Livestock Improvement Corporation Limited (LIC or the Co-operative)

Climate Statements

For the year ended 31 May 2025

There's always room for improvement

About these Climate Statements

As a large, listed issuer on the New Zealand Stock Exchange (NZX), LIC is a Climate Reporting Entity (CRE). The scope of the LIC reporting entity includes all subsidiaries and aligns to the scope used for LIC's consolidated financial statements included in LIC's Annual Report 2025, available here www.lic.co.nz/shareholders/financial-results-announcements. This is LIC's second set of Climate Statements prepared under the Aotearoa New Zealand Climate Standards published by the External Reporting Board (XRB). The Climate Statements are for the year ended 31 May 2025 and have been reviewed by LIC's Board of Directors.

This is still early in LIC's climate reporting journey as we continue to integrate climate change considerations into governance, strategy and risk management processes. The disclosures comprising these Climate Statements comply in all respects with Aotearoa New Zealand Climate Standard 1, Climate-related Disclosures (NZ CS 1), in conjunction with adoption exemptions (and applicable conditions for relying on those adoption exemptions) available under Aotearoa New Zealand Climate Standard 2, Adoption of Aotearoa New Zealand Climate Standards (NZ CS 2), and are presented in accordance with Aotearoa New Zealand Climate Standard 3 (NZ CS 3), General Requirements for Climate-related Disclosures (together the NZ CS). For example, information is disclosed in these Climate Statements where it is considered to be material, as defined in NZ CS 3, namely that "information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that primary users make on the basis of an entity's climate-related disclosures". Primary users are defined as LIC's current and future farmer shareholders, lenders and other creditors. Given the nature of climate-related information, we recognise that a single uniform quantitative threshold for determining materiality is not appropriate and therefore have applied judgment using qualitative and quantitative factors to identify, assess, organise and review whether climate-related information is material to our primary users.

NZ CS 2 recognises that it may take time to develop capability to produce high-quality climate-related disclosures. LIC has adopted certain exemptions available under NZ CS 2 for these second Climate Statements:

- Adoption provision 2, paragraph 12: Anticipated financial impacts of climate-related risks and opportunities reasonably expected by the entity, NZ CS 1 paragraphs 15(b), 15(c) and 15(d);
- Adoption provision 4, paragraph 17: Scope 3 greenhouse gas (GHG) emissions, NZ CS 1 paragraph 22(a)(iii);
- Adoption provision 5, paragraph 18: Comparatives for Scope 3 GHG emissions, NZ CS 3 paragraph 40;
- Adoption provision 6, paragraph 21: Comparatives for metrics in an entity's second reporting period, NZ CS 3 paragraph 40;
- Adoption provision 7, paragraph 22: Analysis of trends in an entity's second reporting period, NZ CS 3 paragraph 42; and
- Adoption provision 8, paragraph 24: Scope 3 GHG emissions assurance, NZ CS 1 paragraphs 25, 26(a)(iii) and 26(c).

Approved on behalf of the Board on 20 August 2025

Director

Director

Important notice

These Climate Statements contain forward-looking statements, including climate-related metrics, climate scenarios, climate-related risks and opportunities, estimated climate projections, targets, assumptions, forecasts, and statements of LIC's future intentions.

The information within these Climate Statements reflects LIC's best estimate and current understanding of future climate-related events, risks, opportunities, impacts and strategies as at 20 August 2025. LIC has sought to provide accurate disclosures as at publication. Given the novel and developing nature of the information contained in these Climate Statements, as well as the inherent uncertainty of the subject matter, "accurate" does not entail certainty of outcome. It means that LIC has undertaken appropriate measures and implemented adequate controls such that the information presented is believed to be free from material error or misstatement and is otherwise fairly presented.

LIC cautions that forward-looking statements are not facts but rather estimates and judgements regarding future results that are based on current estimates, and on current views of LIC which may be subject to change, and are necessarily subject to risks, uncertainties and/or assumptions. Estimates may prove to be incorrect due to unforeseen risks and general uncertainties of the business and environment we operate in, as well as due to the inherent uncertainty in the future impacts of climate change on our business and the dairy sector. LIC has used its best efforts to provide a reasonable basis for forward-looking statements but is constrained by the novel and developing nature of this subject matter. Climate-related forward-looking statements may therefore be less reliable than other statements LIC may make in its external reporting.

Descriptions of the qualitative and quantitative current and anticipated impacts and current financial impacts of climate change draw on and/or represent estimated figures only and have been developed using methodologies currently considered by LIC to be the most suitable. They are necessarily subject to risks, limitations, uncertainties and/or assumptions and change. In particular, the risks and opportunities described in this document, and the target emissions reductions, may not eventuate or may be more or less significant than anticipated. There are many factors that could cause LIC's 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 climate, government, and market factors outside of LIC's control.

Other than as provided in the limited assurance report that has been provided with these Climate Statements, these Climate Statements, including any financial information included, have not been subject to an external audit.

Nothing in these Climate Statements should be interpreted as an offer of interests in financial products or earnings, capital growth, or any other legal, financial, tax, or other advice or guidance.

Unless otherwise expressly stated, where external documents are referred to in these Climate Statements, these do not form part of the disclosures but are simply general and/or contextual information to direct the reader to further information, should they wish to read more.

To the greatest extent possible under New Zealand law, LIC expressly disclaims all liability for any direct, indirect or consequential loss or damage arising directly or indirectly out of the use of or inability to use, or the information contained within, these Climate Statements.

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Introduction

LIC is a New Zealand dairy farmer-owned co-operative and a leader in pasture-based dairy genetics and herd management. We exist to deliver superior genetics and technological innovation to help our shareholders sustainably farm profitable animals and this is even more relevant to farmers today given the growing climate challenges we're facing. Who we are and what we do has never been more important for Kiwi farmers, our sector and New Zealand as our future depends on protecting the natural environment. The dairy sector needs to continue to evolve, for climate change and because of it, to retain ongoing market access.

At LIC, we are committed to reducing the emissions of our business. LIC previously set emissions reduction targets based on methodologies using SBTi (Science Based Target initiatives) tools and guided by the biogenic methane emissions reduction target in the Climate Change Response Act 2002, with the intention of reducing our greenhouse gas (GHG) emissions and contributing proportionately to the efforts to limit the global average temperature increase to 1.5°C above pre-industrial levels. While we have been working hard on reducing emissions, the organisation has now reviewed and revised our emissions reduction targets to ensure that they are achievable given the challenges the sector is currently facing with novel technology that is being developed to mitigate emissions not yet being feasible or available to achieve targeted emissions reduction. Please see the Metrics and Targets section for the updated targets.

The physical effects of climate change are already intensifying and becoming more common, demonstrating the need for our business to be flexible and resilient in providing critical on-farm services to our farmer shareholders. Climate-related transition risks also present a potential challenge, including the risk of regulation and legislation change, impacts of innovation and maintaining dairy sector reputation and market access. LIC's business is largely driven by the size of the national dairy herd, which has been reducing over time and may continue to reduce in response to climate-related transition risk pressures. If the dairy sector is milking fewer cows, those cows need to be better ones. This creates a climate-related opportunity for LIC to more widely help farmers identify and breed from their more emissions-efficient and profitable cows. Using our genomic breeding worth data relating to the national dairy herd, LIC has been able to model the genetic potential enteric methane emissions relative to milk solids production, indicating an improved trend over more than ten years.

LIC recognises the importance of identifying climate-related scenarios in a consistent and comparable way within the dairy sector. To this end, Fonterra, LIC and Silver Fern Farms collaborated during the reporting period to develop core scenario elements that were common across our businesses, such as driving forces, temperature outcomes, emissions pathways, and high-level narratives. This joint output was then iterated by LIC to make it more specific to our strategy and business model. These scenarios are not predictions of the future, rather they challenge us to consider our strategy and business model using plausible political, economic, social, technological, and environmental drivers of change. These insights can help us build resilience, prepare for potential risks and uncertainties, and identify opportunities to lead the way in innovation and herd improvement.

Governance

Climate governance and reporting structure at LIC

Figure 1

Governance Body

LIC Board of Directors (the Board)

Audit Finance & Risk Committee	People & Culture Committee

Management

LIC Senior Leadership Team (SLT) members with specific climate responsibilities (refer to Table 2 for further detail). The Chief Executive reports to the Board, and the other SLT members report to the Chief Executive.

Chief Executive Officer	Chief People Officer (CPO)	Chief Scientist	Chief Financial Officer (CFO)

Other management roles with specific climate-related responsibility:

General Counsel (reports to CFO)	Health, Safety & Environment Manager (reports to CPO)	Senior Environmental Advisor (reports to Health, Safety & Environment Manager)	Group Financial Controller (reports to CFO)	Representatives from each LIC business unit (reporting lines vary)
	Environment & Sustainability Management Committee (ESMC), also includes CPO & Chief Scientist (ESMC reports to the CPO)			

LIC Board of Directors

The primary responsibility of the Board in relation to risk management is to ensure that it develops a clear understanding of the fundamental risks inherent under LIC's business model and strategy, overseeing and holding management accountable and setting appropriate risk appetite levels for LIC. As part of their governance duties, our Board has visibility and oversight of sustainability and climate-related risks and opportunities. The Board approves and is ultimately responsible for our overall climate strategy, material initiatives, frameworks, targets, metrics, and policies.

The Board monitors progress against and oversees achievement of climate-related metrics and targets. Governance responsibility in relation to climate has been kept at the full Board level, although the Audit, Finance and Risk Committee (AFRC) oversees elements of climate-related risk, and the People & Culture Committee has the responsibility for the remuneration terms of the Chief Executive and oversees People policies (for more information in relation to how metrics and targets are included in remuneration policies, refer to the Metrics and Targets section of these Climate Statements).

LIC's commitment to managing the environmental impact of our products, services, and work activities, enhancing our environmental performance and achieving continual improvement, including in relation to our farmer shareholders, is documented in an Environmental Policy, which is approved by the Board every two years.

More information on our Board and Board committees can be found in our Annual Report 2025[1] .

[1]LIC's Annual Reports are available at www.lic.co.nz/shareholders/financial-results-announcements

The Board's oversight of climate-related risks and opportunities (Table 1):

Processes and frequency by which the Board is informed about climate-related risks and opportunities	During the reporting period, the Board met ten times, with three additional strategy days. Climate-related risks, opportunities and/or reporting requirements were discussed at all of those meetings. The AFRC met eight times during the reporting period. Climate-related risks and/or reporting requirements were discussed at seven of those meetings. The Board has previously endorsed the approach of climate risk being a sub-category risk in LIC's risk management tool as it impacts more than one of LIC's key risk areas. Updates on LIC's key risk categories (including, where identified, climate-related risks) are presented to at least three meetings per year of the Audit, Finance and Risk Committee. The status (red/amber/green and a description of any issues) of material climate-related risks or opportunity initiatives being focussed on during the reporting period is reported by management to the Board at every regular Board meeting through an Environmental Management report and Enterprise Annual Plan report. Individual papers with project proposals and funding requests are presented to Board as required under LIC's Delegated Authority Policy. The Environmental Management Report annually includes GHG metrics.
How the Board ensures that appropriate skills and competencies are available to provide oversight	As part of the Director election process, skills are considered such as Sustainability on Farm, which includes climate change expertise related to the dairy sector. Some Directors and members of management have also taken individual responsibility for increasing their understanding of climate risk through attending relevant conferences and courses and climate-related matters are being considered in planning Director development. New Directors during the reporting period have been provided with separate induction sessions on climate risk management and disclosure reporting requirements. Management have worked with the Board on ensuring that skills within the team and compliance requirements are well understood. The Board Chair and Chair of the People & Culture Committee work with the Chief People Officer on a forward program of development for the Board and individual directors.
How the Board considers climate-related risks and opportunities when developing and overseeing implementation of strategy	LIC's strategy is centred on breeding for a highly efficient, lower-emitting national dairy herd. Material climate-related risk and opportunity initiatives are considered as part of the annual planning and budgeting process, including Transition Plan initiatives (refer to page 28). Material climate-related risks and opportunities that have been identified during the course of the year are discussed by the Board and the Board incorporates these discussions into strategic planning by evaluating how climate-related risks and opportunities may impact LIC's long-term business model, financial performance and operational resilience. The Board engages with management to assess proposed mitigation and adaptation strategies and to ensure that climate considerations are embedded into investment decisions, capital allocation and enterprise risk management frameworks. For example, this year's capital spend included installation of a barn for measuring methane of lactating cows and the Research and Development (R&D) operational budget included planned spend on climate-related opportunity initiatives. For further information in relation to LIC's climate-related risk and opportunity initiatives, refer to section titled "climate-related risks and decision making" in the strategy section of this climate statement.

How the Board sets, monitors progress and oversees achievement of metrics and targets	LIC's board sets the GHG emissions reduction targets and climate-related metrics for the company based on recommendations made by management on what is considered achievable and what is useful to measure. Management forecasts GHG emissions reductions based on initiatives underway and planned where it is known that reductions are achievable and cost effective. Management identifies appropriate metrics by considering what is relevant to the dairy sector and useful to measure. GHG emissions target results and progress relative to the baseline year are presented to the Board annually by the Chief People Officer and Health, Safety & Environment Manager and the Board discusses and sets further initiatives, metrics, or targets that may be required based on those results and progress. Environmental Strategy, Transition Plan and Energy Strategy documents, which are all foundation documents used for documenting and managing climate-related risk and capitalising on climate-related opportunities, are also reviewed by the Board. Progress on material climate-related risk and opportunity initiatives is reported to the Board at every regular meeting by the Chief People Officer and Health, Safety & Environment Manager as part of an Environmental Management Report and Enterprise Annual Plan traffic light report by the Chief Executive, giving the Board the opportunity to provide feedback or request a change in approach. During the reporting period the Board reviewed GHG emissions targets, approved updated GHG emissions targets and discussed transition planning. Our metrics were reviewed and it was concluded that they remain fit for purpose. For further information in relation to the metrics and targets that LIC currently has in place (including the results of the review noted above) and whether these are incorporated into remuneration policies, refer to the metrics and targets section of this climate statement.

LIC Senior Leadership Team

Day-to-day management of risks and opportunities (including climate-related risks and opportunities) within the Co-operative is delegated to members of LIC's Senior Leadership Team (SLT) and other senior leaders, as shown in Table 2 and Figure 2. While the wider SLT monitors and discusses climate-related risks and opportunities and endorses content to go to Board meetings, the members identified in Table 2 have specific responsibilities related to climate-related risks and opportunities.

The SLT meets fortnightly, with quarterly strategy offsites, and those meetings have included consideration of a range of environmental topics throughout the reporting period, including updates on climate-related risks and opportunities and related initiatives, climate scenarios, climate statements, transition planning and review of GHG emissions targets.

Management

The Environment and Sustainability Management Committee (ESMC) includes two SLT representatives, meets quarterly and focusses on identifying and driving environmental risks and opportunities for improvement across the business.

Any new climate-related risks identified within any business unit by management can be integrated into LIC's enterprise risk register after assessment and endorsement by the Risk & Assurance Manager. Controls and/or mitigation identification and material risks would then form part of management discussions, with material risks included in AFRC reporting.

SLT members with specific climate-related responsibilities (Table 2):

Chief Executive	• Responsible for managing and delivering the Co-op's strategy and performance • Responsible for management of climate-related risks and opportunities • Attends all Board and sub-committee meetings • Reports directly to the Board Chair – informal discussions as frequently as needed
Chief People Officer	• Oversees Environmental Policy, environment and energy strategic plans, transition planning, GHG data management • Regular environment reporting to Board, including the annual GHG emissions results, presenting any proposed changes in the policy, strategy or GHG emissions targets for approval • Attends ESMC • Attends People & Culture Committee • Attend Board and AFRC meetings as required
Chief Scientist	• Oversees climate-related R&D initiatives, presents to the SLT and Board on material initiatives as required • Attends ESMC
Chief Financial Officer	• Oversees climate disclosure reporting and sustainability reporting • Considers financial implications of climate-related risks and opportunities in financial planning, capital allocation and financial reporting, including funding requests raised by business units • Oversees risk management, including climate-related risks captured as recommended by Risk & Assurance Manager and Group Financial Controller • Attends all Board and AFRC meetings, including presenting interim and full year financial statements and climate statements for review and approval

Other management roles with climate-related responsibility (Figure 2):

Environment & Sustainability Management Committee (ESMC), also includes the Chief People Officer & Chief Scientist

General Counsel	Health, Safety & Environment Manager	Senior Environmental Advisor	Group Financial Controller	Representatives from each LIC business unit
Oversees sustainability and climate-related legal risk. Attends all Board meetings and, where required, attends sub-committee meetings. Monitors upcoming legislative change and reports potential impacts to AFRC.	Drives compliance with environment legislation, development and execution of environment policy and strategy to provide a framework for managing climate-related risk, oversees GHG reporting, Chairs ESMC. Attends Board with CPO to present any climate-related environment papers.	Drafts, implements and maintains environment policy, transition planning, systems and strategy, manages GHG data gathering and reporting, facilitates ESMC and works with business unit members on initiatives.	Oversees climate and sustainability reporting, considers financial implications of climate-related risks and opportunities in budgeting and financial reporting. Together with CFO, presents climate statements to AFRC and Board.	Employees passionate about driving continuous improvement to reduce waste and reduce our environmental impact, including GHG emissions.

- LIC's Transformation Office reporting tool enables centralised oversight of all relevant environmental or sustainability initiatives, including key project milestones.
- LIC's Investment Committee considers requests for funding and approves the internal emissions price: business cases for initiatives are required to include any environmental considerations and a monetary impact using the internal emissions price if GHG emissions are estimated to be impacted by more than 10 tCO_2-equivalent emissions per year.
- LIC's R&D team includes scientists with relevant skills and experience working on climate-related opportunities.

Strategy

Business Model

LIC is a New Zealand dairy farmer-owned co-operative and LIC shares are listed on the NZX. To be a shareholder in LIC, you must farm dairy cows in New Zealand, supply a New Zealand milk processor and buy a minimum amount of qualifying products and services from LIC in any one year. As a farmer-owned co-operative, all profit is returned to our farmer shareholders in dividends or reinvested into new solutions and research and development (R&D).

LIC's headquarters are in the Waikato, along with laboratories, herd testing facilities, a dairy farm and bull farms. Additional bull farms are in the Central North Island. Herd testing and Artificial Breeding depots are located throughout the North and South Islands, as well as herd testing facilities in Christchurch.

LIC's principal activities are carried out in New Zealand, including artificial breeding products and services, herd testing of milk samples, DNA testing, animal health testing, herd management software, on-farm support, sale of heat detection and animal tag products and research and development (R&D).

The majority of LIC's customers are dairy farmers, or professionals such as vets providing our services to dairy farmers. LIC is structured to best support farmers and our operational teams to effectively supply products and services to customers, which results in a significant volume of vehicle travel to dairy farms in rural areas. For semen production and R&D purposes, LIC owns or utilises a large volume of bulls, a dairy herd and trial animals.

LIC has smaller business operations in Australia, UK and Ireland, mainly for the purpose of selling artificial breeding products produced in New Zealand and owns a small business that manufactures bovine heat detection products in Australia.

Strategy

The Board is responsible for setting the strategy of LIC and monitoring delivery against that strategy, recognising the Company's economic, environmental and social responsibilities. During the reporting period the Board completed a check-in on LIC's strategy and emphasised the importance of our focus on herd improvement, with five priority areas being focussed on as key enablers of herd improvement (refer Figure 3).

In terms of climate-related opportunities specifically, herd improvement is at the heart of LIC's strategy and is LIC's most significant opportunity for emissions reduction, which will benefit the whole of the dairy sector and New Zealand by enabling reduction in emissions intensity.

Our three-year plan (which runs to 31 May 2028) includes climate-related initiatives, some of which will bring long-term genetic benefit, such as breeding lower methane emitting dairy animals. Working with dairy farmers, including via milk processors such as Fonterra, to help farmers accelerate their herd improvement to breed better cows faster is important to help the sector to reduce its overall emissions intensity. This can include using LIC services to identify the best cows to breed from (eg herd testing and DNA testing), using sexed semen to produce more replacement cows from the best cows and, in the future, being able to select lower methane-emitting bulls for breeding decisions.

LIC's strategy on a page (Figure 3):

Our Strategy

What's the herd of the future?	Highly efficient, producing more from less		Aligned with the needs of processors and global markets		Lower-emitting and environmentally fit-for-purpose
How we'll breed it faster	**With world leading herd improvement**				
The role of our people	Working with farmers to breed for that future herd now - using the best tools, insights and genetics we can offer				
Breeding better cows faster with:	**Customer experience** that makes LIC easy to deal with	**Genetics** that continue to deliver value on farm	**Testing** to predict performance and health issues	**Farm software** to make herd and breeding decisions easier	**International markets** to strengthen our breeding scheme
Why this matters	High-preforming herds through world-class breeding programmes		Smarter tools that connect data, insights and systems farmers use		A generational co-operative that's easy to work with

LIC is running a number of long-term research trials, resulting in a significantly higher volume of trial animals included in our biogenic emissions results compared to our 2018/19 emissions base year. This will likely continue while there are still opportunities identified to reduce emissions intensity through genetic improvement requiring a R&D focus, or other areas of genetic improvement needed within the dairy sector. As a result, it is uncertain if LIC's own Scope 1 biogenic and farm-related emissions will reduce while there remains a high need to hold additional research animals, which in turn produce more emissions. LIC's GHG emissions reduction targets therefore exclude those emissions related to animals owned or used, including for research purposes, by LIC. Improving genetics is a long game, but we are confident that our initiatives will result in benefits to the sector and New Zealand through cows that produce more milk solids with either the same or less methane emissions, resulting in lower emissions-intensity, as well as breeding options for animals that are more heat tolerant.

The Board has endorsed our climate-related strategic intent to transition towards a low-GHG emission, climate-resilient economy, along with contributing to decreasing methane emissions intensity from the national dairy herd. We are committed to achieving this through the following objectives and priorities:

1. **Reducing GHG emissions:** reduce our carbon footprint by implementing innovative technologies and sustainable practices across our operations.
2. **Enhancing climate resilience:** building resilience to climate impacts by integrating climate risk assessments into our decision-making processes and investing in adaptive infrastructure.
3. **Driving innovation through R&D:** enable enhancement of the genetic potential and sustainability of the national dairy herd.
4. **Capturing opportunities:** leverage opportunities arising from the transition to a low-carbon economy.
5. **Avoiding adverse impacts:** maintain transparent communication and engaging with farmers to address their concerns.
6. **Safeguarding the natural environment:** protect and preserve natural ecosystems on LIC properties by adopting sustainable resource management practices and supporting biodiversity conservation initiatives.

By pursuing these objectives and priorities, we aim to contribute positively to New Zealand's climate goals while fostering sustainable growth and creating long-term value for our farmer shareholders.

While LIC is committed to ongoing reduction of emissions, we recognise that new technologies will be required to fully reduce our emissions based on methodologies using SBTi (Science Based Target initiatives) tools, creating uncertainty around how we will continue to reduce emissions by way of reduction or removal activities without using some form of carbon credit offset in future. For example, much of LIC's vehicle travel is over long distances in rural areas; cost-effective feasible alternatives to diesel-fuelled light trucks being made widely available across New Zealand will be important.

Climate-related risks and opportunities and decision making

Climate-related risks fall into two main categories: physical and transition risks. These have the potential to affect LIC's entire business, including through the impacts of those risks on our dairy farmer customers, and are taken into account as an input to LIC's internal capital deployment and funding decision-making processes, along with climate-related opportunities, as described below.

Climate-related opportunities that result from the dairy sector needing to reduce emissions intensity have been identified by the Board, SLT and other senior leaders within the business through discussions with our farmer shareholders and milk processors, strategic analysis and R&D.

LIC's budget and annual plan for the following three years is coordinated annually by the CFO. Each business unit has the opportunity to put forward funding requests to be included in the three-year plan, which is then prioritised and agreed by the SLT before being presented to the Board by the CFO and CE for approval. Any funding requests for climate-related risk and opportunity initiatives is part of this process. LIC has a Delegated Authority Policy which also outlines approval levels required for unbudgeted funding requests outside of the annual plan process in the event that a new or unforeseen climate-related risk or opportunity emerges.

Physical risk

Physical risk factors are those related to the impacts of the changing climate and environment and can be further categorised as acute or chronic:

- Acute risk factors are those related to more frequent and intense extreme climate events such as heatwaves, droughts, bushfires, floods and storms; and
- Chronic risk factors are those related to gradual changes in climatic conditions such as increasing temperatures, changes in precipitation patterns and sea-level rises.

Transition risk

Transition risk factors are those related to the process of transitioning towards a climate-resilient and lower emissions society where transition pathways may vary and can be further categorised as arising from these changes:

- Political changes, including policies and regulations, access to land, geopolitics and food security changes impacting both the broad economy as well as those impacting the dairy sector
- Economic changes, including access to banking and insurance services, customer demand, energy security and carbon pricing
- Social changes, including labour force and consumer behaviour and preferences
- Technological changes, including developments in farming practices, food production and energy/distribution; and
- Legal changes, including sustainability litigation.

The number of cows in the national herd is a key assumption considered as part of LIC's strategic planning process and underpins our expected five-year activity level in relation to product sales. In addition, the biggest asset on LIC's balance sheet is our bull team. There is a complex, inter-related mix of factors impacting the number of cows (including climate-related risks and opportunities), such as volatility of milk price, farmers seeking to diversify their operations, changing land use, the high cost of capital for new entrants and challenges with succession planning on farm. Seasonal milk prices are a key assumption: a low milk price can generally result in lower levels of activity with farmers seeking to reduce costs. The risk of low milk price could be increased by climate-related factors, such as market or reputation transition risk, but can also have an inverse relationship. Where weather conditions contribute to global supply being lower than demand, milk price could be stronger.

LIC's Investment Committee has also set an internal emissions price to be used as a tool to calculate a financial impact when considering climate-related opportunity or risk initiatives. The results factor into capital investment and funding decisions to ensure that decarbonisation opportunities are considered in a similar way to any other initiative. The financial analysis template LIC uses for considering costs and benefits of proposed initiatives, including climate-related risks or opportunities, has been updated to include a financial impact of GHG emissions reduction using the internal emissions price. Where an initiative will change LIC's Scope 1 or Scope 2 GHG emissions by more than 10 tCO_2-equivalent per year, the business is required to include a GHG monetary impact factor in the financial analysis calculated by multiplying the change in emissions by the internal emissions price.

Previously LIC went through a process to identify the most material physical and transition climate-related risks relevant to LIC and ensured that those risks were included in LIC's enterprise risk register, and the Board endorsed that climate-related risk should be represented as a sub-category risk in LIC's risk management tool. This was on the basis that there are a range of different climate-related risks that impact more than one of LIC's key risk areas, enabling risk appetite for the different types of climate risk to continue to be set for those overarching key risk categories.

LIC's material climate-related risks and opportunities are detailed on page 24.

Current climate-related impacts

Current material climate-related physical impacts

While the effects of climate change are expected to intensify over the coming decades, a number of impacts are already being observed. Impacts over and above historical seasonal weather variations are becoming more frequent, although not all climate events or impacts experienced translate into material impacts for LIC.

Impact	Description of impact	Current financial impacts
Drought or dry summer conditions	Early dry-off of cows assessed as being likely in part due to dry conditions in some areas. Early dry-off impacts LIC's activity levels, for example re-booking pressure or cancelled herd testing of milk.	Cannot be quantified / no material financial impact. It is not possible to identify lost revenue in the reporting period that is specifically attributable to drought or summer conditions exacerbated by climate change as farmers may have had multiple reasons for cancelling a product or service, including the stock of additional feed on hand or the cost of feed outweighing the benefits of extra days in milk. Overall, there has not been a material financial impact as herd test revenue is higher than the budget for the year.
Weather events	Extreme weather events caused minor disruption to LIC production and services due to disrupted farmer operations, resulting in some reorganisation of LIC services. For example, South Island flooding impacted some farmers during the reporting period.	No material financial impact. Weather events during the period were sufficiently temporary to not materially impact LIC services provided on farm or result in a material financial impact for LIC but are nevertheless material impacts in that they indicate a trend of increasing volatility in weather and therefore have an influence on LIC's planning for its exposure to this risk on an ongoing basis. LIC has not made any material weather-related insurance claims during the reporting period.

Current material climate-related transition impacts

Impact	Description of impact	Current financial impacts
Legislation and regulation	• LIC is impacted by regulatory change and uncertainty in NZ relating to climate policy, as well as general emissions reduction policies. • Resources allocated to collate data, perform analysis, prepare and review Climate Statements.	No material financial impact.
Efforts to reduce LIC's emissions or reduce environmental impact risk	• Ongoing transition of vehicles to electric vehicles (EVs) and hybrids to further reduce LIC's fuel emissions. • Further additions to LIC EV charging station network. • Ongoing discussions with suppliers to reduce waste, increase recycling, improve efficiency and access to emissions data. • Other asset replacements to reduce climate impacts. • Resources allocated to prepare Transition Plan.	No material financial impact. Not all costs are able to be separately identified, such as electricity supply for EV charging stations, change in costs solely due to increased electrification of vehicle fleet, employee time, which have been partially offset by lower fuel costs and power costs.
Investments in climate-related research	Continued investment in climate-related opportunity research projects to assist farmers to reduce emissions or adapt to climate change through improved genetics in future, including methane validation trials, a new barn and associated equipment for measuring methane from lactating cows, and a heat tolerance breeding programme.	$3.4 million cost (excludes external funding, includes both operational and capital expenditure, does not include all employee time).

Scenario analysis

Scenario analysis is the process of exploring how an entity might perform under a range of plausible futures. In a world of uncertainty, scenario analysis is meant to challenge 'business as usual' assumptions. Climate-related scenario analysis does not predict the future but rather provides a range of hypothetical outcomes to enable an entity to better assess how physical and transition risks and opportunities associated with climate change could impact its operations.

The Aotearoa Circle Agriculture Sector Scenarios[2] were previously used as LIC's foundation for developing climate-related scenarios. The sector scenario work programmes led by the Aotearoa Circle were influential in bringing together sectors across New Zealand to support climate reporting entities and encourage greater comparability of reporting and key members of LIC's executive team participated in that process.

In the current reporting period we collaborated with Fonterra and Silver Fern Farms to develop core scenario elements that were more specific to the dairy and beef sectors and common across the three cooperatives, such as driving forces, temperature outcomes, emissions pathways, and high-level narratives. In particular, we moved away from using the description of 'orderly' transition in our 1.5°C scenario, noting that an orderly transition to limiting warming to 1.5°C above pre-industrial levels seems increasingly unlikely. This joint output was then refined by LIC to make it more specific to our strategy and business model.

LIC's scenario analysis process involved engagement and governance at a number of levels of the organisation:

- Delegation by the Board and SLT to the Group Financial Controller and Senior Environmental Advisor to work with Fonterra and Silver Fern Farms to collaborate on developing scenarios;
- Analysis and input by management to the collaboration with Fonterra and Silver Fern Farms;
- Updates to impact pathways and analysis of them to identify potential climate related risks and impacts on LIC, as well as to identify climate-related opportunities (noting that SLT and the Board were involved in developing the previous impact pathways);
- Review and feedback of the scenarios and impact pathways by other management representatives across the business, including the Senior Environmental Advisor and the Risk & Assurance Manager;
- Presentation of the draft scenarios, climate related risks and opportunities identified to both SLT and the Board for review and discussion; and
- Final endorsement of outputs by the Board.

Other than the collaboration with Fonterra and Silver Fern Farms, LIC did not enlist the help of external partners, and no external stakeholders were involved, with the exception of elected directors, who are farmer shareholders in LIC. No specific modelling was undertaken as part of the scenario analysis.

LIC determined that the scenario results (ie our chosen scenarios below) following adaptation of the collaboration with Fonterra and Silver Fern Farms was the most relevant and appropriate scenarios because they have been created specifically for the dairy sector within New Zealand's agricultural sector and therefore will be most useful for identifying and assessing the most material risks and opportunities relevant to LIC, its operations, business model, and strategy and have been further adapted to be specific to our strategy and business model. The scenarios were also aligned to the temperature requirements in NZ CS 1, including to have a 1.5 degree scenario, a 3 degree or greater scenario, and a third climate-related scenario:

- Sharp Corrections, temperature rise limited to 1.5°C (mandated)
- Slow Followers, temperature rise over 2.5°C
- Hothouse, temperature rise increases past 3°C (mandated)

Scenario narratives

Climate-related scenario narratives are plausible, challenging descriptions of how the future may unfold and provide the parameters in which an entity conducts scenario analysis to test overall strategic resilience based on a coherent and internally consistent set of assumptions about key driving forces and relationships covering both physical and transition risks in an integrated manner. Climate-related scenarios are not intended to be probabilistic or predictive, or to identify the 'most likely' outcome(s) of climate change. They are intended to provide an opportunity for entities to develop their internal capacity to better understand and prepare for the uncertain future impacts of climate change. Accordingly, all outcomes described in our climate-related scenarios are only insights to assist in resilience testing and strategy development and are not predictions of actual future outcomes.

[2] The Aotearoa Circle Agriculture Sector Scenarios

Scenario narratives are determined by the interaction of key political, economic, social, technological, legal and environmental 'drivers of change' (collectively referred to as the PESTLE framework) that may influence an entity's operating environment. These narratives include assumptions and logical relationships to help identify potential impacts and severity of the impacts, on operations, strategy, and financial planning.

LIC has adapted the narratives developed with Fonterra and Silver Fern Farms to reflect LIC's role in the dairy sector specifically, which was completed by management and reviewed and endorsed by both SLT and the Board. This has been a standalone process, although the LIC strategy check-in was completed at the same time and LIC's most material climate-related risk and opportunity is at the heart of the updated strategy: enabling dairy farmers to reduce emissions intensity within the national dairy herd in the face of a decreasing cow population.

Table 3 summarises the three scenario narratives and the key assumptions underlying each.

These scenarios are designed intentionally to be challenging and are not meant to be perceived as 'most likely' outcomes, nor do they reflect LIC's strategic beliefs or anticipated views of the future.

Scenario assumptions and narratives - Table 3

	Sharp Corrections	Slow Followers	Hothouse
Summary	The Sharp Corrections scenario depicts a world where policy action on climate is delayed until a severe natural disaster near 2030 shifts public opinion, leading to a swift and robust response to limit global warming to 1.5°C by 2100. Co-ordinated global efforts drive technological advances however the abrupt policy changes are a strain on emissions-intensive sectors. This is a costly, disruptive transition.	The Slow Followers scenario is a future where the world is divided on climate policy, with varying levels of ambition among countries. Global efforts are insufficient to limit warming to 1.5°C, with temperatures set to rise over 2.5°C by century's end. The EU and China adopt aggressive policies, while New Zealand lags, making slower progress, leading to reputational damage. New Zealand's transition is ultimately driven by economic factors that favour positive climate action.	The Hothouse scenario depicts a world where unchecked emissions and lack of climate policies lead to a rise in global temperatures of 3.6°C above pre-industrial levels by 2100. The physical impacts of climate change are severe and irreversible. Paris Agreement targets are abandoned by 2035, leading to protectionism and mass food production. Adaptation to climate change is the priority, not mitigation.
Key climate scenarios architecture pathways used[3]	• IPCC SSP1 'Taking the Green Road', RCP 1.9 • NGFS 'Sudden Wake Up Call' & 'Net Zero Emissions' • SPANZ '100% Smart' • Climate Change Commission 2021 dataset (CCC) 'Further Behaviour Change' and 'Tailwinds'	• IPCC SSP2 'Middle of the Road', RCP 4.5 • NGFS 'Low Policy Ambition' & 'Fragmented World' • SPANZ 'Kicking & Screaming' • CCC 'Headwinds'	• IPCC SSP3 'Regional Rivalry', RCP 7.0 • NGFS 'Diverging Realities' & 'Current Policies' • SPANZ 'Unspecific Pacific' • CCC 'Current Policy Reference'
Temperature outcome by 2100	1.5°C	2.7°C	3.6°C

[3]Refer to Appendix One for further detail

	Sharp Corrections	Slow Followers	Hothouse
Time horizon	Short (to 2027/28), medium (2027-2035), long (2036-2050) and very long (2051-2100) term, with 2100 being the endpoint for each scenario		
Physical risk severity compared to today	Low to moderate	Moderate to high	Extreme
Transition risk severity compared to today	Low then high	Moderate	Low
• Policy reaction	• Delayed then blunt	• Slow and lagging in NZ, varied globally	• No new policies to drive emissions reductions
• Technology advancements	• Slow then fast changes	• Moderate	• Slow changes
• Consumer behaviour change	• Slow then fast changes	• Regionally differentiated (maintains momentum in EU, rapid in China, slow in US)	• Slow changes
• Demand for dairy	• Increased demand for alternatives to bridge gap left by dairy destocking	• Similar to today; locally produced dairy alongside alternatives	• High demand for low-cost nutrition, with dairy out of reach of many budgets
Scope of operations	The climate scenario analysis was focused on LIC's New Zealand operations. International factors were considered where material, such as consumables manufactured offshore or shipping of product sold to international markets.		
Dairy herd impact - critical assumption/ uncertainty	• 30% smaller dairy herd than 2020 by 2050	• 17% smaller dairy herd than 2020 by 2050	• 13% smaller dairy herd than 2020 by 2050

	Sharp Corrections	Slow Followers	Hothouse
Policy & Socioeconomic assumptions	• As the physical impacts of climate change become apparent, from 2030 governments around the world, including NZ, implement aggressive policies to curb emissions. • Dairy farmers are required to adopt methane-reducing technologies, and dairy herd sizes are required to reduce to meet methane caps. • From the 2030s stricter environmental policies on nitrogen limits, supplementary feeds, and fertilisers are enforced, while genetic modification regulations relax to allow novel climate solutions. • There is a significant shift in diets away from animal-based proteins toward readily available plant-based and lab-grown alternative proteins from the early 2030s and consumers are unable to access scale, affordable animal proteins following sharp action on methane.	• There is moderate ambition to decarbonise globally, with emissions peaking around 2040. The world is not on track to reach net zero this century and many countries remain reliant on fossil fuels to power their development. As it becomes clear that Paris Agreement targets will not be met, global policies diverge. • NZ climate policy lags global peers and NZ is perceived as a slow follower in the global fight against climate change. From 2050, international pressure gradually pushes NZ to prioritise emissions reductions. • Trade agreements are established between countries that are committed to transitioning to low-carbon economies and trade relationships are dominated by power blocs. • Dairy remains a key part of most global diets, albeit with plant-based and insect protein alternatives also available and by 2040 some novel alternatives emerging.	• Global government priorities change from sustainability to food and energy security, with Paris Agreement targets largely abandoned by 2035. While existing policies remain in place, at least in the near term, limited additional measures are enacted and proposed policies are placed on hold or substantially weakened. • Certain sustainability-related regulations are relaxed as a means of the government reducing pressures on farming communities. • Significant dietary change occurs as people become open to cheaper, new proteins (e.g. lab-grown dairy, insects, plant-based). Traditional dairy becomes a luxury. • From late 2030s, geopolitical tensions and hostilities rise in response to resource scarcity, leading to greater border controls and trade barriers. Heightened civil unrest and widespread conflicts occur in relation to immigration, resource allocation and water availability, disrupting supply chains.
Macro-economic trends	• Insurance and financing is increasingly only easily accessible for organisations that show strong sustainability credentials and climate resilience. • From 2030, there is strong demand from customers for dairy suppliers with aggressive emissions reductions targets and credible transition plans. • Agricultural emissions are now priced, leading to large-scale destocking as farmers struggle with the cost of capital and continuing operations.	• Financing and insurance are increasingly expensive and sometimes impossible to access for those exposed to high climate risks (like many dairy farms and companies) and/or not reducing emissions. • Customer demand is divided, with some developed country customers demanding dairy products with sustainability credentials while others prioritise functionality and cost.	• Insurance premiums continue to rise or insurance is increasingly hard to access; for some hard-hit areas, insurance is not available. Self-insurance becomes common. • While the demand for dairy protein continues to grow, there is a noticeable shift in focus from quality, sustainability, and traceability to quantity.

	Sharp Corrections	Slow Followers	Hothouse
Energy pathways	• Energy availability remains stable in NZ, with hydroelectric power levels adequate and increased investment in new technology. • The NZ Government disincentivises and in some cases prohibits the use of fossil fuels and accelerates policy to phase-out natural gas.	• In NZ, companies that chose to transition early despite little upfront incentive retain a relatively stable energy supply while those that did not face high costs and limited supply.	• There is a lack of coordinated international policy to support a net-zero transition, with fossil fuel resources continuing to be exploited. • Energy sector supply chains suffer disruption due to climate impacts and energy prices surge due to the continued global demand for fossil fuels and increasing capacity concerns at NZ's hydro stations, which are frequently affected by drought.
Carbon sequestration and afforestation	• The government prioritises carbon reduction through afforestation initiatives.	• Focus on emissions reductions leads to large areas of pine monocultures. Rushed and costly global push for more carbon capture and storage tech, though not really seen in NZ.	• Little use of carbon capture and storage globally due to cost. Pines continue to be planted for timber in New Zealand, but native forestry is not incentivised.
Nature based solutions	• Tougher resource consents for water, land, and farming on peatland were introduced, placing severe limits on dairying in some regions. • There is increased demand for nature-related credentials, biodiversity and nature-related reporting from the 2030s.	• There is limited emphasis on nature-based solutions in the dairy sector due to the reliance on fossil fuels and slower transition to sustainable development.	• Adaptation is the priority. • Tighter biosecurity controls are implemented to limit the influx of pests and diseases associated with warming.
Technology assumptions, including negative emissions technology	• Technology innovation to help dairy farmers optimise resource use and improve productivity are subsidised and supported by large food companies and public sector investment by 2030s, aiming to reduce on-farm emissions and keep dairy farms profitable at lower stocking rates. • Government and private sector investment in methane inhibitor development is limited in the 2020s, then increases rapidly from 2030 as the world's focus turns to methane. By 2040 methane inhibitors are cost effective and accessible to most farmers. • The government unlocks gene-editing policy and invests in R&D to develop climate-resilient crops and livestock, to be deployed on farm in the 2030s.	• From the 2030s food companies invest in precision agriculture technologies to help farmers optimise resource use and improve productivity in the face of increasingly challenging climactic conditions. There is limited government funding available for these technologies. • NZ R&D includes gene editing/modification and is focussed on breeding more resilient, regenerative pasture and dairy animals, particularly from the 2040s as climate impacts become more severe.	• New interest and investment in sustainable dairy farming dries up. Capital and resources are redirected into adaptation. • There is an increased focus on breeding to encourage growth and improve the climate resiliency of the national dairy herd, with a heavier use of steroids, antibiotics and genetic modification considered acceptable to maintain milk production. • Investments in on-farm research and technology continue, shifting from emissions reduction tools to climate resilience and adaptation interventions.

	Sharp Corrections	Slow Followers	Hothouse
Data sources for each scenario	Data sources for each scenario can be found at Appendix One		

Scenario analysis insights

LIC's analysis of climate-related risks and opportunities through building out impact pathways using drivers of change found varying degrees of impact on the co-op across the three scenarios and time horizons. The above narratives are intended to bring to life the critical uncertainties in how LIC's operating context could evolve over time under possible futures, by describing relevant narratives and comparing them across scenarios, with the most significant factor being the potential impact of climate change on the size of the national dairy herd.

While the scenarios are shaped by global and New Zealand scenario methods and assumptions, which make specific assumptions about how the context will evolve, they are still qualitative and exploratory in nature. Climate scenarios are not predictive, they are not forecasts, nor do they represent any preferred options. Rather, they test a broad range of plausible and challenging outcomes to generate useful insights on potential climate risks, threats and opportunities.

Our key findings in each scenario are as follows:

- In a Sharp Corrections scenario, LIC would be particularly exposed to transition risks given the scale and pace of change required to reduce emissions in the short to medium term, with the most significant outcome explored in the narrative for LIC being a 30% smaller dairy herd than 2020 by 2050.
- A Slow Followers scenario represents a more volatile and uncertain operating context for LIC, with a potential reduction in the dairy herd of 17% by 2050 (as compared to 2020). In this scenario, a slow approach by others to reduce emissions would mean the Co-operative's ability to maintain profitability in the face of transition changes would be challenging due to rapidly increased operating and capital costs, particularly as greater exposure to physical risks are experienced with higher global temperature increases by this point and beyond to 2100.
- In a Hothouse scenario, although the dairy herd may have had a smaller reduction by 2050 of 13% (as compared to 2020), LIC and dairy farmers would be particularly exposed to the physical risks of climate change by this point and beyond to 2100 given New Zealand's reliance on a stable, temperate climate for dairy farming. Unfavourable climate conditions under this scenario could challenge the productivity of our pasture-based system without significant farmer adaptation and our ability to access farms to provide critical services could be severely disrupted by major weather events.

We will continue to develop our climate scenario analysis to help inform strategy over time.

Climate-related risks and opportunities

LIC's material climate-related risks and opportunities and the anticipated impacts that we currently consider we can reasonably expect over time are detailed in Tables 4 and 5. Management used the insights from the above scenarios to update impact pathways specific to LIC and review the risks previously identified in FY24.

The anticipated impacts are described in qualitative terms and linked to a series of risk responses and/or mitigations.

The time horizons LIC considers for strategic planning and capital deployment and the time horizons that LIC used to assess its climate-related risks and opportunities are:

- Short-term – risk over the next 3 years to 2027/28, in line with LIC's three-year plan cycle
- Medium-term – risk within the horizon from 2028 to 2035
- Long-term – risk within the time horizon from 2036 to 2050 and beyond

Global population growth is a critical assumption in relation to the dairy sector, with an indirect potential impact on LIC products and services – growth in demand for dairy could reduce the risk of a decrease in NZ's cow population. Shared Socioeconomic Pathways[4] (SSP) developed for differing climate scenarios suggest that the global population could continue to grow until at least 2050 and, with increasing focus on healthy food options, the global demand for dairy will also likely increase, albeit with the risk of increasing demand for non-animal products.

Although we expect that the national dairy herd could continue to decline, LIC's products and services have become more important and relevant than ever to ensure that farmers can keep increasing productivity on farm with less cows, and those cows need to be more emissions efficient. We expect that demand for some LIC products and services will increase, such as animal health testing given the importance of animal welfare under nature-based principles and to ensure optimum, healthy efficient animals.

Climate-related risks - Table 4

Risk	Risk Description	Risk type	Time horizon	Anticipated impacts	Strategic mitigations
Government policy and regulations	Actions could be taken to constrain emissions-intensive activities, including: • de-stocking or land use regulation • farmgate emissions pricing • additional tax on emissions-heavy inputs (e.g. fuel)	Transition	Medium Long	• Reduction in cows or farmer profitability could lead to reduced LIC revenue • Potential for climate-related litigation as a result of climate activism • Increased costs related to compliance and farmgate emissions pricing	• Monitor regulatory change • Continue to participate in policy consultations • Continue to promote importance of herd improvement • Collaboration on R&D methane reduction programme • Taking action to reduce LIC's emissions, Farm Environment Plans for LIC farms

[4]SSP Database (Shared Socioeconomic Pathways) Scenario Explorer

Risk	Risk Description	Risk type	Time horizon	Anticipated impacts	Strategic mitigations
Innovation	Emerging technology and R&D to enable a lower-carbon industry creates a challenge to keep up with the rate of global change, risk that novel technology development fails to deliver or is not affordable to LIC	Transition	Medium Long	• Cost of adopting could reduce farmer profitability, which could lead to reduced LIC revenue • Risk of falling behind in innovation if LIC is not a fast follower • Potential for insufficient innovation to support achievement of aspirational climate targets and timeframes • Increasing technology costs, particularly in relation to rapidly growing data	• LIC continues to invest heavily in R&D and IT development • Monitor both NZ and global innovation progress • Work cooperatively on agricultural emissions reductions with others in the sector • LIC Strategy check-in during the reporting period - updates are centred around herd improvement
Market and reputation	Shifts in supply and demand as consumer preferences change, regardless of population growth, including increased use of non-animal products, market access and reputation risk if dairy farmers do not achieve emissions intensity reductions	Transition	Medium Long	• Reduction in farmer profitability could lead to reduced LIC revenue • Potential for carbon border adjustments could reduce farmer profitability, which could lead to reduced LIC revenue	• Working closely with milk processors to promote herd improvement importance • Continue to report sustainability performance and climate disclosures • R&D initiatives (eg breeding for methane reduction and heat tolerance)
Decrease in viability of dairy farms & sector	Potential for decrease in productivity and output of the dairy sector due to changes in mean rainfall and temperature, seasonality, weather extremes. Impact of heat stress or changes in the distribution of invasive species and diseases increasing animal health issues	Physical	Medium Long	• Early dry-off of cows due to drought can result in LIC service cancellations, such as herd testing • Reduction in number of cows, farmer profitability or cancelled services could lead to reduced LIC revenue • Increasing challenge for both LIC and farmers to secure financing and insurance, increase in cost • Serving remote areas where dairy is less viable in future may become unprofitable leading to reduced LIC revenue from those sources	• Continue to promote importance of herd improvement • R&D investment, including improving animal heat tolerance, and data integration investment • Taking action to reduce LIC's emissions • Continued review of crisis plans and annual crisis simulations • Continue to report sustainability performance and share with banking and insurance partners

Risk	Risk Description	Risk type	Time horizon	Anticipated impacts	Strategic mitigations
Supply chain and distribution disruption	Increasing frequency and severity of extreme weather events impacting LIC's supply chain, which may result in a major business disruption, increased operating costs and/or an inability to meet customer requirements	Physical	Medium Long	• Reduction in farmer profitability and/or disrupted services could lead to reduced LIC revenue • Flight cancellations during artificial insemination peak season would have a material NZ dairy sector impact • Increased shipping and airfreight costs of supplies and overseas distribution, challenges with getting international product to market on a timely basis	• LIC mitigates supplier risk where possible by advance ordering and delivery of critical consumables, at least a year in advance for inputs used in peak season products and services, supplies of back-up frozen semen straws • Crisis and business continuity planning
Road access, electricity and/or water supply disruption	Extreme weather events could result in more frequent and lengthy road closures, power outages and water supply, as well as potential restrictions due to drought	Physical	Medium Long	• Reduction in farmer profitability and/or disrupted services could lead to reduced LIC revenue • Lengthy road closures could impact time-critical on-farm services, particularly artificial insemination • Increased cost of electricity/water leading to higher overhead costs for LIC	• Installation of solar panels, together with battery systems, and generators to support continuation of critical services during and following extreme weather events • Crisis and business continuity planning
People	Health impacts for some LIC workers and in the dairy sector generally from exposure to more extreme weather, potential for increased heat stress	Physical	Medium Long	• Dairy sector may become less attractive to work in	• Heat stress risk included in health and safety policy and procedures for relevant business units • Continue sponsorship and support of sector, including dairy industry awards

LIC's material risks relate to the dairy sector and New Zealand, unless stated otherwise above.

Climate-related opportunities - Table 5

Opportunity	Opportunity description	Type	Time horizons	Anticipated impacts	Specific initiatives
The power of herd improvement	Increased use of premium genetics, DNA, animal health and milk testing by farmers to identify and maximise productive and healthy animals and reduce emissions intensity of dairy animals in the national herd. Potential for change in regulations in relation to gene editing and cloning to provide more R&D opportunity.	Transition	Short Medium Long	• The results some farmers are achieving show that if we continue to sharpen our focus on herd improvement, we can reduce intensity of emissions • Potential to increase LIC revenue to help offset reductions related to decrease in cow numbers	• Farmer shareholder engagement on how LIC can improve herd productivity and reduce emissions intensity • R&D initiatives, including current methane emissions reduction breeding programme in collaboration with CRV and Pāmu, with funding to date from the NZ Agricultural Greenhouse Gas Research Centre • Working closely with milk processors to promote herd improvement importance
Reduce use of natural mating bulls	Where dairy farmers increasingly solely use artificial breeding there is the opportunity to reduce the number of NZ natural mating bulls	Transition	Short Medium	• Reduced emissions from less natural mating bulls • Potential for LIC to increase sales, particularly through use of Short Gestation Length (SGL) product • Increased use of SGL will result in additional days of milk for farmers, which improves emissions intensity per kg of milk solids	• Farmer shareholder engagement on how LIC can improve herd productivity and reduce emissions intensity
Improve heat tolerance of dairy animals	Heat stress has significant welfare implications for animals. For dairy cows it can also impact feed intake, milk production, fertility, and calf birth weight. Introducing the 'slick' (heat tolerant) gene into the country's dairy herd could allow for a significant improvement in dairy cow heat tolerance in hotter temperatures over the long term	Physical	Medium Long	• Increased heat resilience of the national dairy herd over time • Potential for new LIC international sales in the longer-term	• R&D heat tolerant breeding initiative
Increase genetics inter-national sales	Where pastoral-based systems become more cost effective in other countries, NZ genetics can be seen as more attractive	Transition Physical	Short Medium Long	• Potential to increase LIC's proportion of international revenue	• Monitor international markets and work with our distributors on opportunities to increase genetics sales offshore

LIC's material opportunities relate to the dairy sector and New Zealand, unless stated otherwise above.

Transition planning

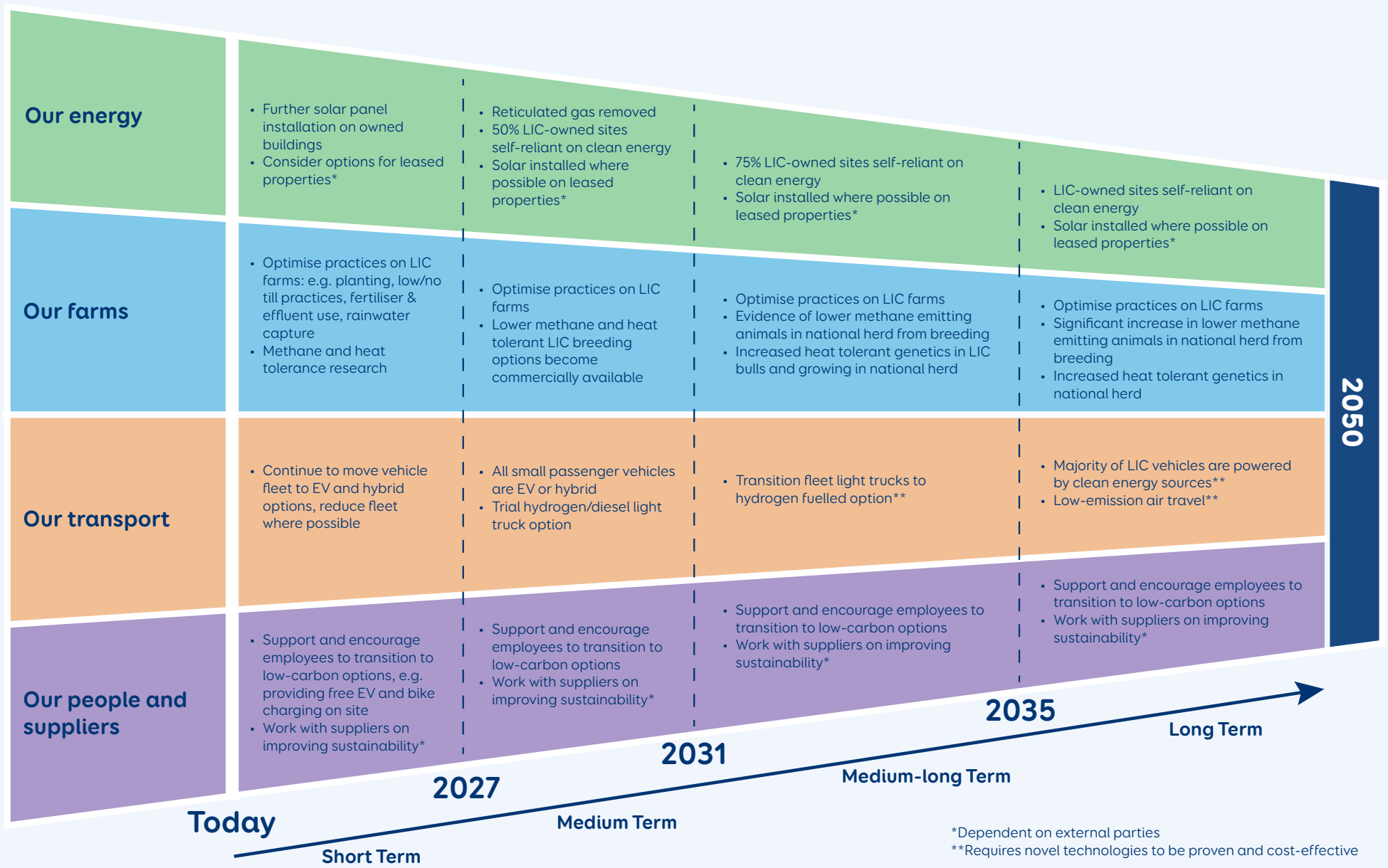
During the reporting period LIC has put a Transition Plan in place to record how LIC's business model and strategy will change to address its climate-related risks and opportunities. LIC's business model and strategy is not currently anticipated to change but aspects of how we will continue to implement our strategy to respond to the identified climate-related risks and opportunities will change as described in the summary of key aspects of that Transition Plan and progress made during the reporting period is included in Figure 4.

Material components of the transition plan out to 2050 are summarised in Figure 5. Decisions about capital deployment and funding for climate-related risk and opportunity initiatives (including those within the Transition Plan) are considered as part of the annual planning and budgeting process within each relevant business unit. Initiatives with a material one-off spend are considered by Investment Committee and Board where required under LIC's Delegated Authorities Policy. Refer to page 15 for more information of how this works in practice.

Key aspects of LIC's transition planning and progress during the reporting period (Figure 4):

Principles	Ambition	Action		Accountability	
Disclosure Elements	**Foundations**	**Implementation strategy**	**Engagement strategy**	**Metrics & targets**	**Governance**
Sub-elements	Board completed strategy check-in, resulting in increased focus on herd improvement to breed lower-emitting dairy cows, which is the most material contribution LIC can make to an economy-wide transition to a low emissions, climate-resilient future state and to address LIC's climate-related risks and opportunities	• Transition Plan, Environment & Sustainability Strategy and Energy Strategy are in place and have been shared internally with LIC employees • LIC's dairy farm and bull farms have Farm Environment Plans • Refer to Figure 5 for material actions planned out to 2050	Engagement with: • Milk processors and farmers on herd improvement opportunities • Sector scenario analysis • Suppliers on improving sustainability • Employees - education, regular newsletters, annual survey and options to engage	• Scope 1 & 2 GHG emissions reduction targets were reset out to 2035	• Regular Environment reporting to Board is in place • Climate disclosure reporting sessions held with new directors • Transition planning and GHG target setting presentations to Board

LIC's transition to low-carbon future timeframe - material actions (Figure 5):



*Dependent on external parties
**Requires novel technologies to be proven and cost-effective

Risk Management

As a pasture-based dairy co-operative, the importance of identifying and managing impacts of weather patterns that have the potential to drive financial and strategic impacts on our business has long been part of our business practices. Regular assessment of potential impacts of climate-related risk is part of our forecasting quarterly, or as needed, as well as during annual business continuity plan reviews for assessing available resilience options for our business.

Refer to the Strategy section for detail on the scenario analysis process and the time horizons LIC considers for strategic planning and to assess its climate-related risks and opportunities.

The AFRC, on behalf of the Board, is responsible for ensuring that management has established a risk management framework that includes policies and procedures to effectively identify, mitigate and monitor key enterprise risks. The AFRC regularly reviews LIC's key enterprise risks and receives risk updates at AFRC meetings. Risk owners review risks at least annually to check that they are still relevant, appropriately risk-assessed and to review the control and mitigations in place.

LIC's Risk Management Policy sets our approach to risk management. LIC is committed to a proactive approach to the identification, quantification and management of risk and has implemented a structured risk management framework to assist management and the Board to identify, manage and mitigate key enterprise-wide risks. Once identified, risks are captured in an online tool, assessed using a combination of the likelihood and consequence of the risk occurring and controls and key risk indicators identified. Risks are reviewed and controls self-assessed at least annually, or as needed, and internal audit reviews are completed on key controls on a rotating basis over time. LIC also has a separate Legislative Compliance Policy under which potential and actual legislation and regulation changes are monitored and changes material to LIC are reported to AFRC at least annually.

In 2023, we used the National Climate Change Risk Assessment for Aotearoa New Zealand[5] to identify the most material physical climate risks relevant to LIC. We also considered the climate-related transitional risks as defined in NZ CS 3. We cross-referenced those risks to LIC's risk register and identified any gaps where risks needed to be added to the register. Most of the risks were found to already be covered within existing risks. Climate transition or physical risk was added as a sub-category to those risks to be able to separately report on climate-related risks from the risk register. LIC also has a separate health & safety risk register, which includes people-specific climate-related health risks for sub-business unit areas, such as the risk of heat stress.

The Board endorsed that climate risk would be a sub-category risk in LIC's risk management tool as it impacts more than one of LIC's key risk areas, enabling risk appetite for the different types of climate risk to continue be set for those over-arching key risk categories. All categories of risks are considered equally and using a sub-category for climate-related risks means the appropriate risk appetite for an overall risk category can be consistently applied to different types of climate-related risk.

As part of the scenario analysis process, high level impact pathways developed in relation to climate-related physical and transition risks helped to identify potential impacts and opportunities specific to LIC. No material parts of the value chain were specifically excluded for the purposes of scenario analysis and the identification of climate-related risks and opportunities.

LIC runs a crisis simulation exercise at least annually and scenarios have included major weather events or power outages materially affecting our operations. The results of these exercises are reported to AFRC and help further assess the potential impacts and/or support proactive changes to strengthen resilience.

Global megatrends and emerging risks are monitored on an ongoing basis by management and the Risk & Assurance team, reported to the Board and AFRC and are used to review key risks identified.

Further detail on the components of LIC's risk framework is outlined in Table 6, including how climate-related risk is integrated into the components.

[5]National climate change risk assessment for New Zealand - Main report | Ministry for the Environment

Integration of climate risk within LIC's risk management framework - Table 6

LIC Strategy	LIC's strategic direction is set by the Board and implemented by the SLT, including consideration and management of climate-related risks and opportunities.
Risk Management Policy	LIC's Risk Management Policy sets our approach to risk management and risk appetite settings across ten key categories: Health & Safety, Disruption to Product or Service, Brand Damage, Compliance Risk, Financial Risk, Bio-Security & Animal Health, Market Disruption, Strategic Risk, People & Capability and Information Security Risk. Climate-related risks are a sub-category across these categories. This policy is reviewed at least every two years and was reviewed within this reporting period.
Risk Appetite	The Board sets risk appetite for LIC's key risk categories, enabling risk appetite in relation to different types of climate-related risk to still be set based on the overall category of risk. For example, LIC's Board has set a low-risk appetite for Compliance risk, which includes non-compliance with climate and environment related legislation and regulation. Disruption to Product or Service risk appetite is set for low risk during LIC's Artificial Breeding peak season, which includes disruption from weather events, resulting in concentrated crisis and business continuity planning for a potential event during peak season.
Risk management tools	LIC uses a digital tool to manage risk and internal audit points. Climate-related physical and transition risk are used as risk sub-categories. Another digital tool is used for managing health & safety and environment regulation compliance risk, including heat stress risk, and our environmental aspects register is also being transferred to this tool. Controls and actions resulting from reviews, audits or events are also tracked in these tools. Critical LIC processes are documented in a Business Impact Assessment, LIC has a crisis management framework, runs at least annual crisis simulations and all business units have business continuity plans and health & safety plans. Risks are updated for any known changes or reviewed at least annually.
Risk assessment and prioritisation	Each risk is assessed using a combination of the likelihood and consequence of the risk occurring under a risk matrix framework. The combination of likelihood and consequence results in a low, medium, high or extreme risk rating. An assessment is done for both the inherent risk and the residual risk after taking into account controls and mitigations. The residual risk rating is then compared to the category risk appetite.
Business processes	Risk management updates are provided to SLT and AFRC on a regular basis, including any risk categories outside of risk appetite or key risk indicators outside of limits, as well as corresponding actions being taken. Risk environment monitoring is included in forecasting and budgeting processes and reported to the Board as part of those processes.

Metrics and Targets

The following section presents LIC's metrics and targets. No specific industry-based metrics or other key performance indicators were used in relation to setting GHG targets or to otherwise measure and manage climate-related risks and opportunities. For the prior year, the New Zealand Government Climate Change Response Act (2002) 2030 methane reduction target was used to set a biogenic methane reduction target.

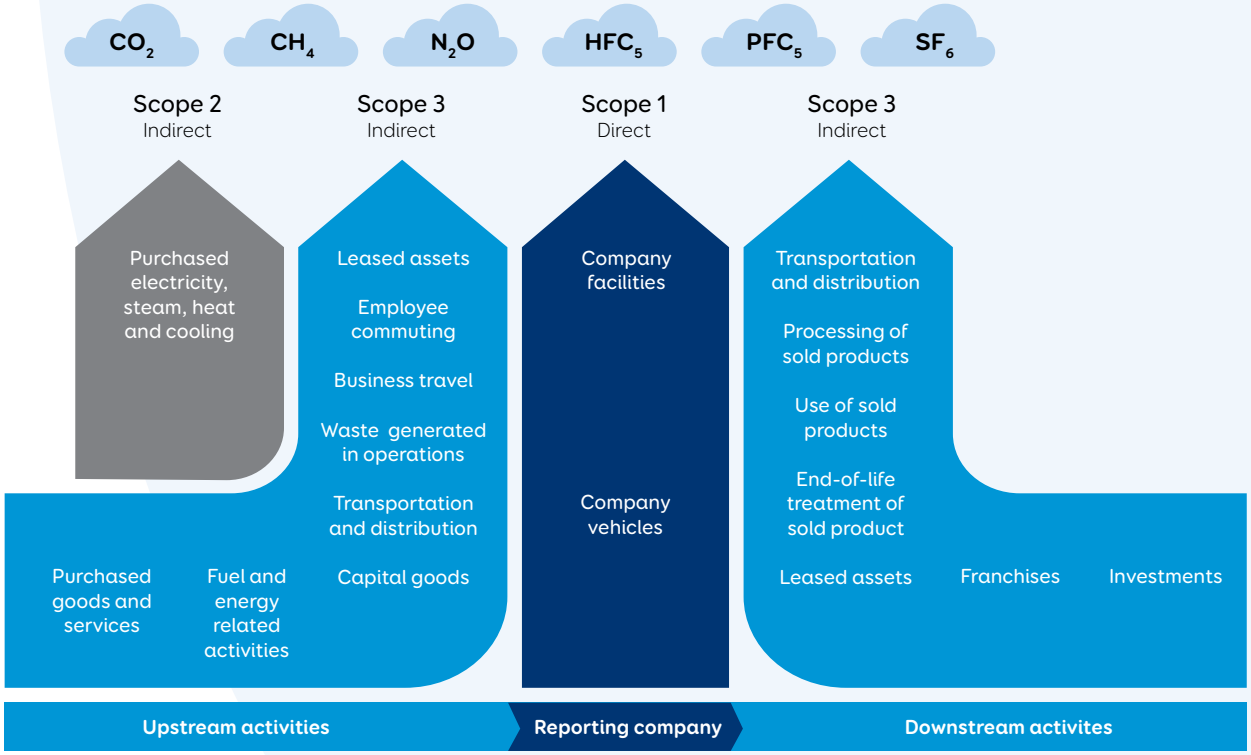
All other metrics and targets are set out in Table 9 below.

LIC uses the GHG Protocol's categorisation of Scopes and Categories (Figure 6) and we measure our Scope 1 and 2 emissions using an operational control approach.

We have measured and reported on LIC's GHG emissions since setting a baseline of the 2018/19 financial year (base year) and follow the principles of 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 measured in accordance with The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (revised edition); and
- Scope 2 emissions have been measured in accordance with The Greenhouse Gas Protocol: GHG Protocol Scope 2 Guidance: An amendment to the GHG Protocol Corporate Standard.

Figure 6



To compile GHG data we use Toitū Envirocare's external carbon calculator. Toitū's calculator provides updates of GHG emission factors as well as online guidance and support.

During the reporting period, LIC's GHG emissions absolute reduction targets were reviewed by management and approved by the Board.

While we have been working hard on reducing emissions (see our progress as set out in table 8 below), the targets previously set were not achievable given challenges with sufficient novel technology not being available to achieve the targeted emissions reduction. Our original targets were based on the assumption that certain novel technologies would become available in the short to medium term and would be cost-effective, enabling LIC to reduce its emissions. However, these technologies are now unlikely to be available within the necessary timeframe or timing and cost of availability is uncertain.

The previous targets set also did not reflect the measures required in order to proceed with LIC's unique opportunity to assist the New Zealand dairy sector to reduce methane emissions intensity through genetic improvement R&D. This opportunity has resulted in LIC increasing our trial animals and, accordingly, our Scope 1 biogenic emissions for a period to conduct R&D. This is done to help drive long-term reduction in methane emissions intensity for the New Zealand dairy sector. LIC may also potentially need to hold a higher level of bulls over time if there is a significant reduction in natural mating bulls across the dairy sector, which could result in higher emissions for LIC but a lower level of methane emissions across the dairy sector through breeding for lower-emitting cows.

The updated targets below apply for the entire current reporting period, do not include any assumption for offsetting of emissions and, although SBTi methodology has been considered, have not been accredited by SBTi.

GHG emissions - absolute reduction targets	Updated target to 2035 (% below base 2018/19 year)	Previous target to 2030 (% below base 2018/19 year)	Basis for determination of target contribution to limiting global warming to 1.5°C
Scope 1 - Direct emissions, excluding biogenic emissions and emissions related to animals	36.8%	46.2%	The previous target was recalculated to 2035 using SBTi methodology* (resulting in 67.2%), then adjusted to exclude reductions we had assumed would be achievable based on the development of novel technology, because it is too uncertain as to whether such technology will be feasible or cost-effective (e.g. hydrogen fuel in rural areas) to enable LIC to achieve the previous target.
Scope 2 - Indirect emissions	46.2%	46.2%	The previous target was recalculated to 2035 using SBTi methodology* (resulting in 67.2%), then adjusted to exclude reductions we had assumed would be achievable through installing solar panels on leased properties, because it is too uncertain whether lease-owners will do this. Although not factored into the new target, we also note that year-to-year LIC's Scope 2 emissions could be subject to volatility related to the energy emissions factor.
Scope 1 - Direct biogenic emissions	No target	10%	The previous target was based on NZ Government target, section 5Q(1)(b)(i) Climate Change Response Act 2002 (target for 2030). This target has been withdrawn as LIC may need to hold additional animals to support reduction of emissions across the NZ dairy herd.

**SBTi methodology has been used as a key input to the basis for our determination of targets contributing to limiting global warming to 1.5°C as it provides a framework for setting emissions reduction targets aligned with climate science and the aim of limiting warming to 1.5°C above industrial levels.*

How our targets contribute to limiting global warming to 1.5°C

LIC considers that we will contribute proportionately to the efforts to limit the global average temperature increase to 1.5°C above pre-industrial levels collectively through:

- LIC's own GHG emissions absolute reduction targets which have been calculated to the extent currently achievable based on adjustments to SBTi methodology for Scope 1 and 2; and
- LIC's contribution to reducing methane emissions intensity in the national dairy herd through assisting dairy farmers and supporting milk processors to breed for the future herd now, using the best tools, insights and genetics, including breeding for lower methane emitting bulls and cows and reducing the demand for natural mating bulls.

Note that LIC has not sought third party verification or opinion in relation to the above statement and is not relying on carbon offsets to contribute proportionately.

Scope 1 & 2 GHG emissions

LIC uses the operational control approach to define emissions from Scope 1 and 2, including transportation, stationary combustion, agricultural emissions, onsite wastewater treatment, and energy. LIC has used an absolute approach over intensity-based emissions. We note that 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.

GHG emissions detail - table 7

Category and Source	2018/19 Base year tCO_2-e	2023/24 tCO_2-e	2024/25* tCO_2-e	Change from Base year to 2024/25 tCO_2-e	Change from Base year to 2024/25 %	Change from 2023/24 to 2024/25 tCO_2-e	Change from 2023/24 to 2024/25 %
Scope 1 - Direct emissions**							
Transport Fuel	3,324.0	2,668.2	2,593.6	-730.4	-22.0%	-74.6	-2.8%
Diesel & gas stationary combustion	175.1	188.4	180.8	5.7	3.2%	-7.6	-4.0%
Agricultural emissions***	312.4	390.1	323.4	11.0	3.6%	-66.7	-17.1%
Total Scope 1 - Direct emissions**	**3,811.5**	**3,246.7**	**3,097.8**	**-713.7**	**-18.7%**	**-148.9**	**-4.6%**
Scope 1 - Direct biogenic emissions							
Agricultural emissions****	3,920.3	4,010.9	3,689.9	-230.4	-5.9%	-321.0	-8.0%
Wastewater treatment	1.6	1.0	1.6	0.0	1.9%	0.6	63.1%
Total Scope 1 - Direct biogenic emissions	**3,921.9**	**4,011.9**	**3,691.5**	**-230.4**	**-5.9%**	**-320.4**	**-8.0%**
Scope 2 - Indirect emissions							
Electricity (location-based)	377.1	218.3	295.0	-82.1	-21.8%	76.7	35.1%
Total Scope 2 - Indirect emissions	**377.1**	**218.3**	**295.0**	**-82.1**	**-21.8%**	**76.7**	**35.1%**
Total Scope 1 & 2 emissions - tCO_2-e	**8,110.5**	**7,476.9**	**7,084.3**	**-1,026.2**	**-12.7%**	**-392.6**	**-5.3%**

* Only data for 2024/25 has been within the scope of limited assurance
** Excluding biogenic emissions and other agricultural emissions relating to animals
*** Emissions relating to crops, fertiliser use, and indirect N_2O emissions
**** Emissions relating to effluent, excreta, and enteric fermentation

Emission exclusions

Our focus has been on accurately reporting the emissions directly associated with our operations and activities, as well as those emissions that occur upstream and downstream of our value chain where we have significant influence. LIC has not yet materially established our full value chain. Accordingly, LIC has adopted NZ CS 2 adoption exemption provisions 4 and 8 in relation to Scope 3 emissions disclosure and assurance.

Scope 1 and 2 emission exclusions are detailed below:

GHG emissions source or sink	GHG emissions category	Reason for exclusion
Refrigeration Gases	Scope 1: Direct emissions	LIC used the Ministry for the Environment screening method[6] to calculate an estimate and determined that R-gases are below the de minimis threshold under Ministry for the Environment guidance material[6]. LIC will include in future if actual data becomes available or estimated R-gases exceed the de minimis threshold.
LPG gas BBQ bottles	Scope 1: Direct emissions	LIC has a few 9kg LPG BBQ cylinders on site. These are excluded from the inventory as they are below the de minimis threshold under Ministry for the Environment guidance material[6].
LIC international subsidiaries - all emissions	All categories	LIC excluded international site data from the GHG inventory report as emissions data is not readily available. A significance assessment has been completed which indicated that the emissions are not currently material. LIC will continue to conduct significance screening and intends to source data in future where possible.

[6]Measuring emissions: A guide for organisations: 2025 detailed guide | Ministry for the Environment

Overall performance against updated GHG emissions reduction targets

In the 2024/25 reporting year, LIC has reduced our Scope 1 emissions (excluding biogenic emissions) by 18.7% against our 2018/19 base year. This reduction is better than our projected 13.8% reduction required for this reporting year to meet our 2035 target of 36.8% Scope 1 reduction and includes no offsets.

Our Scope 2 emissions reduced by 21.8% from our 2018/19 base year. This reduction is better than our projected 17.3% reduction required this year to keep us on track to meet our 2035 target of 46.2% Scope 2 reduction and includes no offsets. Electricity emissions increases compared to 2023/24 related to the change in the NZ energy emission factor, which increased by 38.7% in the reporting year. LIC's overall electricity consumption reduced in the 2024/25 reporting year.

Our Scope 1 biogenic emissions decreased by 5.9% against our 2018/19 base year. The previous target set in relation to biogenic emissions has been withdrawn and no new target has been set based on LIC's role in assisting the dairy sector to reduce emissions intensity in the national dairy herd where increases could result from a higher level of bulls and/or trial animals for climate-related initiatives, including breeding for reduced methane emissions in the national dairy herd.

GHG emissions performance against target for 2024/25 and for prior period restated for updated targets - table 8

GHG Emissions	Baseline period	Target date	Type of target	2024/25 performance tCO_2e*	2024/25 performance % below base year	Expected annual reduction 2024/25 %***	Target 2024/25 tCO_2e
Scope 1 - Direct emissions**	2018/19 season	2035	Absolute	3,097.8	-18.7%	-13.8%	3,285.5
Scope 2 - Indirect emissions	2018/19 season	2035	Absolute	295.0	-21.8%	-17.3%	311.8

* Only data for 2024/25 has been within the scope of limited assurance
** Excluding biogenic emissions and other agricultural emissions relating to animals
*** Annual reduction required based on linear allocation of target to 2035

GHG Emissions	Baseline period	Target date	Type of target	2023/24 performance tCO_2e	2023/24 performance % below base year	Expected annual reduction 2024/25 %***	Target 2024/25 tCO_2e
Scope 1 - Direct emissions**	2018/19 season	2035	Absolute	3,246.7	-14.8%	-11.5%	3,373.2
Scope 2 - Indirect emissions	2018/19 season	2035	Absolute	218.3	-42.1%	-14.4%	322.8

** Excluding biogenic emissions and other agricultural emissions relating to animals
*** Annual reduction required based on linear allocation of target to 2035

LIC's Scope 1 – Direct emissions are largely derived from transportation fuel from the company's fleet (FY25: 84%, FY24: 82%) and on-farm agricultural emissions (FY25: 10%, FY24: 12%). Much work has been done to reduce transport emissions by continuing to electrify our fleet. The purchase of Tauwhare Farm in 2019 has meant we have increased our fertiliser use since the 2018/19 base year. However, ongoing fertiliser management routines have seen a decrease in emissions since the 2019/20 reporting year to 2024/25 of 41.5% (FY24: 13.1%).

The 2018/19 Scope 1 direct emissions base year and 2023/24 have been restated to more appropriately re-categorise effluent and excreta N_2O from Scope 1 direct emissions to Scope 1 direct biogenic emissions and the presentation of the individual types of emissions consolidated. The overall total Scope 1 emissions for 2018/19 and 2023/24 are unchanged.

In the 2023/24 Climate Statements we disclosed that Liquid Nitrogen emissions were excluded emissions as previously there has not been an emission factor for this source in the New Zealand Ministry for the Environment guidance. During the current reporting period emissions relating to Liquid Nitrogen were considered, with the conclusion that LIC's use of inert Liquid Nitrogen falls under Scope 3 emissions, so are not required to be included in Scope 1 emissions.

Refer to Appendix Two for further information on LIC's GHG emissions methods, assumptions and estimation uncertainty.

Other Climate-related metrics - table 9

Required metrics	2024/25 Metrics	2023/24 Metrics	Target	Comments
GHG emissions intensity	24.0 tonnes of Scope 1 & 2 CO_2 emissions per NZD million revenue	28.0 tonnes of Scope 1 & 2 CO_2 emissions per NZD million revenue	N/A	Revenue is considered to be the most appropriate intensity metric for LIC and emissions intensity has improved year-on-year with revenue increasing at the same time as emissions decreasing. For comparison, the Base year emissions intensity was 32.9 tonnes of Scope 1 & 2 CO_2 emissions per NZD million revenue.
$ or % of assets/ business activity vulnerable to transition risks	30% of business activity due to smaller dairy herd risk	30% of business activity due to smaller dairy herd risk	N/A	From 2021 modelling by the Climate Change Commission – Tailwinds scenario dataset. There is a high level of uncertainty in this metric related to potential future dairy animal destocking regulation.
$ or % of assets/ business activity vulnerable to physical risks	47% of business activity	46% of business activity	N/A	This is the percentage of 2024/25 product/service revenue representing business activity that could be impacted by LIC not being able to access farms on a timely basis to perform services; not a material change year-on-year. There is a high level of uncertainty in this metric related to the proportion of business activity that could be impacted by future material climate events and dependent on timing of material climate events.
$ or % of assets/ business activity aligned with climate-related opportunities	32% of business activity	31% of business activity	N/A	This is the percentage of 2024/25 product/service revenue that is considered to be linked to climate-related opportunities; not a material change year-on-year. There is a high level of uncertainty in this metric related to potential changes in dairy farmer purchasing activity and outcomes of current and future R&D on climate-related opportunities.
$ Capital funding climate-related risks/opportunities	$2.2 million	$0.9 million	N/A	Capitalised spend during the reporting period on climate-related risks/opportunities, with the largest spend for 2024/25 relating to build of a barn to use for measuring methane from lactating cows.

Required metrics	2024/25 Metrics	2023/24 Metrics	Target	Comments
Internal emissions price	$68 per 1 tonne CO_2-e (or CH_4 for Biogenic Methane converted to CO_2-e)	$80.64 per 1 tonne CO2-e (or CH_4 for Biogenic Methane converted to CO_2-e)	N/A	This was set for the year ended 31 May 2025 based on the 2024 ETS Auction Price Floor (ie the prescribed minimum price for auctions of New Zealand units in the Emissions Trading Scheme to clear) under the Climate Change (Auctions, Limits and Price Controls for Units) Regulations 2020 (in force as at 1 January 2025) and will be updated annually. Although no auctions have cleared for some time, LIC considers this is the most easily accessible public information as LIC does not directly purchase offsets. The internal emissions price is only required to be used in our decision-making if there is expected to be more than 10 tonne CO_2-e annual impact with respect to the decision. In the previous period the ETS Trigger Pricing for the release of reserve units into auctions of New Zealand units in the Emissions Trading Scheme was used as a base, which is no longer closely correlated to prior clearing prices.
Management remuneration linked to climate-related risks/ opportunities	Not specifically linked/ no specific KPIs, strategic initiatives include climate-related risks/opportunities, achievement of which are part of management objectives broadly	Not specifically linked/ no specific KPIs, strategic initiatives include climate-related risks/opportunities, achievement of which are part of management objectives broadly	N/A	N/A
Industry/other metrics	**2024/25 Metrics**	**2023/24 Metrics**	**Target**	**Comments**
Bull team genetic gain - LIC metric	34.6%	34.0%	34.4% (current year, FY24: 31.7%)	3-year rolling average rate of increase in the genomic Breeding Worth[7] (gBW) of the Premier Sires bull teams to exceed the 10 year historical average rate of increase by 20%
% change in cows - Industry metric	0.57% increase to 4.70 million cows (2023/24 vs 2022/23)	3.46% decrease to 4.67 million cows (2022/23 vs 2021/22)	N/A	Source: New Zealand Dairy Statistics 2023-24
Milk production efficiency - rolling three-year average kilogram milk solids per cow - Industry metric	0.3% increase to 395.6 per cow from 394.5 (three-year rolling average to 2023/24 vs average to 2022/23)	1.3% increase to 394.5 per cow from 389.4 (three-year rolling average to 2022/23 vs average to 2021/22)	N/A	Source: New Zealand Dairy Statistics 2023-24

[7]Genomic records, ancestry information and technology allow us to accurately identify elite bulls at a young age by way of a calculated genomic Breeding Worth so we can start using those animals to breed the next generation of cows sooner. The use of genomics in our breeding programme means we can reduce the generation interval from five years to two.

Independent assurance

We have engaged KPMG to undertake limited assurance over Scope 1 and 2 GHG emissions for FY25. The limited assurance conclusion provided by KPMG is included at Appendix Three.

Appendix One

Climate Scenario Archetypes - the extent to which LIC's scenarios rely on the various external scenario archetypes

	Sharp Corrections	Slow Followers	Hothouse
Intergovernmental Panel on Climate Change (IPCC)	IPCC RCPs and SSPs provide a basis for global scenarios and pathways such as global socioeconomics. The SSP-RCP scenarios combine baseline socio-economic narratives (the SSPs) with different emissions trajectories (based on the RCPs). Based on IPCC Assessment Reports 5 and 6.		
• Representative Concentration Pathways (RCP)	RCP 1.9	RCP 4.5	RCP 7.0
	Relied upon for global emissions trajectories and level of global warming (in conjunction with SSPs).		
• Shared Socioeconomic Pathways (SSP)	SSP 1; Sustainability - Taking the green road	SSP 2; Middle of the Road	SSP 3; Regional Rivalry
	Relied upon for global socioeconomic narratives including global GDP, population, technological change and consumption patterns.		
Network for Greening the Financial System (NGFS)	Short term: Sudden wakeup call Long term: Net Zero 2050	Short term: Low policy ambition Long term: Fragmented world	Short term: Diverging realities Long term: Current Policies
	Relied upon for understanding how economies may evolve under different assumptions. Use of both short- and long-term scenarios allowed for better assumptions to be drawn from and provide validity at various time horizons.		
Shared Policy Assumptions for New Zealand (SPANZ)	100% Smart	Kicking & Screaming	Unspecific Pacific
	Relied upon for specific New Zealand related assumptions, drawing from SSP and RCP assumptions. Used to describe potential mitigation and adaptation policies for New Zealand.		
New Zealand Climate Change Commission (CCC) 2021 datasets	Further Behaviour Change, Tailwinds	Headwinds	Current Policy Reference
	Relied upon for data specifically relating to each scenario, particularly dairy herd % change.		

	Sharp Corrections	Slow Followers	Hothouse
Global Temp Increase[1] Best estimate relative to pre-industrial levels by 2100	1.5°C	2.7°C	3.6°C
NZ Population increase[2] For 2073 relative to 2022	30%	38%	53%
NZ Carbon Price[3] For 2070, per tonne	$557	$369	$35[5]
NZ emissions[5] For 2050 relative to 2005	20 $MtCO_2$-e	24 $MtCO_2$-e	40 $MtCO_2$-e
Electricity from renewable sources[5] By 2050	96%	96%	92%
NZ sea level rise[6] For 2050 relative to 2005	0.20m	0.22m	0.32m
NZ extreme rainfall[4] For 2100 relative to 1986-2005 baseline	+13%	+25%	+30%
NZ extreme heat (>30°C)[4] For 2100 relative to 1986-2005 baseline	+7 days	+16 days	+28 days
NZ native forestry[5] For 2050 relative to 2005	0.8Mha	0.5Mha	0.2Mha
NZ potential evapotranspiration deficit[4] For 2100 relative to 1986-2005 baseline	103mm	165mm	223mm

Data Sources:
1. IIASA SSP (Shared Socioeconomic Pathways) Database SSP1-1.9, SSP2-4.5, SSP3-7.0.
2. Stats NZ, National population projections: 2022(base)-2073, 95th percentile, 75th percentile, 50th percentile.
3. Treasury New Zealand, (2023), Central projection, High projection.
4. Ministry for the Environment, NIWA (2024) Aotearoa New Zealand Climate Projections.
5. He Pou a Rangi, Climate Change Commission. (2021). Scenarios dataset for the Commission's 2021 Final Advice (output from ENZ model). Further Behaviour Change, Tailwinds, Headwinds and Current Policy Reference
6. Ministry for the Environment (2024) Coastal hazards and climate change guidance

Appendix Two

GHG emissions methods, assumptions and estimation uncertainty

LIC uses an operational control consolidation approach to account for emissions. Organisational boundaries were set with reference to the methodology described in the GHG Protocol. The GHG protocol allows two distinct approaches to consolidate GHG emissions: equity share or control approaches (financial or operations). LIC has opted to disclose our GHG emissions using the operational control consolidation approach for our New Zealand operations for Scopes 1 and 2 of our GHG inventory. The operational control consolidation approach was chosen as LIC recognises that all our operations may have a direct impact on the environment. LIC has excluded the following business entities from our GHG inventory:

- Ireland
- Australia; and
- UK.

LIC excluded international site data from the GHG inventory report as emissions data is not readily available. A significance assessment has been completed which indicated that the emissions are not currently material.

A calculation methodology has been used for quantifying the emissions inventory based on the following calculation approach unless otherwise stated below:

Emissions = activity data x emissions factor

LIC uses actual data to calculate GHG emissions provided by service providers unless otherwise stated in the following table. Emissions were calculated using Toitū emanage, OverseerFM and LIC scientists using IPCC Global Warming Potentials (GWP). Toitū updated their emission factors on 26 May 2025 with the updated national emission factors used for greenhouse gas inventories in Aotearoa New Zealand released by the Ministry for the Environment 16 May 2025. The updated emissions factors were applied to LIC's data within Toitū's emanage software prior to this reporting years inventory being compiled.

LIC has systems and procedures in place that will ensure applied quantification methodologies will continue in future GHG emissions inventories, or that material changes will be managed and disclosed.

GHG emissions Scope	GHG emissions source or sink subcategory	GHG emissions included	Explanation of uncertainties or assumptions around your data and evidence	Emission factor source detail and Global Warming Potential (GWP)
Scope 1: Direct emissions and removals	Diesel & Gas stationary combustion	LPG stationary commercial, Natural Gas distributed commercial, Diesel stationary combustion	Data sourced from supplier invoices and spreadsheets of actual use. Missing some data occasionally from unavailable emails/ invoices misfiled. When that has occurred data average for the period is used for that month. Data set is materially complete. Estimates of diesel fuel in the generators. No reporting on top-ups. Fuel use determined using formula 75% power 1 hour run time per month *12 months per year *L/hr based off specification sheets for each generator. Data set not complete.	Calculated in emanage using New Zealand Ministry for the Environment Measuring emissions: A guide for organisations: 2025 Emission factors workbook. IPCC AR5[8]

[8]www.ipcc.ch/assessment-report/ar5/

GHG emissions Scope	GHG emissions source or sink subcategory	GHG emissions included	Explanation of uncertainties or assumptions around your data and evidence	Emission factor source detail and Global Warming Potential (GWP)
Scope 1: Direct emissions and removals	Transport fuel	Diesel, Petrol premium, Petrol regular	Rely on Levno, SG Fleet, and Toyota data. LIC's policy is that fuel cards can only be used to purchase fuel, (unless a remote location without our preferred provider) and as such we have good reporting on fuel litres purchased. Data set is complete.	Calculated in emanage using New Zealand Ministry for the Environment Measuring emissions: A guide for organisations: 2025 Emission factors workbook. IPCC AR5[8]
Scope 1: Direct emissions and removals	Agricultural emissions	Fertiliser dissolution, and fertiliser N_2O	Farm data is determined using stocking rates, fertiliser applications, feed etc. Ravensdown enters data into Overseer. Human error when transferring data can lead to miscalculations. Data set is complete.	Data is published from OverseerFM into Toitū my farms and then downloaded and entered into the emanage software as precalculated emissions. Emissions from animals not in OverseerFM are determined by an LIC scientist using internal methodology (from IPCC fourth assessment report AR4[9]), so may have a higher level of uncertainty.
Scope 1: Direct/ direct biogenic emissions and removals	Agricultural emissions	Crop N_2O, and indirect N_2O emissions	Farm data is determined using stocking rates, fertiliser applications, feed etc. Ravensdown enters data into Overseer. Human error when transferring data can lead to miscalculations. Data set is complete.	Data is published from OverseerFM into Toitū my farms and then downloaded and entered into the emanage software as precalculated emissions. Emissions from animals not in OverseerFM are determined by an LIC scientist using internal methodology (from IPCC fourth assessment report AR4[9]), so may have a higher level of uncertainty.
Scope 1: Direct biogenic emissions and removals	Wastewater treatment	Wastewater for treatment plants (average)	Assume that water samples taken monthly are accurate and that the water meters are functioning correctly. The system is maintained regularly. Data set is complete.	Calculated in emanage using New Zealand Ministry for the Environment Measuring emissions: A guide for organisations: 2025 Emission factors workbook. IPCC AR5[8]

[9]www.ipcc.ch/assessment-report/ar4/

GHG emissions Scope	GHG emissions source or sink subcategory	GHG emissions included	Explanation of uncertainties or assumptions around your data and evidence	Emission factor source detail and Global Warming Potential (GWP)
Scope 1: Direct biogenic emissions and removals	Agricultural emissions	Effluent methane and excreta methane, Effluent N_2O, excreta N_2O, Enteric fermentation methane	Farm data is determined using stocking rates, fertiliser applications, feed etc. Ravensdown enters data into Overseer. Human error when transferring data can lead to miscalculations. Data set is complete.	Data is published from OverseerFM into Toitū my farms and then downloaded and entered into the emanage software as precalculated emissions. Emissions from animals not in OverseerFM are determined by an LIC Scientist using internal methodology (from IPCC fourth assessment report AR4[9]), so may have a higher level of uncertainty.
Overall assessment of uncertainty for Scope 1 emissions and removals*		Medium		
Scope 2: Indirect emissions from imported energy	Electricity	Electricity	Assume that supplier invoices and provided spreadsheets are correct. Calculated using the location-based method. The market-based method is not materially different: 250 tCO_2 vs 295.1 (FY24: 219.2 tCO_2 emissions vs 218.3). Averages were used to calculate four sites where a minor number of invoices were missing. All other data was complete.	Calculated in emanage using New Zealand Ministry for the Environment Measuring emissions: A guide for organisations: 2025 Emission factors workbook. IPCC AR5[8]
Overall assessment of uncertainty for Scope 2 emissions and removals*		Low		

* Uncertainties are determined by emission factor uncertainties and overall data quality calculated in emanage:
- Low uncertainty - high quality complete data set and low to medium emission factor uncertainty
- Medium uncertainty - data set incomplete, some estimation required and medium emission factor uncertainty
- High uncertainty - large use of estimated data and medium to high emission factor uncertainty.

Appendix Three

Independent assurance report

Independent Limited Assurance Report to Livestock Improvement Corporation

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 scope 1 and 2 gross greenhouse gas emissions, additional required disclosures and methods, assumptions and estimation uncertainty disclosures included in the Climate Statements on pages 32 to 38 and 43 to 45 (**GHG disclosures**) are not fairly presented and prepared in accordance with the Aotearoa New Zealand Climate Standards (**NZ CSs**) issued by the External Reporting Board (**the criteria**) for the period 1 June 2024 to 31 May 2025.

Information subject to assurance

We have performed an engagement to provide limited assurance in relation to Livestock Improvement Corporation's (**the Company**) GHG disclosures for the period 1 June 2024 to 31 May 2025.

Our conclusion on the GHG disclosures does not extend to any other information included, or referred to, in the Climate Statements on pages 32 to 38 and 43 to 45 or other information that accompanies or contains the Climate Statements and our assurance report (**other information**). We have not performed any procedures with respect to the other information.

Criteria

The criteria used as the basis of reporting include the NZ CSs. As disclosed on page 32 of the Climate Statement, the greenhouse gas emissions have been measured in accordance with the World Resources Institute and World Business Council for Sustainable Development's Greenhouse Gas Protocol standards and guidance (collectively, the GHG Protocol):

- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (revised edition); and
- Scope 2 emissions have been measured in accordance with The Greenhouse Gas Protocol: GHG Protocol Scope 2 Guidance: An amendment to the GHG Protocol Corporate Standard.

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

Standards we followed

We conducted our limited assurance engagement in accordance with New Zealand Standard on Assurance Engagements 1 (**NZ SAE 1**) Assurance Engagements over Greenhouse Gas Emissions Disclosures and International Standard on Assurance Engagements (New Zealand) 3410 Assurance Engagements on Greenhouse Gas Statements (**ISAE (NZ) 3410**) issued by the New Zealand Auditing and Assurance Standards Board (**Standard**). We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Our responsibilities under the Standard are further described in the 'Our responsibility' section of our report.

Other Matter – Prior year comparatives not assured

The GHG disclosures for the period 1 June 2023 to 31 May 2024 and 1 June 2018 to 31 May 2019 (also referred to as the 'Base year') were not subject to our limited assurance engagement and, accordingly, we do not express a conclusion, or provide any assurance on such information.

Our conclusion is not modified in respect of this matter.

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.

Misstatements, including omissions, within the GHG disclosures 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 disclosures.

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Inherent limitations

As noted in the GHG disclosures page 34 and 43 to 45, 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.

Use of this assurance report

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

Our report should not be regarded as suitable to be used or relied on by anyone other than the Company 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 the Company 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.

The Company's responsibility for the GHG disclosures

The Directors of the Company are responsible for the preparation and fair presentation of the GHG disclosures 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 disclosures that are free from material misstatement whether due to fraud or error.

The Directors of the Company are also responsible for selecting or developing suitable criteria for preparing the GHG disclosures and appropriately referring to or describing the criteria used.

Our responsibility

We have responsibility for:

- planning and performing the engagement to obtain limited assurance about whether the GHG disclosures are free from material misstatement, whether due to fraud or error;
- forming an independent conclusion based on the procedures we have performed and the evidence we have obtained; and
- reporting our conclusion to the Company.

Summary of the work we performed as the basis for our conclusion

A limited assurance engagement performed in accordance with the Standard involves assessing the suitability in the circumstances of the Company's use of the criteria as the basis for the preparation of the GHG disclosures, assessing the risks of material misstatement of the GHG disclosures whether due to fraud or error, responding to the assessed risks as necessary in the circumstances, and evaluating the overall presentation of the GHG disclosures.

We exercised professional judgment and maintained professional scepticism throughout the engagement. We designed and performed our procedures to obtain evidence about the GHG disclosures that is sufficient and appropriate to provide a basis for our conclusion.

Our procedures selected depended on the understanding of the GHG disclosures that is sufficient and appropriate to provide a basis for our conclusion. The procedures we performed were based on our professional judgment and included inquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

In undertaking limited assurance on the GHG disclosures the procedures we primarily performed were:

- obtained, through inquiries and walkthroughs, an understanding of the Company's control environment, processes and information systems relevant to the preparation of the GHG disclosures. We did not evaluate the design of particular control activities, or obtain evidence about their implementation;
- evaluated whether the Company's methods for developing estimates are appropriate and had been consistently applied. Our procedures did not include testing the data on which the estimates are based or separately developing our own estimates against which to evaluate the Company's estimates;
- recalculated the emissions for a limited number of items;
- performed analytical procedures on particular emission categories by comparing the expected GHGs emitted to actual GHGs emitted and made inquiries of management to obtain explanations for any significant differences we identified; and
- considered the presentation and disclosure of the GHG disclosures against the NZCS disclosure requirements.

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.

Our independence and quality management

This assurance engagement was undertaken in accordance with NZ SAE 1. NZ SAE 1 is founded on the fundamental principles of independence, integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

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.

We have also complied with Professional and Ethical Standard 4 *Engagement Quality Reviews* (**PES 4**) which deals with the appointment and eligibility of the engagement quality reviewer and the engagement quality reviewer's responsibilities relating to the performance and documentation of an engagement quality review.

Our firm has also provided financial audit services and taxation compliance and agreed upon procedure services for the R&D tax incentive scheme to the Company. Subject to certain restrictions, partners and employees of our firm may also deal with the Company on normal terms within the ordinary course of trading activities of the business of Livestock Improvement Corporation. These matters have not impaired our independence as assurance providers of the Company for this engagement. The firm has no other relationship with, or interest in, the Company.

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

The engagement partner on the assurance engagement resulting in this independent assurance report is David Gates.

KPMG

Wellington

20 August 2025

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