 – Indirect	Category 2 – Capital goods ⁵⁸	Suppliers fuel data (service delivery partners)	Hybrid-based method (fuel based and estimated)	All major suppliers (spend >\$8M a year) contacted for information on the portion of their footprint attributable to activities performed on behalf of Chorus. Generally, fuel use is the majority of the emissions, especially for our Field Service Agreement (Downer, UCG and Ventia), who provide monthly fuel information.	Moderate certainty and moderate data quality due to certain level of estimation around the sub-contractors' fuel use.	11,470.19	21.92%

⁵⁵ Energy audit was completed in 2015 to develop a comprehensive list of all the energy used by equipment type and allow for improved assumptions.

⁵⁶ Scope 2 market-based emissions reflect the generation fuel mix from which the reporting company contractually purchases electricity and/or is directly provided electricity via a direct line transfer.

⁵⁷ The NZ-CS-1 standard requires entities to report on electricity using the location-based method, nonetheless Chorus also included the market-based figure for transparency across our reporting.

⁵⁸ Purchased goods and services and Capital Goods were reported in the same category as there is still some uncertainty on the type of services and how this is accounting within our financial records. Chorus will work on improving this data quality for FY25 and aim to split them and have more supplier specific data for the next reporting period.

⁵⁹ Chorus will work to move away from spend based data towards supplier specific information.

Metric categories continued

Scope – Category	Category	GHG emission source	Calculation method	Methodology and Data Source	Data quality and uncertainty	FY24 (t-CO ₂ e)	% of total emissions
SCOPE 3 (continued)							
3 – Indirect	Category 3 – Fuel and energy use	Transmission and distribution (T&D) line losses from electricity	Average-data method.	T&D lines losses based on electricity and gas consumption data from scope 1 and 2 and MfE line loss assumptions. Chorus also voluntary reports on T&D losses from our scope 3 electricity use (ONT and customers). ⁶⁰	Low uncertainty and high data quality (based on supplier information).	738.23	7.14%
		Well-to-tank (WTT) emissions from upstream fuel use	Average-data method	Fuel records for Chorus own fleet. WTT estimated using BEIS assumptions.	Low uncertainty and high data quality.	2,997.83	
			Average-data method	Estimates of the amount of fuel used and our scope 3 (contractor fuel details). ⁶⁰	Moderate data quality and moderate certainty.		
3 – Indirect	Category 4 – Upstream Transportation and distribution	Air and Sea freight from overseas to New Zealand and road and rail within New Zealand	Distance-based method	<p>This category includes all transport and distribution paid by Chorus regardless of whether the transport occurs upstream or downstream according to the Telecommunication guidance⁶¹</p> <p>Supplier report (Nokia) providing the distance and weight for packages. Distance is determined using international freight distance databases and weight is based on supplier records per product type.</p> <p>Mainfreight provides a supplier specific emission factor that is externally verified. The information is based on accurate tracking by mode of transport and have the ability of report on weight and distance per mode type. This allows for supplier specific emissions instead of using average emission factors</p>	Moderate uncertainty and moderate data quality.	928.59	1.78%
3 – Indirect	Category 5 – Waste generated in operations	Waste to landfill produced at Chorus’s offices.	Average-data method	Report provided by third-party building managers at each Chorus offices. Information is broken down by type and weight of waste generated.	Moderate uncertainty and low data quality.	12.74	0.02%
3 – Indirect	Category 6 – Business travel	Air travel and Accommodation	Supplier-specific method	Supplier records (Tandem Travel) with type of travel class and distance travelled per passenger. Tandem is audited annually on their methodology and reporting.	High data quality and low uncertainty.	488.34	0.98%
		Taxis	Spend-based method	Records from general ledger.	Variable data quality, medium uncertainty overall (due to the emission factor).	11.34	
		Rental car	Distance-based method	Supplier records itineraries and rental car companies’ information (kms travelled). Some assumptions made around the type of vehicle driven.	Moderate data quality and moderate uncertainty.	4.87	
		Mileage claims	Distance-based method	Records from general ledger. (kms travelled). Data is extracted from our internal expense claim system and assumes kms travelled to be accurate and a reflection of work-related travels.	Moderate data quality and moderate certainty.	8.04	

⁶⁰ Chorus is aware that this might lead to double counting but decided to take a conservative approach.

⁶¹ Category 9 – page 56–GSM Association (GSMA), the Global Enabling Sustainability Initiative (GeSI) and the International Telecommunication Union (ITU-T), Scope 3 Guidance for Telecommunication Operators, 2023

Metric categories continued

Scope – Category	Category	GHG emission source	Calculation method	Methodology and Data Source	Data quality and uncertainty	FY24 (t-CO ₂ e)	% of total emissions
SCOPE 3 (continued)							
3 – Indirect	Category 7 – Employee commuting	Travel to and from work (in private vehicles and public transport)	Distance-based method	Employee survey to determine commuting based on survey results and office occupancy data.	Data quality is low and high uncertainty as it is based on survey.	276.94	0.62%
		Working from home	Hybrid-based method	Chorus internal office occupancy tracks occupancy per location, this was used to estimate working from home days.	Data quality is high and high uncertainty due to the emission factor assumptions.	46.26	
3 – Indirect	Category 11 – Use of sold products ⁶²	Electricity use within customer devices.	Direct use-phase method	Chorus internal tracking of number of ONT (Optical Network Terminal) deployed. This is based on the manufacturing estimated electricity use of the ONT (Optical Network Terminal) installed in premises or powered by end users. It excludes energy use from Wi-Fi gateways provided by Retail Service Providers or customers.	High data quality and moderate uncertainty due to the electricity assumption based on manufacturing and product specifications.	3,883.48	7.42%
3 – Indirect	Category 13 – Downstream leased assets	Electricity use on-charged to customers	Hybrid-based method (supplier-based and estimated)	Within multiple exchanges, we rent some of our space to Spark and must estimate the electricity (using some assumptions).	Moderate uncertainty and moderate data quality.	734.72	1.4%
				Our Christchurch office ground floor was leased for most of the year and was sub-metered, data was based on a specific ICP number.	High data quality and low uncertainty.		
Scope 1, 2 and 3 Total (t-CO ₂ e)						52,326.26	

⁶² According to the GSMA GeSI **scope 3 guidance for telecommunications operators**, ONT could be reported either in Category 11 and Category 13. It is noted that according to the Greenhouse Gas Protocol Value Chain standard, Category 11 should report on emission using lifetime emissions. After careful consideration, internal discussion and external comparison of industry best practice, Chorus decided to report the ONT emissions under category 11 for consistency with the Telecommunication industry **without applying the lifetime reporting** requirements as Chorus has access to more accurate information (actual annual electricity consumption until the ONT is disconnected).

Metric categories continued

Exclusions

Specific emission sources have been identified and excluded from the Chorus GHG emissions calculation in FY24. These sources are either not applicable to Chorus operations or are relevant but are either not material in the context of the GHG inventory (greater than 5% of overall emissions), not material to stakeholders, and/or not technically feasible or cost effective to be quantified at present.

Table 7. GHG category exclusions

Greenhouse Gas Protocol Category	Greenhouse emission source or sink	Reason for exclusion	Est. size of exclusion tCO ₂ e	% of total inventory
Scope 3: Category 1 and 2	Purchased goods and services and capital goods	Our top 115 suppliers provided coverage for 96% of our corporate spend. The remaining 4% of spend consists of a high volume of low value suppliers. Noting the extensive work that would be required to estimate emissions for these suppliers, and their low business impact given their individual dollar value, we have assessed these as immaterial.	2,099.70	4.01%
Scope 3: Category 4/Category 9	Upstream transportation and distribution Downstream transportation and distribution	We have done a spend based estimate testing and the potential additional freight has been assessed as immaterial.	66	0.13%
Scope 3: Category 8	Upstream Leased Assets	Chorus does lease some assets, but these emissions are accounted for within our scope 1 and 2 respectively.	n/a	n/a
Scope 3: Category 10	Processing of sold products	This Category includes the further processing of intermediate products (e.g. material, component) sold to downstream companies and is normally not considered relevant to telecommunication operators. ⁶³	n/a	n/a
Scope 3: Category 12	End-of-life treatment of sold products	Inclusion of end-of-life treatment of sold goods is particularly challenging with regards to lacking access to accurate data, need for assumptions about end-of-life preferences of customers, low accuracy of supplier EFs and limited availability of country-specific data).	n/a	n/a
Scope 3: Category 14	Franchises	Chorus does not have any franchises.	n/a	n/a
Scope 3: Category 15	Investments	Chorus does not have any relevant investments.	n/a	n/a

KPMG was engaged to carry out a limited assurance review of Chorus' GHG Scope 1, 2 and 3 Emissions Inventory for the reporting period (1 July 2023 to 30 June 2024). KPMG's limited assurance opinion is attached as Appendix 2.

Chorus' sustainability reports describe our scope 1 and 2 emissions since the base year for our emissions reduction target (FY20).⁶⁴

⁶³ GSM Association (GSMA), the Global Enabling Sustainability Initiative (GeSI) and the International Telecommunication Union (ITU-T), Scope 3 Guidance for Telecommunication Operators, 2023

⁶⁴ Chorus' sustainability reports describe our scope 1 and 2 emissions in FY20, FY21, FY22 and FY23.

Metric categories continued

GHG emissions intensity

Chorus monitors emissions intensity against the amount of data transmitted across its network in petabytes (PB). As the amount of data transmitted on our network steadily increases as more people and devices connect, our emissions intensity decreases. We aim to achieve an emissions intensity of under 1 (tCO₂e/PB) by FY25. In FY24, we have set out two different emissions intensity measures. We calculated the emission sources in the intensity calculation in Table 8 below using Scope 1 and 2 emissions only. We chose a per petabyte measure as this measure is the most relevant to our business. Additionally, we have reported on our scope 1, 2 and 3 per million-dollar revenue as it is the most relevant intensity measure when covering all scopes.

Table 8. FY24 Scope 1 & 2 GHG Emissions intensity (tCO₂e/PB)

Financial year	Data traffic (PB)	Scope 1 and 2 (tCO ₂ e)	Emissions intensity (tCO ₂ e/PB)
FY24	7,974	6,387	0.80

Table 9. FY24 Scope 1, 2 and 3 GHG emissions intensity per million-dollar revenue (tCO₂e/M\$)

Financial year	Million-dollar revenue (M\$)	Scope 1, 2 and 3 (tCO ₂ e)	Emissions intensity (tCO ₂ e/M\$)
FY24	1010	52,326	51.81

Assets or business activities vulnerable to transition risk

As a conservative estimate, all of Chorus' business activities are vulnerable⁶⁵ to climate-related transition risks to some degree. These include risks related to the transition to a low-emissions, climate-resilient global and domestic economy such as policy, legal, technology, market and reputation changes.

As a regulated entity, we are also subject to price-quality regulation set by the Commerce Commission. If the Commission provides insufficient allowance for asset management practices, resilience and adaptation planning, this could result in Chorus needing to deprioritise climate-resilience initiatives in favour of core activities and maintaining compliance (with for example our quality standards). We manage our exposure to this risk by monitoring regulatory change, and advocating for appropriate regulatory outcomes, for both our fibre and copper networks.

⁶⁵ Chorus assesses vulnerability to physical and transition risk using a combination of both our exposure to the risk and our adaptive capacity to either prepare for, or respond to, it.

Metric categories continued

Assets or business activities vulnerable to physical risk

In 2019, Aon first investigated potential climate change impact from sea level rise on key Chorus assets. In 2022, Aon built on this work by reassessing the climate change impacts based on an updated asset portfolio and an extended scope to include coastal, pluvial, and fluvial flooding.⁶⁶ Aon’s assessment, finalised in 2023, used two global emissions scenarios: moderate (SSP2–4.5) and high (SSP5-8.5) to 2040 and 2090.⁶⁷

Aon’s latest assessment showed that fluvial flooding poses the greatest exposure to Chorus assets, in particular other exchange/access sites. Fluvial flooding includes rivers and streams breaking their banks resulting in water ingress into adjacent low-lying areas. In particular, Aon found that 11% of those sites would potentially face high to very high exposure under the two emissions scenarios. 23% would potentially face some exposure (very low to very high), which reflects current day levels.

A summary of Aon’s findings is set out in the table below:

Table 10. Chorus network exposure⁶⁸ to climate change

ASSET TYPE	SEA LEVEL RISE		COASTAL FLOODING			PLUVIAL FLOODING			FLUVIAL FLOODING		
	2040 SSP2–4.5	2040 SSP5-8.5	2023	2040 SSP2–4.5	2040 SSP5-8.5	2023	2040 SSP2–4.5	2040 SSP5-8.5	2023	2040 SSP2–4.5	2040 SSP5-8.5
KEY EXCHANGE SITES											
– potentially exposed (very low to very high)	0	0	0	0	0	7%	7%	7%	13%	15%	15%
– potentially exposed (high to very high)	0	0	0	0	0	3%	3%	3%	5%	7%	7%
OTHER EXCHANGE/ACCESS SITES											
– potentially exposed (very low to very high)	(<1%)	(<1%)	1%	2%	2%	13%	13%	13%	23%	23%	23%
– potentially exposed (high to very high)			1%	1%	1%	3%	3%	3%	10%	11%	11%
UNDERGROUND UTILITY BOXES											
– potentially exposed (very low to very high)	(<1%)	(<1%)	1%	2%	2%	10%	10%	12%	12%	12%	12%
– potentially exposed (high to very high)			1%	1%	1%	4%	4%	9%	8%	9%	9%
TECHNICAL ENCLOSURES OR CABINETS											
– potentially exposed (very low to very high)	(<1%)	(<1%)	1%	2%	2%	9%	9%	9%	12%	12%	12%
– potentially exposed (high to very high)			1%	1%	1%	2%	2%	2%	6%	6%	6%
POLES											
– potentially exposed (very low to very high)	(<1%)	(<1%)	1%	1%	1%	10%	10%	10%	12%	12%	12%
– potentially exposed (high to very high)											
REGIONAL FIBRE											
– potentially exposed (very low to very high)	(<1%)	(<1%)	1%	2%	2%	14%	14%	14%	18%	18%	18%
– potentially exposed (high to very high)											

Note: The above is an extract from Aon’s 2023 assessment, and reflects Chorus network asset data as at 2022. Accordingly, the scope of our network footprint may have changed over time, including the number of specific assets.

With retirement of our copper network (including legacy copper assets) a strategic priority for Chorus, we expect some of this asset exposure to reduce over coming years. Chorus intends to build on Aon’s work in FY25 with further analysis of network-wide operation vulnerability against key climate transition risks.

⁶⁶ For completeness, we note that Aon’s assessment did not look at transitional or physical risks from high temperatures, severe windstorms, or bushfires and Chorus will consider whether this should be a focus in future.

⁶⁷ Aon’s final assessment was based on ‘point in time’ Chorus network data collated in 2022.

⁶⁸ Chorus has chosen to report exposure as that is the metric for which it has reliable data available in FY24.

Metric categories continued

Assets, or business activities aligned with climate-related opportunities

Our main climate-related opportunities are two-fold – identifying ways to reduce our electricity use, and trialling ways to generate our own renewable energy.

While withdrawal of the copper network is not driven exclusively as a climate-related initiative, it does reduce our electricity use – at 30 June 2024, copper comprised 13% of Chorus' connections. As part of our focus on renewable energy, Chorus carried out a feasibility study and has committed to trialling solar photovoltaic (PV) on 6 out of the approximately 470 most suitable exchanges from FY25. The trial covers approximately 1% of suitable exchange sites and we intend to evaluate any risks and uncertainties associated with using renewable solar.

Capital deployment: amount of capital expenditure, financing, or investment deployed toward climate-related risks and opportunities.

As noted above, Aon assessed the climate-related impacts of sea level rise, coastal, pluvial and fluvial flooding in FY23. Those assessments have been taken into account in Chorus' asset management, resilience and investment planning. The Commerce Commission sets capital expenditure allowances for Chorus' regulated fibre network under Part 6 of the Telecommunications Act ahead of each regulatory period. Chorus can apply for additional expenditure by way of individual capex applications. As part of the Part 6 regulatory regime, we prepare asset management plans and report to the Commission on our progress against these.

In FY24, our most material new capital expenditure towards climate-related risks and opportunity was managing the fibre and copper network impacts of Cyclone Gabrielle. This accounted for approximately \$3.3million of new capital expenditure.

Following Cyclone Gabrielle, Chorus also considered how we might make our network more resilient for the future. As noted in section 4.3 above (under 'Examples of specific mitigations'), one initiative for exchanges has been the development of two mobile exchanges on wheels, or MEOWs, at a total cost of ~\$915,000. Using six-metre long 'datablok' containers, a MEOW can be transported by road and can connect up to 25,000 fibre connections. This means we can restore services more efficiently in the event of disaster impacts.

The above expenditure is addition to various opex spend on climate-related initiatives during FY24, including consultancy fees.

Our focus for FY25 includes working with Chorus' Chief Technology Office and Finance teams to better understand climate-related risks across our business, improve costs reporting associated with climate activities, and incorporate climate considerations into core business planning and capital allocation processes.

Internal emissions price

At the date of this statement, Chorus does not have a formal 'internal emissions price'. We are however in the process of setting an Internal Carbon Price (ICP) for use in FY25. We have calculated the cost to Chorus if mandatory participation in the Emissions Trading Scheme was passed by government, and this has been noted in our 10-year financial planning process.

Remuneration linked to climate-related risks and opportunities

As noted above, some members of our Executive have KPIs linked to the execution of our sustainability strategy (for example, our Chief Corporate & Regulatory Officer). All Executives have a strategy execution KPI, of which implementation of our sustainability plan and reducing emissions is one measure. As part of this, Executives have a specific electricity use reduction target for each financial year. These KPIs are taken into account along with other KPIs when assessing Executive performance and remuneration.

Other industry-based metrics

Chorus is not aware of any other industry-based metrics used to measure and manage climate-related risks and opportunities in the reporting period.

6. Appendices



6.1 Appendix 1 – Glossary of Key Terms

Key terms are as defined in NZ CS 1, unless otherwise indicated with an asterisk (*) below:

Absolute target	A target defined by a change in absolute GHG emissions over time. For example, reducing scope 1 GHG emissions by 50% by 2030 from a 2019 base year
Base year	A historic datum (a specific year or an average over multiple years) against which a company's emissions are tracked over time
Board*	Chorus Limited's Board of Directors
Cabinets*	A cabinet is an enclosed structure containing telecommunications equipment, used for copper and/or fibre services. Chorus cabinets are often small roadside non-building structures but can vary.
CO ₂ e	Carbon dioxide equivalent. The universal unit of measurement to indicate the global warming potential of each of the seven GHGs, expressed in terms of the global warming potential of one unit of carbon dioxide for 100 years. It is used to evaluate releasing (or avoiding releasing) any GHGs against a common basis
Emissions*	Emission sources are categorised by scope to manage risks and impacts of double counting. There are three scopes in greenhouse gas reporting.
Exchange*	A local fibre company (LFC) owned or leased building, or leased or licensed area within a building, with a floor area of at least 15 square metres (or, since UFB2, can include a cabinet) and a main distribution frame terminating copper or fibre network connected to end-user premises
Fluvial*	River flooding
FY*	Financial Year – 1st of July to 30th of June periods
GHG	Greenhouse gas. The greenhouse gases listed in the Kyoto Protocol: carbon dioxide (CO ₂); methane (CH ₄), nitrous oxide (N ₂ O), hydrofluorocarbons (HFCs), nitrogen trifluoride (NF ₃), perfluorocarbons (PFCs), and sulphur hexafluoride (SF ₆)
GHG Inventory*	A quantification of an organisation's greenhouse gas sources, sinks, emissions, and removals.
ICP*	Internal Carbon Price. A monetary value on GHG emissions that an entity uses internally to guide its decision-making process in relation to climate-related impacts, risks and opportunities.
ONT*	Optical Network Terminal, or the termination point of fibre in the home or business.
Petabyte*	One million gigabytes (GB), which is a measure of data volume
Pluvial*	Surface water flood

Physical risks	Risks related to the physical impacts of climate change. Physical risks emanating from climate change can be event-driven (acute) such as increased severity of extreme weather events. They can also relate to longer-term shifts (chronic) in precipitation and temperature and increased variability in weather patterns, such as sea level rise.
SBTi*	Science Based Target initiative: https://sciencebasedtargets.org/
Scenario analysis	A process for systematically exploring the effects of a range of plausible future events under conditions of uncertainty. Engaging in this process helps an entity to identify its climate-related risks and opportunities and develop a better understanding of the resilience of its business model and strategy.
Scope 1	Direct emissions from sources that are owned or controlled by a company
Scope 2	A reporting organization's emissions associated with the generation of electricity, heating/cooling, or steam purchased for own consumption
Scope 3	A reporting organization's indirect emissions (value chain) other than those covered in scope 2
tCO ₂ e	tonnes (t) of carbon dioxide (CO ₂) equivalent (e).
Transition plan	An aspect of an entity's overall strategy that describes an entity's targets, including any interim targets, and actions for its transition towards a low-emissions, climate-resilient future.
Transition risks	Risks related to the transition to a low-emissions, climate-resilient global and domestic economy, such as policy, legal, technology, market and reputation changes associated with the mitigation and adaptation requirements relating to climate change.
Verification*	An independent assessment of the reliability (considering completeness and accuracy) of a GHG inventory



6.2 Appendix 2 – KPMG Independent Limited Assurance Report to Chorus Limited

Conclusion

Our limited assurance conclusion has been formed on the basis of the matters outlined in this report.

Based on our limited assurance engagement, which is not a reasonable assurance engagement or an audit, nothing has come to our attention that would lead us to believe that, in all material respects, the Greenhouse Gas Statement, comprising the Emissions Inventories and the explanatory notes on pages 34 to 38 (**GHG Statement**) has not been prepared in accordance with the Aotearoa New Zealand Climate Standards and the Greenhouse Gas Protocol's Corporate Standards and guidance (collectively, the 'GHG Protocol' as defined below) (**the criteria**) for the period 1 July 2023 to 30 June 2024.

Information subject to assurance

We have performed an engagement to provide limited assurance in relation to Chorus Limited's GHG Statement for the period 1 July 2023 to 30 June 2024.

Our assurance engagement does not extend to any other information included, or referred to, in the climate statements, that is not in relation to the GHG Emissions reported on pages 34 to 38. Additionally, our assurance engagement does not extend to targets or emissions reduction progress, of which details may be referenced within pages 34 to 38. We have not performed any procedures with respect to the excluded information and, therefore, no conclusion is expressed on it.

Criteria

The criteria used as the basis of reporting include the Aotearoa New Zealand Climate Standards; and the World Resources Institute and World Business Council for Sustainable Development's Greenhouse Gas Protocol standards and guidance (collectively, the GHG Protocol):

- Scope 1 emissions have been prepared in accordance with The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (revised edition)
- Scope 2 emissions have been prepared in accordance with The Greenhouse Gas Protocol: GHG Protocol Scope 2 Guidance: An amendment to the GHG Protocol Corporate Standard
- Scope 3 emissions have been prepared in accordance with The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard

As a result, this report may not be suitable for another purpose. Key audit matters.

Standards we followed

We conducted our limited assurance engagement in accordance with International Standard on Assurance Engagements (New Zealand) 3410 Assurance Engagements on Greenhouse Gas Statements (ISAE (NZ) 3410) issued by the New Zealand Auditing and Accounting Standards Board (Standard). We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion. In accordance with the Standard, we have:

- assessed the suitability of the circumstances of Chorus Limited's use of the criteria as the basis for
- preparation of the GHG Statement;
- used our professional judgement to assess the risk of material misstatement and plan and perform the
- engagement to obtain limited assurance that the GHG Statement is free from material misstatement,
- whether due to fraud or error;
- considered relevant internal controls when designing our assurance procedures, however we do not
- express a conclusion on the effectiveness of these controls; and
- evaluated the appropriateness of reporting policies, quantification methods and models used in the
- preparation of the GHG Statement and the reasonableness of estimates made by Chorus Limited;
- evaluated the overall presentation of the GHG Statement; and
- ensured that the engagement team possesses the appropriate knowledge, skills and professional competencies.

How to interpret limited assurance and material misstatement

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

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

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Misstatements, including omissions, within the GHG Statement are considered material if, individually or in the aggregate, they could reasonably be expected to influence the relevant decisions of the intended users taken on the basis of the GHG Statement.

Inherent limitations

As noted in the GHG Statement page 34, GHG quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emission factors and the values needed to combine emissions of different gases.

6.2 Appendix 2 – KPMG Independent Limited Assurance Report to Chorus Limited continued



Use of this assurance report

Our report is made solely for Chorus Limited. Our assurance work has been undertaken so that we might state to Chorus Limited those matters we are required to state to them in the assurance report and for no other purpose.

Our report is released to Chorus Limited and the Shareholders of Chorus Limited on the basis that it shall not be copied, referred to or disclosed, in whole or in part, without our prior written consent. No other third party is intended to receive our report.

Our report should not be regarded as suitable to be used or relied on by anyone other than Chorus Limited and the Shareholders of Chorus Limited for any purpose or in any context. Any other person who obtains access to our report or a copy thereof and chooses to rely on our report (or any part thereof) will do so at its own risk.

To the fullest extent permitted by law, none of KPMG, any entities directly or indirectly controlled by KPMG, or any of their respective members or employees accept or assume any responsibility and deny all liability to anyone other than Chorus Limited for our work, for this independent assurance report, and/or for the opinions or conclusions we have reached.

Our conclusion is not modified in respect of this matter.

Chorus Limited's responsibility for the GHG Statement

The Directors of Chorus Limited are responsible for the preparation of the GHG Statement in accordance with the criteria. This responsibility includes the design, implementation and maintenance of such internal control as Directors determine is relevant to enable the preparation of the GHG Statement that is free from material misstatement whether due to fraud or error.

Our responsibility

Our responsibility is to express a limited assurance conclusion to Chorus Limited on whether anything has come to our attention that, in all material respects, the GHG Statement has not been prepared in accordance with the criteria for the period 1 July 2023 to 30 June 2024.

Our independence and quality management

We have complied with the independence and other ethical requirements of Professional and Ethical Standard 1 International Code of Ethics for Assurance Practitioners (including International Independence Standards) (New Zealand) **(PES 1)** issued by the New Zealand Auditing and Assurance Standards Board, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

The firm applies Professional and Ethical Standard 3 Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements **(PES 3)**, which requires the firm to design, implement and operate a system of quality control including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our firm has also provided regulatory assurance and financial audit services to Chorus Limited. Subject to certain restrictions, partners and employees of our firm may also deal with Chorus Limited on normal terms within the ordinary course of trading activities of the business of Chorus Limited. These matters have not impaired our independence as assurance providers of Chorus Limited for this engagement. The firm has no other relationship with, or interest in, Chorus Limited.

A handwritten signature in blue ink that reads 'KPMG'.

KPMG

Wellington

23 August 2024

C H ● R U S

<https://company.chorus.co.nz/>