



# Good Together

from one generation to the next

Sustainability  
Report 2022

Pūrongo Toitūtanga  
Te Mātāpuna



Dairy for life

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Kiri, Te Kaihou & Alan, Rerewhakaiti

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## About this report

This report covers the activities of Fonterra Co-operative Group Limited and of joint ventures under Fonterra's management control. It covers year ending 31 July 2022 – 'FY22' and is one supporting document to the Annual Review 2022, forming an integrated suite of reports. [www.fonterra.com/annualreview2022](http://www.fonterra.com/annualreview2022)

In certain sections throughout the report, we have included data relating to periods prior to FY22 where such data is relevant to, or useful context for the reader. Where we have done so, we have made it clear which year(s) the data relates to.

This is our sixth sustainability report (our first was in 2017) and we intend to continue this type of reporting on an annual basis. This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core option (see [page 81](#) for an index of disclosures).

Independent assurance of the report has been completed by Bureau Veritas. This provides assurance that the report complies with GRI Standards and provides an accurate and fair representation of Fonterra's sustainability performance. Refer to the Assurance Statement on [page 87](#).

We know the importance of understanding stakeholder perspectives, so we'd appreciate your feedback on this report and our performance. Please email us at [sustainability@fonterra.com](mailto:sustainability@fonterra.com)

## OUR 2022 SUITE OF REPORTS

[Annual Review 2022](#)  
(Referenced as AR)

[Financial Statements 2022](#)  
(Referenced as FS)

[Business Performance Report 2022](#)  
(Referenced as BP)

[Sustainability Report 2022](#)  
(Referenced as SR)

[Corporate Governance Statement & Statutory Information 2022](#)  
(Referenced as C&S)

[Modern Slavery Statement 2022](#)  
(Referenced as MS)

[Farmgate Milk Price Statement 2022](#)  
(Referenced as MP)

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# Message from Board Chair and CEO



Peter McBride – Chair, Board of Directors  
& Miles Hurrell – CEO

## **Sustainability is core to our strategy and how we create value for future generations.**

Our Co-op's strategy is to enhance people's lives through convenience, health and wellbeing by unlocking the goodness of New Zealand milk. We seek to achieve this via three strategic choices - continue to focus on New Zealand milk, be a leader in sustainability, and be a leader in dairy innovation and science.

The consumer is at the heart of our strategy. We know that consumers have become increasingly mindful of the sustainability credentials of the products they're consuming. That's why it is important that we continue to support the hard work the Co-op's farmers are putting in on-farm and continue to make improvements across each stage of our supply chain.

The Co-operative Difference framework provides a clear signal to farmers about what needs to happen on-farm to ensure the Co-op can meet our customer needs - both today and into the future. It takes a holistic view of sustainability (social, environmental, and economic), covers our minimum expectations today and sends clear signals on where we are headed longer-term.

One of the ways that the framework encourages farmers to take proactive action is by rewarding farmers through The Co-operative Difference payment. This year farmers took significant action with more than 70% of farms achieving The Co-operative Difference payment at some level. This outstanding level of participation is an encouraging indication that farmers are willing to step-up and make changes on-farm in a way our customers want.

Making improvements in sustainability is a team effort that requires commitment across our supply chain. That starts on-farm, but also involves our people and partners here in New Zealand and in our global markets.

We'd like to thank all of them for their contribution this year.

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serious harm injuries, a further reduction and we still aspire for zero harm.

34.8%

female representation in senior leadership, up from 32.4% and just short of target for FY22 (35.8%).

71%

of supplying farms in New Zealand farms now have a Farm Environment Plan, up from 53% at the start of the year.

6.6%

reduction in water use at our manufacturing sites in water-constrained regions since FY18, strong turnaround on FY21 and just short of target for FY22 (8%).

11.2%

reduction in our scope 1 & 2 GHG emissions since FY18, well ahead of target for FY22 (6.6%).

6.8%

return on capital, on plan for FY22.

As you will read in this report, we have more work to do in some areas. Considering the global context of wide-spread inflation, continued supply chain disruptions resulting from COVID-19, the geo-political and economic challenges in Sri Lanka, and the war in Ukraine, we are proud of the progress we have made over the past 12-months.

While we have made progress against the vast majority of our core indicators, there are two indicators where we have either not progressed well, or the original timeline has been significantly delayed: *our total recordable injury rate*; and *EBIT from our New Zealand value-add business*. These will be areas of focus for us over the next 12-months as we aim to bring them back on track.

Balancing that is our performance across our *environmental* and *economic* indicator categories where, for the most part, we have progressed well or achieved our targets.

The Farmgate Milk Price is worth special mention here. At a final price of \$9.30 per kgMS it is the strongest it has ever been. This is great news for our farmers, and New Zealand also benefits, with \$13.7 billion returned to the economy in milk price payments alone this year.

Looking ahead to the 2023 reporting year, we will be prioritising our efforts to continue making the Co-op a safe and inclusive place to work, and progressing our decarbonisation plan.

The Co-op remains committed to leading the transition to a net-zero GHG emissions future for dairy nutrition. A lot of work has gone into making tangible changes and embedding this commitment into our strategy and plans, as the Sustainability Advisory Panel acknowledges this year.

We would like to thank the Panel for its support and constructive challenge. The Panel provides our Co-op with an important external lens, which helps to determine our future direction and prioritise our activities.



We hope you find this report insightful. It's part of our integrated suite of reports, to transparently report on our sustainability performance. It includes an emphasis on social and environmental performance, which aims to complement the economic performance that is covered in our [Business Performance Report](#) and [Financial Statements](#).

**Peter McBride**

Chair, Fonterra Board of Directors

**Miles Hurrell**

Chief Executive Officer

# Our approach

A sustainable future for our Co-operative is core to our strategy – it’s how we create long-term value for future generations.

 <b>People &amp; culture</b>	 <b>Nature</b>	 <b>Relationships</b>	 <b>Intellectual Capital</b>	 <b>Assets and infrastructure</b>	 <b>Financial</b>
<p><b>Able to retain, develop and attract the best talent</b></p> <p><b>PRIORITY ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>– Providing a safe, healthy and inclusive place to work</li> <li>– Continuously developing people’s skills for meaningful careers within the everchanging nature of work</li> </ul>	<p><b>Demonstrating that dairy can be a net-positive contributor to nature</b></p> <p><b>PRIORITY ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>– Leading the transition to net-zero GHG emissions for dairy nutrition</li> <li>– Farmers are adopting and investing in leading on-farm practices</li> <li>– Using science and innovation skills to solve environmental challenges on and off farm</li> </ul>	<p><b>Trusted relationships through high-quality, innovative products and services and playing our part for positive social, environmental and economic outcomes</b></p> <p><b>PRIORITY ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>– Understanding the needs of our customers and being responsive to these</li> <li>– Partnering with others to help unlock the full potential of dairy and deliver improved sustainability outcomes</li> <li>– Being clear on what we stand for and demonstrating the value we bring to specific relationships and more broadly</li> </ul>	<p><b>Leveraging intellectual property to deliver additional value</b></p> <p><b>PRIORITY ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>– Converting our specialised dairy know-how into value through the products, solutions and partnerships we develop</li> </ul>	<p><b>Operational assets are resilient and efficiently delivering our most valuable products</b></p> <p><b>PRIORITY ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>– A mindset of continuous improvement to protect and enhance our scale/ cost advantage and stay competitive on a world stage</li> <li>– Applying innovation to our assets so they are safe and able to respond to future needs</li> </ul>	<p><b>Consistently attractive performance for providers of funding, including our farmer shareholders</b></p> <p><b>PRIORITY ACTIVITIES</b></p> <ul style="list-style-type: none"> <li>– Using science and innovation to improve efficiency and grow value</li> <li>– Sustainability credentials are valued, building preference and premium for our dairy</li> <li>– Target to return ~\$1 billion to shareholders through planned divestments</li> </ul>

# Our progress



	CORE INDICATORS <sup>1</sup>	TARGET <sup>2</sup>	FY19	FY20	FY21	FY22 [Target]	FY23 TARGET	SEE PAGE
	Total recordable injury frequency rate (TRIFR) per million work hours	Less than 5	4.9	5.8	5.7	6.7 [5.6]	–	<a href="#">See 60</a>
	Serious harm injuries	Zero harm	18	10	9	8 [-]	–	<a href="#">See 60</a>
	Female representation in senior leadership (Band 14+)	50% by 2022	28.6%	29.1%	32.4%	34.8% [35.8%]	– <sup>3</sup>	<a href="#">See 61</a>
	Farm Environment Plans (FEPs) (NZ)	100% by 2025	23%	34%	53%	71% [67%]	84%	<a href="#">See 61</a>
	Water reduction at manufacturing sites in water-constrained regions from FY18 baseline <sup>4</sup>	30% reduction by 2030	3.9% increase on FY18	2.9% reduction on FY18	2.6% reduction on FY18	6.6% reduction on FY18 [8%]	–	<a href="#">See 62</a>
	Reduction in absolute Scope 1 & 2 GHG emissions from FY18 baseline <sup>5</sup>	30% reduction by 2030	1.8% reduction on FY18	3.5% reduction on FY18	6.6% reduction on FY18	11.2% reduction on FY18 [6.6%]	10.6%	<a href="#">See 65</a>
	Farmer sentiment (Net Promoter Score for Fonterra) (NZ)	> 10 by 2030	-19	33	23	25 [30]	–	<a href="#">See AR-26</a>
	Share of New Zealand milk collected (%kgMS for seasons ending 31st May)	–	81%	80%	79.0%	79.1% [79.3%]	79.0%	<a href="#">See BP-07</a>
	EBIT from NZ value-add business (\$ million)	–	–	–	616	307	388	<a href="#">See AR-21</a>
	Cost of quality (% of cost of goods sold)	–	–	–	0.45%	0.44%	0.35%	<a href="#">See BP-30</a>
	New Zealand Farmgate Milk Price (per kgMS)		\$6.35	\$7.14	\$7.54	\$9.30 [\$7.25-\$8.75]	\$8.50 - \$10.00	<a href="#">See BP-25</a>
	Return on capital	7% – 8% by 2024 9% – 10% by 2030	5.6%	6.6%	6.6%	6.8% [6.5% to 7.0%]	7.0% to 7.5%	<a href="#">See BP-19</a>

1 All targets are global unless stated otherwise (e.g. NZ).

2 All targets are by the end of the financial year stated.

3 Our original timeline was not achieved but we remain committed to the intent. From FY23 onwards we are extending the indicator to consider representation in bands 12+ and moving to 40:40:20 target, see [page 21](#).

4 From FY23 onwards we are moving to new set of water stewardship indicators, see [page 25](#).

5 Minor restatement of prior years see [page 78](#).

**FY22 progress is evaluated against stated targets:**

Progressing well or target achieved.

Progressing but not as strongly as we'd like.

Not progressing well or original timeline significantly delayed.

# Message from the Sustainability Advisory Panel



**Bridget Coates**  
CHAIR

Our independent Sustainability Advisory Board has acted as a 'critical friend' to the company again this year, bringing fresh thinking and challenges to assist the Fonterra Board and management team as they tackle a wide range of issues. The scale of the challenges the company faces has continued to accelerate, with the level of urgency rising as global climate threats increase exponentially.

The Panel has evaluated the company's progress across many topics, with targets and measurement of carbon emissions being at the core of much of our recent work. We have been privileged to hear the 'voice of the global customer', articulated clearly through interviews with Fonterra's major customers in markets around the world, and have debated opportunities for building value for shareholders from a range of sustainability initiatives.

We have also focused on Fonterra's leadership within the global dairy industry, as well as its leadership within Aotearoa New Zealand. We are particularly gratified to see recent partnership initiatives with DSM and others, which we believe will likely lead to more rapid and innovative solutions to compelling global industry problems, such as the reduction of methane emissions from livestock.

Our independent Advisory Board has been strengthened this year with two highly qualified new members, with very diverse and relevant backgrounds and experience. Dr Gail Tipa and Lou Sanson bring their unique perspectives, and have already added significant value to our discussions and feedback.

Over the year, Fonterra's commitment to net zero carbon emissions has become more and more tangible and more tightly embedded within a wide range of current and future implementation strategies and plans. Increasing commitment and clarity on the company's future path will help farmers and the wider agricultural ecosystem determine their own courses of action as they adjust to the emerging realities of the global dairy industry. The panel looks forward to continuing its work in support of the company's sustainability change journey during the year ahead.

**Bridget Coates**  
Chair, Fonterra Sustainability Panel

## Role of the panel:

The Fonterra Sustainability Advisory Panel was established in 2018. The role of the Panel is to:

1. Review and provide feedback and advice to the Board on Fonterra's strategy, targets and initiatives as they relate to economic, social and environmental sustainability
2. Provide credible, independent expertise and guidance to the Board to improve performance and outcomes in relation to sustainability
3. Present to the Board on advice and/or issues that relate to sustainability and affect Fonterra

## Panel members:

Bridget Coates  
Paul Gilding  
Lou Sanson  
Corrigan Sowman  
Dr Gail Tipa  
Dr J Morgan Williams QSO



[Read full biographies online](#)

# Responding to what's important

## Engaging with our stakeholders

Taking into account the views and perspectives of our stakeholders, and building relationships, is critical to the long-term success of our Co-operative.

We consider our stakeholders to be those individuals or entities that are significantly impacted by our products and the activities required to source, make and distribute these or whose actions affect our ability to deliver our strategy (see [page AR-12](#)).

## Determining what's important

Using a combination of the relative importance to our stakeholder groups and the significance of our impacts, in 2021 we refreshed our list of most material topics. This is used to help us prioritise areas for improvement and the importance of disclosure in this report.

The table on the right lists the most important topics, in order, and identifies where we cover our response in our reporting. For further details on the process and findings, see [page 79](#).

Topic	Reporting on our response	Contribution to UN SDGs
Ensuring the <i>food safety and quality</i> of the products we deliver.	See Food safety and quality on <a href="#">page 14</a>	Zero hunger (2.1)
<i>Adapting to the effects of climate change</i> , while mitigating our impacts.	See Climate change on <a href="#">page 30</a>	Climate change (13.1)
Using <i>water</i> responsibly, including water quality, availability and disposal.	See Land and water on <a href="#">page 25</a>	Clean water and sanitation (6.3,6.4,6.6) Life below water (14.1)
Protecting the <i>health and safety of people at work</i> , including their wellbeing.	See Health, safety and wellbeing on <a href="#">page 16</a>	Good health and wellbeing (3.9) Decent work and economic growth (8.8)
Protecting <i>animal health and welfare</i> within our supply chain, including caring for cows and responsible use of antibiotics.	See Animal wellbeing on <a href="#">page 42</a>	
Supporting the livelihood of thousands of people through meaningful <i>employment and sustainable income creation</i> , including the milk price for our shareholder farmers.	See Employment and income creation on <a href="#">page 56</a>	No poverty (1.2)
Protecting <i>soil health</i> , which is essential for sustainable food production, including nutrient management.	See Land and water on <a href="#">page 25</a>	Zero hunger (2.4)
Contributing to <i>nutrition and health</i> through the products and information we deliver, including reducing obesity and undernutrition.	See Nutrition and health on <a href="#">page 10</a>	Zero hunger (2.1, 2.2) Good health and wellbeing (3.1,3.2,3.4)
<i>Maintaining ethical business practices</i> fundamental to the way we work, including anti-corruption and fair competition.	See Ethical business practices on <a href="#">page 54</a>	
Using <i>responsible procurement</i> to influence environmental, social and economic performance along our supply chain.	See Working with farmers on <a href="#">page 47</a> See Working with vendors on <a href="#">page 49</a>	No poverty (1.2) Gender equality (5.5) Decent work and economic growth (8.7,8.8) Climate change (13.1)
<i>Protecting and enhancing biodiversity</i> and the underlying ecosystem services we rely upon, including the impact of deforestation.	See Land and water on <a href="#">page 25</a> See Working with vendors on <a href="#">page 49</a>	Life on land (15.1, 15.2) Clean water and sanitation (6.3,6.6)
Protecting the <i>employment rights and working conditions</i> of our people, including diversity and inclusion, women's empowerment and learning and development.	See Investing in people on <a href="#">page 19</a>	Gender equality (5.5) Decent work and economic growth (8.5)
Minimising <i>post-consumption waste</i> , including product packaging and food waste.	See Packaging and waste on <a href="#">page 39</a>	Responsible consumption & production (12.3,12.5)

# People and culture

**We are working together to care for people and make a positive social impact.**

Hannah, Canterbury

He aha te mea nui o te ao.  
He tāngata, he tāngata, he tāngata

What is the most important thing in the world?  
It is people, it is people, it is people.

As a food company, we recognise the valuable role nutrient-rich dairy products can play in addressing food security and improving health and wellbeing for people around the world.

To achieve this, we use our dairy innovation and science expertise to support our customers and improve our products while maintaining the highest standards of food safety and quality.

Delivering this value to customers and society requires a global team, performing at its best. That means we are committed to providing a safe, healthy and inclusive place to work and continuously developing people's skills for meaningful careers. In this way we aim to retain, develop and attract the best people.

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**87.7%** ↑

further improving the composition of our everyday and advanced nutrition products to meet our independently endorsed nutritional guidelines – see [page 11](#)

**100%** ↑

of our manufacturing sites are certified to a leading food safety management system – see [page 14](#)

**34.8%** ↑

female representation in senior leadership continues to improve – see [page 21](#)

**85.6%** ↑

increase in on-the-job training and reskilling hours since FY20 – see [page 20](#)

# Nutrition and health

## Good nutrition is essential for people to lead healthy and fulfilling lives.

People eat for enjoyment and the nutrients needed to fuel growth, development, health and wellbeing. Dairy is a unique and valuable source of essential nutrients with proven benefits to support health outcomes across all life stages and, as a naturally nutritious product, we see dairy as an important part of the sustainable food systems of the future.

According to the latest United Nations report on food security, the world is currently moving in the wrong direction regarding the Sustainable Development Goals to end hunger, food insecurity and all forms of malnutrition. To turn this around, we need to increase the supply of nutritious foods which constitute a healthy diet and shift consumption towards them.

Unhealthy diets and poor nutrition are among the top risk factors for non-communicable diseases (those that do not transmit from person to person) such as heart attacks, strokes, certain cancers and type II diabetes.

Milk provides high quality protein and a wide range of vitamins and minerals for relatively low calories, which makes it both nutrient-rich and nutrient dense. The proteins found in dairy products are high quality because they contain the essential amino acids that are both easy to digest and in proportions that meet human needs. Many nutrients that milk provides are also in an easily absorbed form.

As a food company, we recognise the valuable role nutrient-rich dairy products can play in addressing deficiencies in diets and improving people's health and wellbeing worldwide. This section covers our global approach to nutrition and its contribution to health and wellbeing.



## Our approach

The Fonterra Global Nutrition Policy sets out our overarching commitments including delivering science-based nutrition and health benefits, products tailored to specific nutritional needs and marketing these responsibly. Supporting the policy is our nutrition standard which outlines how we operate regarding nutrition and includes detailed guidelines that define the nutrition criteria and principles for the composition and marketing of our consumer products and ingredients.

The New Zealand Nutrition Foundation has independently reviewed and endorsed our guidelines as evidence-based, founded in robust nutritional science and reflecting international directives on nutrition and health. These guidelines complement national food standards and regulations, as well as our own educational and advocacy activities to raise awareness of the value of dairy nutrition in healthy, balanced diets.

We promote our products responsibly and take particular care when marketing to vulnerable populations – for example, children. We are committed to promoting responsible consumption of our products at all life stages in line with national dietary guidelines.

We support and promote the aim and intent of the International Code for the Marketing of Breast Milk Substitutes. The World Health Organisation recommends six months of exclusive breast feeding and continued breast feeding, with suitable nutritious complementary feeding, up to two years of age and beyond. We are committed to complying with the relevant industry codes and legislation in all countries where our products formulated for infants and young children are sold.

We have established an internal Global Nutrition Council, including senior leaders, that is responsible for governing our nutrition policy, standards and guidelines and overseeing the nutrition performance of our portfolio.

## What we've been doing

### Proven Active Living solutions help customers with new products

Our Active Living solutions aim to address three dimensions of human wellbeing: the physical, the mental and the inner, and cater to a wide range of people from those taking a proactive approach to their health and wellbeing, to medical patients needing support during treatment or recovery.

We have already completed research and development work that has delivered evidence allowing us to position products around health benefits, including the areas of muscle health and sarcopenia (age related loss of muscle mass), mobility, malnutrition and digestive health. Partnering with customers to co-design value-added products using our ingredients is a focus area for us.

Building on a relationship which started in 2019, we saw Wonderlab release three new products this year using our ingredients. Wonderlab is one of the fastest-growing probiotic brands in China, with a focus on providing nutrition solutions to younger generations. This year, they launched a probiotics for children product using two of our clinically proven probiotics (Nutiani HN001™ and Nutiani HN019™) and two ready-to-eat products using one of our milk protein concentrate (MPC) ingredients.

In Korea, Daesang, a customer that values our specialist ingredients and sustainability credentials (see Annual Review [page AR-39](#)), has launched a new product using our bioactive whey protein ingredients. The gentler process we use to make bioactive whey protein allows naturally higher levels of lactoferrin and immunoglobulin (IgG) to be retained in the product, both of which are recognised to support the human immune system. With lactoferrin content 11 times higher than standard whey protein, it allows Daesang to market the product at a premium level.

### Improving the nutritional profile of our consumer products

We are continuing to improve the composition of our consumer products, taking into consideration the levels of dairy protein and calcium, while also minimising the addition of free sugars, refined carbohydrates, non-nutritive sweeteners, sodium and saturated fat. Our nutrition guidelines also reflect our support for the global public health objective to reduce the intake of industrially-produced trans fats from partially hydrogenated oils.

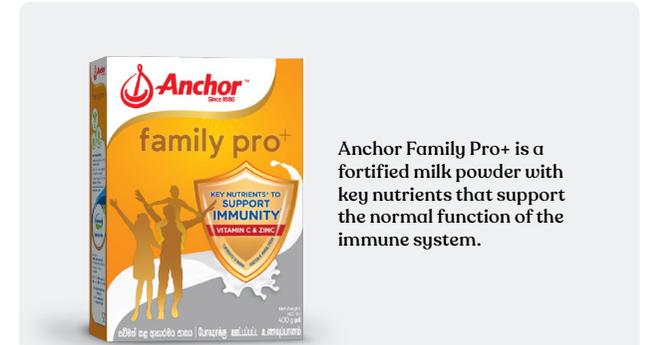
Our target is for 100% of our everyday and advanced nutrition consumer products, such as yoghurt and fortified milk powders, to meet our independently endorsed nutrition guidelines by 2025. This year, on a volume sold basis, we improved from 86.5%<sup>1</sup> to 87.7%.

### Helping support immunity

Like most of the world, in response to the COVID-19 pandemic, Sri Lankan consumers have had a heightened interest in their immunity. Milk is already seen as a good nutritional option locally and this year, Fonterra Brands Sri Lanka launched Anchor™ Family Pro+ to help families with their immunity. Fortified with five nutrients (Vitamin C, Zinc, Vitamin A, Vitamin D and Vitamin B6), the product builds on the existing good nutrition of milk to also help the normal function of the immune system.

### Leveraging science for heart health

Made by our team in Sri Lanka, Anchor Life™ is our strongest brand in the Mauritius market. This year, Fonterra Brands Sri Lanka sought to leverage their manufacturing capabilities by developing a formulation targeted at supporting heart health that has been successful for us in Malaysia. In addition to the MoveMax™ nutrient bundle, specially designed to support bones, muscles and joints, it also includes the HeartMax™ nutrient bundle, specifically designed to support heart health. This includes Omega 3, plant sterols, potassium and vitamins B9 and B12. By leveraging existing science, the team successfully developed a new formulation that retained all on-pack claims, including a specific endorsement from the Mauritius Heart Health Association.



Anchor Family Pro+ is a fortified milk powder with key nutrients that support the normal function of the immune system.



Anchor Life contains nutrient bundles to support bones, muscles and joints and heart health.

<sup>1</sup> FY21 result has been restated using more accurate information from our new online system, meaning it is now 86.5% compared to 84% previously reported.



Each tub of Anchor Probiotic+ yoghurt is packed with 10 billion live BB12™ probiotics to support gut health.



Anchor Newdale relaunched in Sri Lanka with DR20™ probiotics.

### Wellness starts within – Probiotics

Probiotics are living organisms and proactively including them in our diet can support immunity and digestion by improving gut integrity and barrier function. Probiotics can help improve digestion process time, protect against tummy upsets and reduce the risk of certain types of infections.

Fonterra began this research programme over 20 years ago, screening over 2,000 bacterial strains to identify potential probiotics. This research is ongoing, tapping into Fonterra’s extensive culture collection, as we look for improved strains.

This year, Fonterra Brands New Zealand launched an innovative new range of Anchor Probiotic+ yoghurts. Each tub of the new thick and creamy Greek yoghurt is packed with 10 billion live BB12™ probiotics to support gut health by improving digestive regularity as part of a healthy diet. It also contains prebiotic fibre, plus vitamins A and D for immunity support.

Thanks to the robust science backing the product, the Fonterra team satisfied the rigorous requirements of the regulators<sup>1</sup> to include the link between live BB12™ probiotics and gut health benefits as a claim on pack.

In Sri Lanka, Anchor Newdale™ relaunched its range of set yoghurts with DR20™ probiotics. Including these probiotics delivers benefits to gut health and digestion, helping the intended consumers, “Chandi Bandi’s” (younger children), remain healthy and active throughout the day.

Our research into, and development of, probiotics is not only helping improve nutrition for humans, it is also being leveraged as a potential approach to reducing methane emissions from cows (see [page 33](#)).

### Anlene™ Gold Plus launched in China

Like many countries in the world, China faces the challenges of an ageing population and nutrition has a vital role helping that ageing population live more healthily. Studies such as Luliano *et al*<sup>2</sup> indicate that dairy has an important role to play.

This year, we launched Anlene™ Gold Plus with lactoferrin and probiotics in China to help support the digestion and immunity of the older population.



1 Food Safety Australia and New Zealand (FSANZ) and the Ministry of Primary Industries.  
2 S Luliano et al, Effect of dietary sources of calcium and protein on hip fractures and falls in older adults in residential care: cluster randomised controlled trial BMJ 2021;375:n2364 <https://doi.org/10.1136/bmj.n2364>

## Protein+ range reaches Malaysia

In Malaysia this year, we launched three new versions of our Fernleaf™ Yogurt in a 450g pack size: Fernleaf Natural Yogurt, Fernleaf Greek Style Yogurt and Fernleaf Protein+ Yogurt.

All these products are made with New Zealand milk and no sugars are added. They are intended to be included as part of daily balanced diet by the entire family. The Fernleaf Protein+ Yogurt variety is formulated with 100% more protein<sup>1</sup>, giving consumers higher levels of good quality dairy protein to help them spread their protein intake throughout the day, supporting optimal muscle health. Our Protein+ range of products is very popular elsewhere in the world, including New Zealand and Chile.

In addition to eating just as they are, these products can also be used in food and beverage preparation, enhancing popular Malaysian dishes such as curry and dipping sauce for salad.

1 Compared with Fernleaf Yoghurt Plain (110g pack size) on per 100g basis.



**Fernleaf Protein+ yoghurt is formulated with extra protein to help consumers spread their protein intake.**

## Investigating complementary nutrition

Dairy offers a unique source of nutrition, which is recognised by governments and health experts around the world as having an important role to play in maintaining a healthy, balanced diet. We believe there will continue to be demand for natural dairy goodness, especially our pasture-based dairy nutrition from New Zealand. At the same time, as populations grow and the preferences of some consumers evolve, we are committed to remaining at the forefront of innovation and science and want to continuously position ourselves to meet the needs of our customers and consumers.

We believe there is a role for both dairy and other sources of nutrition - we view these as complementary. To this end, Fonterra's Complementary Nutrition programme is dedicated to exploring the potential of emerging food technologies and the role they can play alongside our core dairy products. This work continues to build on Fonterra's 2019 investment in Motif Foodworks™, a Boston-based company using biotechnology and fermentation to develop novel ingredients.

Building on our existing relationship with DSM – a global leader in the health, nutrition and bioscience sectors – this year we have been preparing to launch a new startup that will help to accelerate the development of advanced specialty ingredients using precision fermentation technology. We are also working with DSM on options to reduce greenhouse gas (GHG) emissions (see [page 33](#)).

## Our performance



**87.7%**

of everyday and advanced nutrition products meet our independently endorsed nutritional guidelines.

## Compliance with regulations

In the past year, we received no fines or market bans for breaches of marketing regulations. None of our products are banned from sale in any country.

## What's next

- We will continue to improve the nutritional value of our consumer branded products, minimising added sugars and salt and eliminating industrially produced trans fats
- We will continue to invest in research and development and new innovations for our entire product range

# Food safety and quality

**Safe food. Safe people. World class quality. It's our promise.**

## Our approach

At Fonterra, food safety and quality (FSQ) are everyone's responsibility – from our farms all the way to our customers around the world. Accountability extends from the Board of Directors, through the Fonterra Management Team, to individual managers, front-line employees, contractors working on Fonterra sites and providers of goods and services. To encourage consistency of approach and continuous improvement, the Global Safety, Quality and Regulatory (GSQR) organisation and operating model, including the FSQ Council, is embedded across Fonterra.

Our FSQ System means that, wherever we are in the world, we have a clear, consistent framework to deliver safe, quality products and services. It consists of four key components: our Food Safety Policy, business unit requirements, partner requirements and our FSQ behaviours.

All our food products are assessed for health and food safety impacts prior to initial launch and on an ongoing basis. This includes detailed processes for new product development, manufacturing and product sampling and testing, including shelf-life studies. To evaluate our performance, manufacturing sites are subject to an internal audit programme and regular scrutiny through third-party audits by regulators, key account customers and certification bodies. Any areas identified as needing improvement are acted upon.

We are guided on best practice by multiple international food safety and quality standards and 100% of our manufacturing sites are independently certified to a leading food safety management system (e.g. FSSC22000, BRC).

## What we've been doing

### Safety culture and capability

We continue to focus on building FSQ as a core part of our culture and building the capability of our employees. This year, we launched a new people development framework for our global team of FSQ professionals. This multi-tiered framework covers entry-level employees up to senior management. Similar in style to university courses, there are a range of modules, some with pre-requisites, that allow employees to have structured development conversations with their managers. So far, around 50% of the FSQ professionals have completed such a conversation. We can also use the findings from our capability gap assessments to target specific training to close these gaps. This year, about 300 employees completed modules to specifically address capability gaps.

### Simplification for increased effectiveness

Over time, with all the best intentions, we can make processes and systems more complicated than necessary. That's why it is important to regularly review our approach and look for opportunities where simplification can lead to increased effectiveness and more efficient ways to achieve the same or even better outcomes.

This year, we designed and implemented a new integrated Global Audit Assurance (GAA) programme. This replaces three separate audit programmes: one for manufacturing sites where we have operational control, one for third party manufacturing sites and one for warehouse/ logistics. By rationalising these into a single integrated approach we can more easily maintain common material and a consistent approach across all parts of the supply chain.





Weston & Dheeraj, Auckland

### Influencing our supply chain

In response to the COVID-19 pandemic travel restrictions, we rolled out a new auditing approach for new and existing third-party manufacturers (TPMs). An initial risk-based assessment determines the subsequent auditing approach, which can be a full physical audit, hybrid physical/remote audit, fully remote audit or desktop assessment.

Recognising that this new auditing approach is the new operating model for the post-pandemic world, we continue to monitor and improve this process. With travel restrictions lifting, in-person visits to physically audit sites are possible again, but there is a backlog to clear. This is where the adoption of leading standards and independent certification against these can be beneficial.

Over the past few years, when we are engaging new TPMs, we have been setting the expectation that they should be progressing towards leading standards certification, like ourselves. Such independent assurance reduces the audit burden for all parties while ensuring leading standards are being met. We are now working with our TPMs to obtain certifications and track progress.

### Our performance



**100%**

of our manufacturing sites are certified to a leading food safety management system (e.g. FSSC22000 or BRC).



**100%**

of our FSSC22000-certified manufacturing sites are now using the latest version of FSSC22000 (5.1).



**93%<sup>1</sup>**

of our global manufacturing plants have 100% electronic traceability from the farm vat or milk collection centre to the first sale to the customer, meaning we can track the origins of nearly any product within minutes.



**Zero**

During the year, there were no consumer recalls of product for safety reasons and no legal or regulatory non-compliances related to FSQ.

### What's next

- We will maintain our certification to leading food safety management systems and continue our transition to the latest version of FSSC22000
- We will continue to use the lessons we have learned to broaden our influence in the supply chain through our global audit assurance programme
- We will continue the development of our digital platform for FSQ and health and safety, with the first stage due to roll out early in 2023. This will include management of change, incident management, global FSQ vendor management and contractor safety management
- We will take a market-led approach to extend our existing dynamic QR labelling technology and explore further options in digital labelling technology, which can deliver additional value to consumers and our business systems
- We will continue to review opportunities for further automation in milk collection, manufacturing and distribution to improve the efficiency and reliability of data collection to give us even more real-time access to information

<sup>1</sup> For the remaining 7% of our global manufacturing plants, all have some electronic trace capability within their own local systems and some manual steps are required to complete the analysis.

# Health, safety and wellbeing



Mira & Parehuia, Auckland.

**Our ambition is for all our people to return home safely every day, everywhere.**

## Our approach

Fonterra operates a global health and safety management system and continuously improving health, safety and wellbeing is fundamental to our business. The Fonterra Global Health, Safety and Wellbeing Policy defines our commitment to providing a safe and healthy work environment where our employees, contractors and visitors can return home from work safely every day, everywhere. Implementation of, and compliance with, the policy is overseen by our Director Global Quality and Safety.

We are committed to delivering on our health, safety and wellbeing commitments through:

- People who believe harm is avoidable and who support a safe and healthy work environment
- Processes that always prioritise safe work practices, proactively identifying and managing exposure to risk and ensuring that our business activities comply with all statutory and legal requirements specific to the regions in which we operate
- Plant and equipment that considers design, operation, management and maintenance to create a safe and healthy work environment

Accountability for performance extends from the Board of Directors, through the Fonterra Management Team, to individual managers, front-line employees and contractors working on Fonterra sites.

We monitor our performance using a number of preventative and reactive, lead and lag indicators. These include injury rates and findings from self-assurance, internal audits and event investigations. We use this information to seek improvements, identifying and controlling risk from credible hazards and maintaining a strong safety culture with regular training and employee engagement.



## What we've been doing

### Leveraging technology and partnerships for improved health and safety

We have continued to extend the use of our digitised health record systems which helped us to manage our response to COVID-19 (see Annual Review [page AR-34](#)). The systems now securely hold health information for more than 11,000 people, providing them with easy access to their information, such as vaccinations and test results, and helping ensure Health and Safety and Food Safety requirements are being met. We also introduced the use of telemedicine techniques which proved very useful when we could not meet with employees face-to-face. In New Zealand, we partnered with Green Cross Health to help facilitate access to additional General Practitioner health care services, where required.

### Supporting the wellbeing of employees and their whānau

This year, we grew our network of 'Good Sorts', volunteer employees who have been trained as mental health 'first aiders' and provide initial support to other employees. We also ran 'Good Yarn' workshops to raise awareness of mental wellbeing and the available support (see Annual Review [page AR-35](#)).

Our Employee Assistance Programme (EAP) is a professional and confidential service, paid for by Fonterra, that helps employees when they are experiencing difficulties. This year, we extended this programme to provide guidance on alcohol and other drug support and rehabilitation. We also expanded our EAP to provide support for our farmers too.

Through our 'Better You' digital platform we provide wellbeing tools and resources for our employees and whānau (up to five additional family members or friends per employee). By completing a questionnaire

covering ten healthy habits, including healthy eating, sleeping, exercise and mental health, the participant gets an overall 'Wellbeing Score' and links to relevant material and activities that can help them make improvements. We have over 9,000 registered users, and 3,613 wellbeing scorecards have been completed. During the year, 4,025 users logged in, 718 new wellbeing scorecards were completed and there were over 900,000 page views.

The platform also allows us to run global team challenges designed to promote improved health and wellbeing by providing valuable information and encouraging the adoption of new behaviours through teamwork and competition. We ran seven challenges this year, including our Australian-themed Moove It Challenge. This involved teams tracking their daily step counts over a three-week period and completing a series of small learning activities connecting them to other support programmes and information to help them improve their wellbeing and care for the environment. A total of 1,260 employees participated in this challenge, and overall, 2,341 employees participated in at least one challenge this year.

### Improving workplace safety

We have continued to improve workplace safety by introducing new risk assessment tools, building team capability, simplifying policy and extending support programmes.

This year, we introduced several proactive risk assessment tools for operational safety, resulting in some great safety improvements. For example, the new hazard identification and risk assessment tool helps individuals identify controls that will support improved safety. Using this new tool has led to a significant change in how water samples are taken from the Waikato River. Instead of gathering samples manually from the bank, a remotely controlled drone is now used, removing the risk of slipping into the hazardous waterway.

To help build the capabilities of our Health and Safety professionals around the world, we have introduced a framework of competency assessments, which allow targeted development opportunities to be identified and planned.

We are simplifying our Health and Safety management system, so there is increased focus on doing work that is safe. We started with our operations in New Zealand, which is now feeding into a new Global Integrated Management system. Recognising that fellow employees who are impaired at work by alcohol or other drugs increase the risk of accidents and injuries, we have also reviewed our related policies and procedures, consulted on the improvements and are now rolling these out in New Zealand.



Lance and John taking a water sample from Waikato River before changing to using a safer drone-based approach.

### Improving critical risk management

Manufacturing processes and technology used at scale can pose a risk of serious injury or damage to the environment, so it is important that we place a proportional focus on avoiding the consequence of an event rather than only reducing its likelihood. This year, we have continued to partner with external experts to help mature our Process Safety Management (PSM) system (see Sustainability Performance Report 2021 page SP-15). After three years of focused work, we have completed our first full pass of Process Safety Assessments (PSAs) for our manufacturing and distribution footprint in New Zealand. We also commenced our formal offshore roll out, starting in Australia and South-East Asia.

Safety-Critical Elements (SCEs) are items of equipment or technology (including software) identified as forming the last lines of defence against a potential major incident scenario. We have embraced the use of this methodology, not only at Major Hazard Facilities (MHFs) but for all manufacturing sites. These controls are vital to ongoing safety and must be well designed and maintained. We continue to focus on improved diligence to identify, assess and physically tag our SCEs (see example in photo). This year, our assessment expanded to cover a further 14 sites and the teams have now identified over 1,000 SCEs. Independent design verification then helps us understand the crucial aspects of each SCE for safety performance. We can then establish ongoing inspections, testing and/or preventative maintenance so they remain fit for purpose in the rare case they need to perform.

While SCEs form individual controls against hazardous technologies, we have also made wider improvements to systems, processes and competencies. This year, our teams completed more than 2,500 dedicated improvement actions related to critical risk reduction, a major demonstration of what our teams can do to care for and keep each other safe, especially when site access was restricted due to COVID-19.



### Regulatory compliance

With designated MHFs and an asset-intensive manufacturing footprint, Fonterra will, from time to time, receive regulatory notices. We work collaboratively with all of our regulators to support risk management, and each finding is treated as an opportunity for us to improve. There have been no health and safety prosecutions in connection with Fonterra's operations since 2014, and during FY22, we did not receive any statutory enforcements.

This year, we ceased production of ethanol at our Tirau site, and are currently removing the last of the ethanol from the facility. Pending approval from the regulator, we believe this will see Tirau no longer designated a MHF. At Whareroa, our one remaining MHF site, we have a significant capital project underway to reduce our use of liquified ammonia. Once completed, in FY23, this will significantly reduce the risk of a major incident for our people and the environment.

## Our Performance



**One**

Work-related fatality<sup>1</sup>



**8**

Number of serious harm injuries



**258**

Number of recordable injuries

<sup>1</sup> Tragically, one tanker driver passed away in April 2022 when his tanker left the road in Canterbury and rolled into a paddock. We have undertaken a review of the incident with an independent investigator, and currently await the Serious Crash Unit report from the Police.

### What's next

- We will continue to improve and apply our process safety management system methodology
- We will continue to improve our proactive risk management approach, focusing on the actions arising from our investigations into actual or potential high-severity incidents, eliminating root causes and moving towards doing work that is safe rather than doing safety work
- We will launch a danger in disguise campaign to refocus our employees on safety hazards in the workplace after such a concentrated effort on COVID-19
- We will continue to develop our integrated digital platform. The first stage of roll out is due early in 2023, including management of change, incident management and contractor safety management

# Investing in people



Casper, Auckland

## Our long-term success depends on the skill and commitment of our people, so investing in them is vital.

We are committed to creating a culture where we care about each other, encourage different views and perspectives and treat each other respectfully.

We are focused on building an inclusive workforce where diversity flourishes and teams can achieve their highest performance. This involves the ongoing development of our employees to help them respond to the ever-changing nature of work.

## Our approach

Our Code of Business Conduct and global policies, including ethical behaviour and diversity and inclusion, set clear expectations for how our people need to act and behave. These policies are supported by local guidance to reflect relevant regulations and norms.

As part of our customer-led operating model, understanding and connecting with local markets is vital to our success. By hiring and developing local talent, we contribute towards the shared success of our Co-operative and the countries where we operate. Throughout the world, we are committed to identifying and unlocking our people's potential by developing capability, leadership and talent through coaching, learning and regular feedback. We respect and support everyone's uniqueness, regardless of sexual orientation, gender identity or gender expression and recognise that diversity contributes to a stronger, more successful and sustainable Co-operative.

We fund an independently administered whistle-blowing hotline (The Way We Work Hotline) facilitated by Deloitte. It's available to all employees globally to raise concerns about behaviour not aligned with our Code of Business Conduct and we provide an Employee Assistance Programme (EAP) where employees can seek advice and counselling.

Fonterra has a long-standing agreement with the International Union of Food and the New Zealand Dairy Workers Union that recognises our commitment to the Conventions of the International Labour Organisation for all Fonterra employees and is built into our Code of Business Conduct. In New Zealand, 61% of all full-time equivalent Fonterra employees are covered by collective bargaining agreements and we have union agreements and relationships in many other markets.

This section covers all people who we employ directly around the world.



Kylie, Pahiatua

## What we've been doing

### Learning and development

In 2019, we signed the Aotearoa New Zealand Skills Pledge, and by 2025, we are committed to doubling on-the-job training and reskilling hours in New Zealand from a 2020 baseline. The Skills Pledge aligns with our focus on building the right capabilities, preparing employees for their roles today and for their future careers in New Zealand and globally.

In the past year, our New Zealand employees spent more than 501,879 hours upskilling, an increase of 85.6% on FY20, and an average of 45 hours per learner<sup>1</sup>. The main areas of growth in FY22 have come in the areas of leadership development (up 81,600 hours), technical programmes such as DAIRYCRAFT<sup>2</sup> (up 38,700 hours) and apprenticeship training (up 40,000 hours).

Our Leadership Essentials Programme (LEP) is about developing our current and future frontline leaders. To date, over 1,000 employees have participated in LEP and 360-degree appraisals taken before and after programme participation show significant improvements. A core element of LEP is leveraging internal expertise. We have 50 sponsors and a network of over 200 coaches. With additional development and support, some LEP alumni go on to become LEP coaches themselves, building on skills they learned in LEP and giving back to the programme.

The High-Performance Teams (HPT) programme emphasises two modules: "Saying what needs to be said" and "Debriefing for Team Performance" which is a leader-led programme with 43 leaders facilitating adoption in other teams. The focus is on practical discussions that help the team become even more effective as a team. In FY22, 72 leaders across a range of teams totalling over 600 team members, completed the HPT programme.



Claire & Mitko, Auckland

For our New Zealand manufacturing sites and distribution centres, DAIRYCRAFT is our 18-month programme allowing employees to develop relevant technical skills and gain independently recognised qualifications. This year, 249 employees completed level 3 and 35 completed level 4. We also saw our 1,000th employee complete the programme since it began in 2015.

We have continued to grow our apprenticeship training with the support of some government funding for the first two years of what can be a four-year programme. During F22, we placed 23 new trade apprentices, making up 43 of the 44 apprentices in our funding agreement with MBIE. We offer apprenticeships across various disciplines, including heavy automotive, electrical and mechanical engineering. We have also expanded our early career programme to include a dairy apprenticeship and an energy centre traineeship. At the end of FY22, we had 63 active apprentices and 19 energy centre trainees.

### Culturing high performance

Our Long-Term Aspirations have set high expectations for performance in an increasingly uncertain environment with a high likelihood of disruption. To meet these challenges and deliver the maximum value from every drop of milk, we need an adaptable workforce who are inspired to consistently perform at a high level.

This requires a step change in our culture (how we collectively choose to show up to deliver performance). Recognising that we can collectively show up in ways that optimise performance towards our goals, or hinder our progress, this work is about deliberately dialling up what optimises performance and stopping what doesn't. It's about thinking and acting differently and being clearly aligned with strategy. This year, we've progressed both bottom-up and top-down approaches.

Across the Co-operative, thousands of staff have been engaged in culturing conversations as part of their everyday team activities. The aim is to raise staff awareness so they can recognise whether their current culture is delivering high performance, and build their capability to create the best conditions for progressing our strategy.

We have delivered tailored capability building for key leadership groups and functions, including Strategy and Innovation, Nutrition Science Solutions and Centralised Portfolio Management. This is focused on improving our decision-making, operational effectiveness and value creation by optimising culture for high performance.

1 These figures cover New Zealand based employees only. The reporting systems for training elsewhere in the world currently do not allow us to report globally in a consistent manner.  
2 The DAIRYCRAFT training is recognised by the New Zealand Qualifications Authority (NZQA).

## Diversity and inclusion

Diversity and inclusion are a priority for us and, this year, we gathered momentum with increased support for global initiatives such as International Women's Day and Māori Language week. Our mahi (work) was acknowledged by having our Rainbow Tick certification renewed and being finalists in the Deloitte Top 200 for D&I Leadership.

We are nurturing an organisational culture and leadership approach where inclusive teams are an embedded behaviour and a natural way of operating. This requires an integrated approach where our diversity and inclusion, culturing and leadership teams work together (see Culturing high performance on the previous page).

On gender diversity we continued a positive upward trend, increasing female representation in global senior leadership from 32.4% to 34.8% and, for the start of FY23, two women were internally promoted to the Fonterra Management Team. To help guide our next steps, we interviewed a range of employees, including employees who had recently left Fonterra, and covering a mix of females and males in senior leadership, pipeline leadership and other roles, to understand their experiences. This has helped us develop an action plan for improved gender diversity. We also set a new goal, 40:40:20, which we believe is more appropriate and sends a positive signal on the direction we want to go. 40:40:20 refers to 40% female, 40% male, 20% of any gender. The 20% introduces the flexibility of female, male or non-binary gender. We have also extended the range of senior leadership covered by the goal to Bands 12+.

In FY21, we extended our parental leave cover for New Zealand employees, offering extra care for primary carers who have been employed for at least 12 months. We top up their government parental leave payments to 100% of base salary or wages for 26 weeks (up from 16 weeks at 80%). In FY22, 153 females and 15 males took parental leave as primary caregiver, and 2 females and 219 males took parental leave as secondary caregiver.

On ethnic diversity, we are also investigating alternative ways to express our intent and track progress. The project will start by reviewing the experiences of Māori and Pasifika employees within our Aotearoa New Zealand teams and make recommendations about how we make the

Co-operative more inclusive for different ethnicities. This will include identifying suitable indicators for progress covering the unique Aotearoa New Zealand context and our global teams. In the meantime, we continue to monitor ethnic diversity in senior leadership. This year, primarily due to increased voluntary disclosure of ethnicity information, ethnic representation in senior leadership improved from 9% to 15%.

## Our Māori strategy – Haea te ata (To draw a new day)

Haea te ata is based on three pillars, designed to introduce and weave Te Ao Māori (the Māori world view) through the Co-op in a genuine and authentic way. Tāngata (people and relationships) – recognising the unique contribution of Te Ao Māori in how we interact with people; Taiao (natural environment) – recognising the unique contribution of Te Ao Māori in how we interact with our natural environment; and Tuakiri (pride and identity) – how we tell our unique Aotearoa New Zealand provenance story.

Our Matakahi Māori (Māori Development) team continues to drive our Co-operative's relationships with tangata whenua (people of the land), to strengthen our Māori shareholder and farmer connections. The team are also leading Co-op-wide cultural capability and awareness initiatives.

A significant milestone this year was the creation of Te Pou Mātāpuna<sup>1</sup> (led by master carver Arekatera (Katz) Maihi). It was created and installed in four stages: Whakarongo – to listen, Whakawhiti – to reciprocate, Whakamahī – to create, and Whakatū – to install. More than 1,000 of our global employees and farmers contributed stories online and in person. Katz and his team then brought these stories to life through Te Pou Mātāpuna, unveiled at a ceremony led by mana whenua Ngāti Whātua Ōrākei. It is a physical representation of our journey to date and an inspiration going forward (read more on our [website](#)).

We also launched two new e-learning modules Te Pū Taka Māori (The Māori Alphabet) and Ngā Ingoa Wāhi (Māori place names) for global rollout and to help with accurate use of Te Reo Māori (the Māori language).

1. A pou is a traditional Māori way of telling a story through the art of wood carving.



Ngāti Whātua Ōrākei master carver Arekatera Maihi carving Te Pou Mātāpuna.

## Closing our gender pay gap

We believe that after considering factors such as tenure, qualification levels or experience there should be no gender pay gap for any employees.

We believe this is a complex topic and cannot be accurately summarised by a single aggregated number. Instead, we believe transparency is important, including consideration of both mean and median calculations of the pay gaps and providing a breakdown by geographies and job categories.

Overall, the ratio of female to male base salary has remained the same this year at 0.93 on a median basis and 1.07 on a mean basis. This result continues to be influenced by factors such as the different proportions of men and women in lower paid and higher paid levels around the world. This illustrates the importance of tracking different breakdowns which show the mix of changes across roles and geographies.

Considering job categories globally, Manager and Waged categories remain essentially unchanged, for Senior Leaders there was a small widening in favour of males and for Professionals there was a small widening in favour of females.

For New Zealand, the gap on a median basis is 0.95 which is equivalent to a 5.1% pay gap and continues to compare very favourably with the most recent national median of 9.2% for the June Quarter 2022.

We are investigating ways to improve internal reporting to track progress more frequently and are establishing long-term gender pay plans as part of broader talent and diversity strategies.

### Gender pay gap by job category

JOB CATEGORY	MEDIAN
Senior Leaders	0.94 -> <b>0.91</b>  
Manager	0.96 -> <b>0.95</b>  
Professionals	1.10 -> <b>1.12</b>  
Waged	0.83 -> <b>0.83</b> = 

### Gender pay gap by location

LOCATION	MEDIAN
New Zealand	0.96 -> <b>0.95</b>  
Australia	0.97 -> <b>1.02</b>  
Brazil	0.96 -> <b>0.84</b>  
Chile	1.31 -> <b>1.36</b>  
Greater China	0.97 -> <b>1.09</b>  

Gap narrowed 

Gap widened 

Gap same = 

## Non-discrimination

Through our independently administered whistle-blowing hotline (see The Way We Work Hotline [page C&S-03](#)), three disclosures were made this year relating to discrimination, including harassment. Following investigations, none were substantiated. In addition to concerns raised through The Way We Work Hotline, some discrimination and other employment issues are raised with local human resource or management teams every year. These are reviewed and, where appropriate, formally investigated in a similar manner. In New Zealand, 14 formal complaints were raised that included allegations of discrimination or harassment. In so far as these related to alleged discrimination or harassment, five were substantiated (resulting in disciplinary processes), four were unsubstantiated, four were resolved informally between the parties and one remains an active matter. At the reporting date last year, one complaint in New Zealand remained under investigation. That complaint was subsequently found to be unsubstantiated. In respect of other countries, four complaints were raised in Australia. Of these, three were partially substantiated and resolved between the parties and one was unsubstantiated. One complaint was raised in Sri Lanka, which was unsubstantiated. One complaint was raised in Japan that was substantiated and resulted in a disciplinary process. No complaints of discrimination or discrimination-related harassment were reported in other countries.

### What's next

- We will continue to ramp up our on-the-job skills training and accelerate the deployment of our High-Performance Teams programme, with around 1,000 employees expected to complete the programme in FY23.
- We will continue to improve gender diversity, including pursuing our 40:40:20 goal for senior leadership, and also review the experiences of Māori and Pasifika employees within our Aotearoa New Zealand teams to help us make the Co-operative more ethnically inclusive.



## Case Studies:



**Malcolm Peacey**  
– Senior Environmental  
Manager, Edendale

### Leadership essentials – Malcolm Peacey

Malcolm started with Fonterra in 2013 as an Environmental Engineer and became Environmental Manager at the Edendale manufacturing site in 2019. The role can be intense, with several different hats to wear and competing priorities, including ensuring regulatory compliance and leading a team.

Malcolm started the Leadership Essentials Programme (LEP) in October 2020 and enjoyed the opportunity to take a step back from his day-to-day activities and develop skills to help him be more effective as a leader.

“The ‘big rocks’ and ‘managing my energy rather than my time’ tools were pivotal for me and I now take regular time for

reflection and planning. The share and reflect sessions with my LEP cohort kept me accountable and encouraged me to keep going.”

“The Leading My Team module helped me view my team interactions differently, shifting to a more relational approach where I am now quicker to listen and seek to understand what is really motivating them. The combination of LEP tools, the guidance of my coach and having a supportive manager have brought me to a place where I am confident and enjoy my role as a leader in the Co-op.”



**Top: Ema-Kahurangi Richmond, Jayda Maniapoto, & Jessa McIntyre-Taylor**



**Bottom: Bradley White & Dr Rafea Naffa**

### High performance team – analytical chemistry FRDC

Over a few years, the Analytical Chemistry team at our Research and Development Centre (FRDC) have transformed from providing a testing service into a value-adding science function equipped with leading-edge technology that delivers niche science outputs. Key to achieving the transformation has been the introduction of the High-Performance Teams framework.

Based on the principles of “saying what needs to be said”, conversations and interactions within the team and externally have become richer, and debriefing sessions have identified opportunities to

improve their ways of working. With a strong focus on ‘how’ work is done, the team say there’s been a noticeable shift in mindset.

“We now think more about “what if?” and aiming high instead of living with perceived barriers. Our confidence is stronger, engagement is higher, and our growth is more self-led.”

“We are focused on excellence, with development and engagement at our core. Because of that, upskilling has become easier, providing us with increased scientific agility and resulting in quicker, smarter and more sustainable innovation outputs.”

# Nature

We are working together to achieve a healthy environment for farming and society.



Tiakina te whenua i tēnei rā, hei oranga tangata mō ngā rā e heke mai nei.

Caring for the land today, so that the land cares for us tomorrow.

Nature plays a vital role in supporting the production of the valuable nutrition we deliver. Communities value their surroundings as a place to enjoy, and consumers are increasingly interested in where their food comes from and how it is produced.

We want to play our part in protecting and restoring nature so that we can continue producing nutrition inter-generationally. To achieve this, we are using our science and innovation skills to solve environmental challenges both on and off farm.

We are committed to leading the transition to net-zero GHG emissions for dairy nutrition, adopting and investing in leading practices to improve land and water, reducing waste and protecting the wellbeing of animals in our supply chain. In this way, we aim to demonstrate that dairy can be a net-positive contributor to nature.

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**71%** ↑

of our farmer owners in New Zealand have a Farm Environment Plan tailored to their specific farm, on the way to 100% by 2025 – see [page 28](#)

**11.2%** ↓

reduction in our GHG emissions (scope 1 & 2) since FY18, on the way to 30% by 2030 – see [page 31](#)

**6.6%** ↓

reduction in water use at our manufacturing sites in water-constrained regions since FY18, on the way to 30% by 2030 – see [page 26](#)

**76%** ↑

of our farmer owners in New Zealand have an Animal Wellbeing Plan annually reviewed with their vet – see [page 43](#)

# Land and water

## Healthy freshwater, soil and ecosystems are essential to the long-term success of farmers' businesses, the Co-operative and communities.

Kaitiakitanga (how we care for our environment) is critical to safeguard opportunities for future generations. We believe this regenerative mindset must become embedded through our global value chain. As part of this, we are committed to working proactively with local stakeholders on catchment-wide solutions.

This section covers our impact on land and water from the manufacturing operations we manage globally and the farms from which we collect milk.

### Our approach

When our manufacturing sites withdraw water from the environment to use and subsequently discharge wastewater, this can impact a resource we share with others. We are committed to playing our part to improve the environment and maintain water security for our communities and operations (see next column).

Recognising the importance of effective water stewardship, we take a collaborative planning approach, assessing the health of sourcing and receiving environments as a key outcome for ongoing and long-term improvements. Recovering water from milk when we make powder products means that most sites discharge more water than they take in. By improving processes and adopting new technologies, we aim to further reduce water use (see [page 26](#)) and improve wastewater treatment (see [page 26](#)). Our management of risk also considers the potential adverse impacts of business activities on biodiversity and ecosystems, seeking to improve environmental outcomes.



Sediment testing, Tararua.

We support farmers to prepare for and meet increasing regulatory requirements, identify environmental impact risks and prioritise improvement actions specific to their situation (see [page 28](#)). This includes encouraging and supporting the adoption of recognised good farming practices related to water, soil health and biodiversity, including the exclusion of stock from waterways, riparian management, nutrient management and land management that minimises soil disturbance.

Please refer to “Working with farmers” on [page 47](#) and “Managing operations” on [page 49](#) for more information on our general approach to improving our performance.

### What we've been doing

#### Improving water stewardship at our manufacturing sites

We have had a long standing focus on using water responsibly, with specific targets for water reduction and wastewater treatment. As part of our long-term strategy, we recognise the importance of water to our business and communities, and we plan to invest around \$600 million of capital in the next eight years. As water stewards, we are committed to

playing our part to improve the environment and maintain water security for our communities and operations.

To maximise the positive impact we can achieve through this investment, we intend to improve water stewardship at our manufacturing sites by establishing bespoke water improvement plans that consider water availability, water use and wastewater quality in a long-term integrated manner. Our objective is to ensure that sites can operate in a resilient, efficient and unconstrained manner into the future while maintaining water security for related communities.

This year, we reviewed our water-related targets. Our aim is for all manufacturing sites to have their bespoke water improvement plan by the end of FY24. We are also broadening our water reduction target. While sites in water-constrained regions will continue to be prioritised, our aim is to reduce absolute water use across manufacturing sites by 15% by 2030, from a 2018 baseline. Our target for wastewater treatment remains the same. At least 80% of manufacturing sites are treating wastewater to leading standards by 2030.

## Using less water

This year, we continued to prioritise our efforts to improve water efficiency in water-constrained regions. We made good progress, turning around the slight increase in FY21 and almost achieving our target for FY22. Water use decreased at these sites by 4.2% this year, taking us to a 6.6% absolute reduction against our 2018 baseline. That means we are using about 950 million litres less water at these sites than in 2018. That saving is equivalent to about 375 Olympic-sized swimming pools each year.

To achieve this, six of the seven manufacturing sites in water-constrained<sup>1</sup> regions delivered reductions from work completed late in FY21 or this year, including the following examples. Using a natural wetland process at Maungatūroto delivered savings and won an award (see Annual Report [page AR-37](#)). At Kauri, Maungatūroto and Darfield, water use was reduced by optimising the flow of water used within pump seals. Darfield improved the operation of their reverse osmosis plant and our Lichfield site identified and resolved an underground leak.

Sites in regions where water is not constrained also made improvements this year. This included a nationwide programme in New Zealand to reduce the idle running time of milk dryers between batches. In Australia, at our Wynyard site, we commissioned new equipment to capture and reuse water, saving around 42.5 million litres in its first year.

## Improving wastewater treatment

Ultimately, we would like to see all the nutrition from the milk we collect from farm make it into the products we sell. However, minor process losses mean some nutrients, plus some residues from the cleaning chemicals we use to keep our factories food safe, end up in our wastewater. This needs to be treated before it is released into the environment.

<sup>1</sup> We determine whether a site is in a water-constrained region using a combination of independent water-stress information (e.g. WRI Aqueduct) and local information (e.g. water allocation). In FY22, six New Zealand sites: Edendale, Clandeboye, Darfield, Lichfield, Kauri and Maungatūroto; and one Australian site: Stanhope, were identified as in water-constrained regions.



Upgrading the wastewater treatment facilities at Te Awamutu.

In New Zealand, our Nutrient Management team manage 29 farms close to our factories. Aligned with circular thinking, rather than the nutrients from process losses being considered waste, we use them to improve soil health on these farms. This helps with growing feed, such as grass and maize silage, which can be fed to cows and help them produce quality milk to process at our sites.

Recognising that stakeholders have different views and values when it comes to improving water quality, we believe that a leading industry approach to wastewater quality requires true collaboration. We judge our success based on a combination of internal guidelines and satisfying the expectations of key stakeholders at a catchment level. At the end of FY22, 56% of our global manufacturing sites met these criteria, and by 2030, we plan to upgrade wastewater treatment facilities at 14 sites, taking us to at least 80%.

Last year, at our Whareroa site, we installed a dissolved air flotation (DAF) system to treat wastewater before discharging it to the ocean. DAFs are particularly effective at removing substances such as fats, common in dairy wastewater, and are measured using chemical oxygen demand (COD). This year, the system has delivered about a 13% reduction in the COD of the wastewater discharged.

At our Clandeboye site, we installed new trial equipment to remove dissolved inorganic nitrogen, which largely arises from cleaning activities in the factory. The trial was successful and received positive feedback from both the regional council and local iwi (tribe) representatives during a subsequent site visit. We are now constructing a full-size plant which will lead to a significant improvement in water quality.

Upgrades are underway at our Te Awamutu and Tirau sites. The upgrade at Te Awamutu is well advanced with the last section planned for July 2023. The Tirau upgrade has just commenced and is planned for completion by July 2024. These will significantly reduce both the nitrogen and phosphorus in the wastewater discharged.

We were recently granted consent to construct a new wastewater treatment plant at our Hautapu site in the Waikato. Detailed plans are now being progressed and we aim to begin construction in September 2023.

## Sustainable catchments

To achieve sustainable water catchments where we operate, we know we can achieve more by working with others. Our aspiration is to put nature at the heart of a regenerative food production system and help reverse the decline of New Zealand's natural resources by partnering with others to solve local and global environmental issues.

Established in 2013, our Living Water partnership with the New Zealand Department of Conservation is working with farmers, scientists, councils, mana whenua and local communities in five catchments across 35,000 hectares. The goal is to identify game-changing and scalable solutions that show dairying and freshwater can thrive together. This work is focused on innovation and demonstration of what is possible. To date, we have initiated 40 trials of different tools and solutions, and 14 solutions have been scaled or used by others (for more information on the Living Water partnership, see [page 51](#)). Of those Fonterra farmers operating in the five catchments, 90% have engaged with the partnership, (up from 72% in FY21) and 50% are implementing freshwater improvement actions that go beyond regulatory requirements (up from 48% in FY21).

Beyond the five Living Water catchments, we are supporting farmer and community action in other catchments across New Zealand. Working alongside local stakeholders such as regional councils, the Department of Conservation, iwi, farming leaders, scientists and other industry members in catchments across New Zealand, our aim is to build on existing community efforts, helping them achieve their priorities and nurturing the national movement on catchment restoration. We have delivered 88% of the 146 agreed partnership actions in four years.

We are also supporting several catchment level and national initiatives intended to deliver transformational change. This year, we signed a memorandum of understanding with Te Taumutu Rūnanga for Living Water to support capacity and capability building for their freshwater and environmental mahi (work).

### Sustainable Catchments Partnerships – Examples

#### National – Kaupapa Māori Cultural Health Assessments

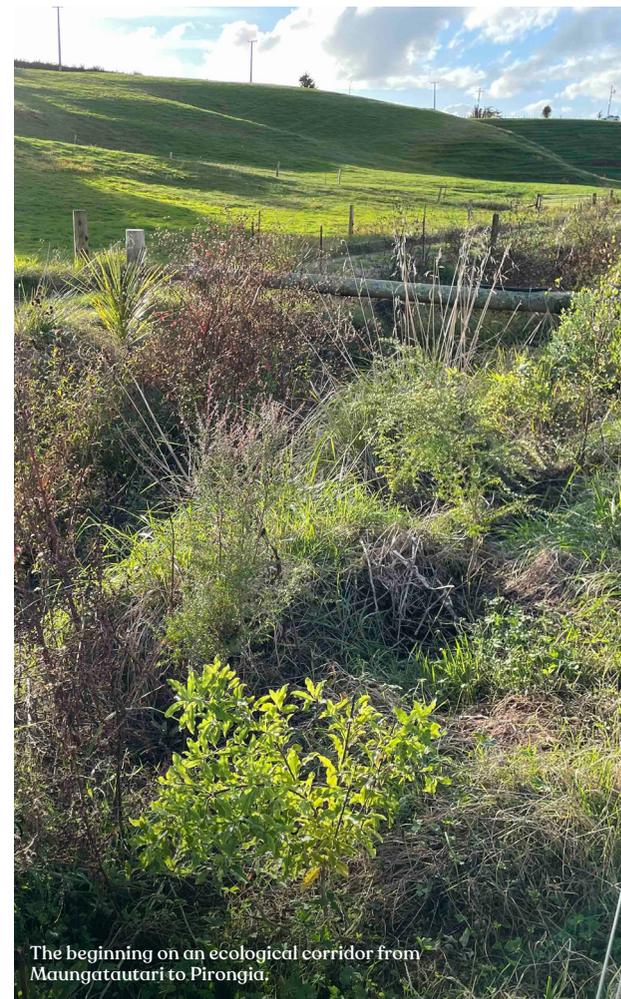
Freshwater ecosystems are significant to Māori and are integral to Māori cultural identity. Kaupapa Māori Cultural Health Assessments is an assessment approach derived from the Māori world. We are investigating how these assessments might fit alongside traditional data-based approaches and help with our mahi around water quality and biodiversity. This year we have started supporting Kaupapa Māori Cultural Health Assessments for sub-catchments in both the Waikato and Taranaki regions.

#### Northland

We have supported the Mountains to Sea Conservation Trust to extend their work identifying and protecting whitebait habitat with local farmers and communities. We also supported an application to expand this work across further catchments in Northland and this year, the Ministry for the Environment have announced new funding of \$1 million for the Whitebait Connection.

#### Waikato – Mangapiko Stream

In the Waikato, we have extended our support of the Mangapiko Streamcare Group to help them with riparian planting along the Mangapiko Stream with the aim of establishing an ecological corridor from Maungatautari to Pirongia.



The beginning on an ecological corridor from Maungatautari to Pirongia.



Quentin and Lisa helping with planting in the Waioatahe catchment.

#### Bay of Plenty – Waioatahe

We provided funding and employees helped with environmental projects on public land in Waioatahe catchment in partnership with the Regional Council, Waioatahe Watercare, community groups and the local marae.

#### Hawkes Bay – Tukituki Wetlands Planning

Building on the success of previous work with Hawke's Bay Regional Council and NIWA constructing a large wetland at Tukipo, we are now supporting expansion to the wider Tukituki area, including identification of potential sites for the development of constructed wetlands.



A constructed wetland at Tukipo.



Planting day in the Greater Wellington region.

#### Taranaki – Rawhitiroa Wetland

We are supporting work at the South Taranaki District Council Wetland Reserve at Rawhitiroa with Forest and Bird, Ngāti Tupaea, Rawhitiroa School and the local community. The restoration project involves fencing, the creation of wetland habitat and a walking track.

#### Canterbury – Ashburton Flood Recovery

In partnership with Wildlands and impacted farmers, we are helping to regenerate biodiversity devastated by the Ashburton Floods this year. Site visits have been completed and a detailed catchment restoration plan is being prepared.

#### Otago – Poumāhaka

We have provided funding to the Pomahaka Water Care Group, to contribute to their efforts improving water quality and restoring natural values in the Waikaoihoi Creek.

### Prioritising on-farm improvements

Helping farmers understand their current areas of strength and opportunities for improvement is a priority for us. It is where we can add value to farmers, our customers and communities.

In New Zealand, our team of 40 Sustainable Dairy Advisors (SDA) are working with our farmer owners to establish farm-specific Farm Environment Plans (FEPs). Each FEP is unique to the farm and requires a physical visit to capture the specific environmental characteristics, assess current activities against industry-defined Good Farming Practices (GFP) and agree prioritised improvement actions with the farmer.

This year, we delivered more new FEPs than planned, increasing coverage from 53% to 71% of supplying farms in New Zealand and well on track for 100% by 2025. This year, for the first time, our team of SDAs were not only establishing new FEPs, they were also revisiting farms with existing FEPs to re-assess them against the latest version of the FEP framework and to confirm progress on improvement actions. They were also coping with pandemic-related travel restrictions. This makes the amount of progress the team has made even more significant.

The need for updates to our FEP framework and process is assessed on an annual basis, and to date, additional modules have been added nearly every year since we launched the service in 2018. Our goal is for farmers to remain a step ahead of future regulations and the requirements of our customers (see also [The Co-operative Difference on page 47](#)). The regulatory requirements vary between different regions in New Zealand, and in all cases the requirements of a Fonterra FEP go beyond these. In most cases, each GFP is higher than the local regulatory requirement, but where the local requirement is higher, the farm is assessed against that.

Topics currently covered in the FEP include water, soil health, biodiversity, GHG emissions (see [page 32](#)), mahinga kai (the value of natural resources) and whakapapa (recognising the people and their connection to the land over multiple generations). For the farms with irrigation systems (about 19%), our FEPs also build on regulatory requirements for metering and support water efficiency improvements.

We are currently undertaking a project with Dr Gail Tipa (from our Sustainability Advisory Panel see [page 07](#)) to critique our FEP modules through a cultural lens, bringing indigenous knowledge and a unique sustainability perspective. By overlaying iwi environmental plans and considering proposed regulatory changes, the aim is to further improve our FEP service for our Māori shareholders.

In New Zealand, farmers complete our annual Farm Dairy Records update, which is a key input for the Farm Insights Reports we provide them. This combines information on nitrogen risk, milk quality, GHG emissions and animal wellbeing, providing the farmer with detailed information on their performance relative to the average farm in their region and nationally. It also identifies the potential financial benefits that could be achieved by making specific improvements. Over the last three years, overall nitrogen risk has reduced with the average Purchased Nitrogen Surplus reducing by 12%.

Building on the FEP framework and delivery service developed for New Zealand, our Farm Source team in Australia has tailored it for the specific needs of the Australian farming environment. This year, we started rolling out this service to farmers and 70 farms supplying us milk in Australia now have a farm-specific FEP. Feedback from participants has been positive, with both short-term and medium-term benefits identified, including the value of having a tangible plan that demonstrates their commitment and actions to producing environmentally friendly milk. Our aim is to roll this out to a further 100 farms in Australia during FY23.

## Our performance



**71%**

of our farmer owners in New Zealand now have tailored Farm Environment Plans



**6.6%**

reduction in water use at manufacturing sites in water-constrained regions

## What's next

- We will continue to support our New Zealand farmer owners as they establish Farm Environment Plans, focusing on the specific priorities for their farm
- We will use this approach to drive improvements that positively impact water quality, water use, soil health and biodiversity
- We will continue to improve water stewardship at our manufacturing sites, establishing integrated water improvement plans covering both water usage and treatment of wastewater



Durham farm, Waipu

# Climate change

**We support a just transition to a resilient, low-emissions economy and are committed to leading the transition to a net-zero GHG emissions future for dairy nutrition.**

Global food production accounts for 20-30% of global GHG emissions with dairy accounting for 2-3% of global GHG emissions. However, dairy delivers a significant amount of the world's total nutrients, including 12% of protein, 24% of vitamin B2 and 49% of calcium.

Pre-farmgate, the GHG emissions associated with dairy products mostly come from the methane cows produce, with total farm-related activities accounting for about 90% of Fonterra's reported GHG emissions. The carbon footprint of New Zealand's on-farm milk supply is already one of the lowest in the world. As our business accounts for about 20% of New Zealand's GHG emissions, we are committed to helping reduce this further and leading the transition to a low-carbon future.

Milk is highly nutritious but very perishable, and our natural pasture-based farming means the volumes produced are highly seasonal. Pasteurising milk and drying it into powders adds significant value to the raw milk, producing safe, long-life nutrition that is efficient to store and transport, but it does require significant amounts of reliable energy. Currently, a lot of that energy comes from fossil fuels, and our manufacturing activities account for about 9% of our reported emissions.

Despite being located a long way from many of our markets, our efficient transportation of finished goods, primarily by ocean freight, means only about 1% of our reported emissions are associated with distribution to destination countries. The world needs a global approach to achieve a sustainable food system meaning emissions-efficient nutrition from countries such as New Zealand plays an important role.

Agriculture is facing significant disruption from changes to climate and increased variability in weather patterns. Based on the climate change scenario work we have completed, most of our milk comes from regions where impacts may be less severe. With some adaptation, there is a great opportunity for us to continue to produce safe, world-class quality food products.

This section covers our impact on; and our response to; climate change across our supply chain.



## Our approach

We are committed to the Paris Agreement target to keep warming below 2 degrees and to pursue efforts to limit the temperature increase to 1.5 degrees. This commitment reflects the latest science and is aligned with the New Zealand Government's ambitious, nationally determined contribution.

We have science-based targets for reducing our scope 1 and 2 GHG emissions, which arise primarily from our manufacturing activities, and for engaging with our farmer-owners to help reduce the GHG emissions in our supply chain.

For on-farm, we regularly commission carbon lifecycle assessments (see previous page). In New Zealand, we provide farm-specific GHG reports (see [page 32](#)) so farmers can understand their current performance and prioritise improvements. Our Farm Environment Planning service includes a GHG emissions module (see next page), and we are investigating a wide range of potential breakthrough technologies to help reduce on-farm GHG emissions (see [page 32](#)).

For our manufacturing operations, our approach is to use less and emit less. Improving energy efficiency (see [page 34](#)) not only uses less energy, it also reduces emissions, reduces costs and will help with our transition to lower carbon energy sources. We also emit less by continuing to transition to lower carbon energy sources (see [page 34](#)).

For distribution, our approach is to partner with transportation organisations and other import/exporters to continuously improve resilience and efficiency and to pursue low-carbon options for heavy goods transportation (see [page 35](#)).

Please refer to "Working with farmers" on [page 47](#) and "Managing operations" on [page 45](#) for further details of our approach.



Andrew & Chris, Canterbury

## What we've been doing

### Understanding our on-farm emissions

To understand the full carbon life cycle of the milk we collect in different regions of the world, we regularly commission analysis by AgResearch, an independent New Zealand Government research agency. The approach considers the full life cycle from feed production (including purchased supplementary feed) to the milk leaving the farm and is aligned with internationally recognised methodologies and tools (see [page 76](#)). We use this information to estimate our absolute GHG emissions related to farming (see graphs on [page 38](#)), to identify opportunities for further reduction and to support related-service offerings to customers (e.g. CarbonZero™ certified products, see Annual Report [page AR-39](#)).

GHG accounting is an evolving science, and there are frequent updates to method details and factors to be used, as well as changes in underlying base data and assumptions. Changes to international and local guidelines are investigated each time we commission an update of the footprint. As is the case this year, when changes are material, we transparently re-baseline and back-calculate our footprint so our progress can be assessed on a like-for-like basis, using the latest available science.

In New Zealand, for the 2020/21 milk season, the estimated cradle-to-farm-gate carbon intensity, including land use change (LUC) and peat soils is 1.03 kilograms of carbon dioxide equivalent per kilogram of fat-and-protein-corrected milk (kg CO<sub>2</sub>-e/kg FPCM)<sup>1</sup>. Excluding land use change and peat soils this is 0.86 kg CO<sub>2</sub>-e/kg FPCM which appears to be an increase compared to the 0.80 kg CO<sub>2</sub>-e/kg FPCM we reported for 2019/20 season in FY21, however this increase is due to a combination of updated methodology details. Comparing the 2020/21 result to 2019/20 on a like-for-like basis including LUC shows a 2.5% reduction year-on-year. The changes which contributed most to the increased footprints were updates to fully account for peat soils and to reflect the increased storage time of effluent (see Data Reporting Notes [page 78](#)). While our farmers have been making gains in on-farm efficiency, the total on-farm emissions intensity has remained relatively flat since 2010 (accounting for land use changes and increases in brought-in supplementary feeds).

Our most recent assessments for other regions are: Australia 2017/18 season at 0.98 kg CO<sub>2</sub>-e/kg FPCM; China 2016/17 season at 1.45 kg CO<sub>2</sub>-e/kg FPCM; Soprole our subsidiary in Northern Chile 2017/18 season at 1.45 CO<sub>2</sub>-e/kg FPCM; and Prolesur our subsidiary in Southern Chile 2017/18 season at 1.34 CO<sub>2</sub>-e/kg FPCM.<sup>2</sup>

- 1 We are involved in a trial of the C-Seq methodology which will allow for sequestration of carbon to be included in the overall footprint of milk to farm gate but at present we do not include sequestration in our reporting.
- 2 While we have adjusted the non-New Zealand results to align all on IPCC AR6 (see Data Reporting Notes on [page 78](#)), they have not been updated in the same way as the New Zealand result to reflect the latest global and national inventory methods and assumptions.

## Reducing on-farm emissions

In October 2021, we issued Farm Insights Reports in New Zealand, including a farm-specific GHG Report. For farmers, understanding the number of emissions produced on their farm and how they are performing relative to their peers, is a key step to identifying and prioritising improvement opportunities. Each report has a breakdown of the estimated GHG emissions for the specific farm by the source of those emissions and is based on a combination of primary data collected from the farmers annually and secondary as used for our national lifecycle assessment. In October 2022, we will issue farmers with this reporting for the third time.

In addition to the Farm Insights Reports, the Farm Environment Plans (FEP) we are currently rolling out (see [page 28](#)) also contain a specific GHG emissions module. FEPs are created in consultation with one of our Sustainable Dairying Advisors who visits the farm and can provide farmers with additional guidance. By 2025 all our shareholder farmers will have an FEP.

The calculation method, contents and processes we use for both the GHG reports and FEPs have been independently assessed and accepted by the He Waka Eke Noa steering group (see below) as meeting the requirements for the New Zealand Climate Change Response Act milestones.

In the short-term, the main improvements farmers can deliver will continue to come from adopting good management practices on farm. These include being efficient with feed and fertiliser, having the correct number of cows for the specific areas of land, improving animal husbandry and genetics, and maintaining good animal health. There are also opportunities to optimise pasture quality and use of supplements to meet feed demand, use alternative forages to reduce protein in the cow's diet, improve manure storage and spreading and reduce on-farm energy use.

Over the past three years in New Zealand, we have been supporting the He Waka Eke Noa Partnership to find practical ways to help farmers with emission reductions. The Partnership, involving representatives from across the Government, Primary Sector and Māori has been progressing a range of climate-related actions. This year, it drafted several options on how farmers could be charged for the emissions arising from agriculture and consulted widely with farmers on these options. In May 2022, the recommended approach was presented to the Government. Aligned with the Government's emissions reduction targets, it takes a split-gas approach with an overall levy calculated based on the methane and nitrous oxide produced with deductions made for approved emission reducing actions and sequestration by above ground vegetation. The Government is now considering the Partnership's advice alongside the Climate Change Commission's advice before deciding how agricultural emissions are to be priced. A final decision on the legislative proposals is expected by 31<sup>st</sup> December 2022.

Continued productivity gains, the adoption of good management practices on farm and the sharing of best practice offer the opportunity to make further footprint reductions in the coming years. However, new innovations from investment in research and development will be required to meet targeted emission budgets.

## Game-changing solutions for methane

Since the beginning of the Industrial Revolution, coal, oil and gas have fuelled the economic development and advancement of many nations. At the same time, according to the United Nations, these fossil fuels have been the largest contributor to global climate change, accounting for over 75% of global GHG emissions. While studies show that methane emissions from livestock have made a less significant contribution (roughly 12-14% of anthropogenic warming to date) we recognise that reductions in this area can play an important role in the overall solution.



For New Zealand farmers to meet expectations for methane reduction by 2030 and 2050, significant investment is required from both Government and industry in research and development to create practical steps that farmers can take. Achieving this type of change at the scale and within relatively short timeframes will require collaboration between the Government and industry to support farmers, and we are pleased to be one of the partners in the new Centre for Climate Action on Agricultural Emissions.

We are currently working with partners and other stakeholders on a wide range of potential solutions to help reduce the biological emissions for dairy farmers and the wider global agricultural sector. Our aim is to lead the transition to low-carbon dairy, which will help our customers further reduce the footprint of their products too.

For any game-changing solution to be successful, it needs to be good for the environment (GHG reduction), good for the farmer (practical and cost-effective), good for the cow (her health and performance) and good for the milk (composition and food safety). We are dealing with a complex system with an animal at its centre, this animal has a rumen to process what it eats, and in the rumen there is a complex microbial ecosystem. Not all research and development will deliver a successful solution, and there is unlikely to be only one. A broad toolbox of options is required so we are pursuing a wide range of potential approaches (see next page).

Leveraging research we had already completed using food grade, natural cultures and our library of dairy cultures built from over 90 years of research into cheese and yoghurt products.

We continue to make exciting progress with Kowbucha™ our natural probiotic cultures-based approach.

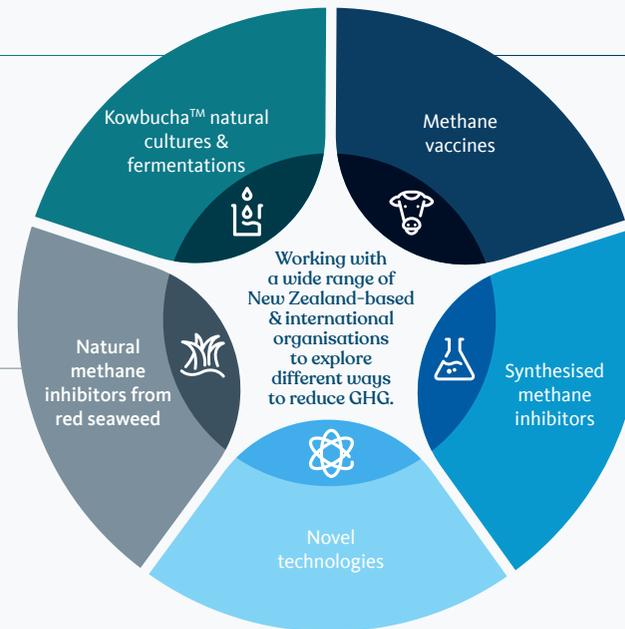
This year, laboratory results have shown that it is possible to reduce methane production by up to 20% by feeding Kowbucha™.

We have now started on-farm trials to see if it is possible to duplicate these findings and we are investigating under what conditions such a solution could work practically on farm.

In Tasmania, we are continuing to investigate whether small quantities of Asparagopsis seaweed could be used in dairy herds on a commercial scale to reduce biological emissions. This year, trials involving over 900 dairy cows have been completed with promising results in terms of animal health, food safety, farm viability and practicality for the farmer.

Building on their initial laboratory testing, CSIRO<sup>1</sup> has published their latest findings which indicate that the seaweed could reduce emissions but it is still too early to confirm by how much in different milk production systems.

We are partnering with Sea Forest Pty Ltd on this work. They farm the seaweed in aquaculture facilities, and are preparing to ramp up their production. If the trials prove successful, we have agreed that Fonterra farmers will have first option in dairy to the commercial solution.



A methane vaccine for cows would be a game-changer not just for New Zealand but also globally, as it could apply across multiple ruminant species.

What makes vaccines difficult is their delivery mechanism: from the bloodstream to cow's saliva, to rumen (stomach), and finally binding to the micro-organisms that convert hydrogen to methane.

This year, we have joined a new collaboration, the Ruminant Greenhouse Gas Partnership, which together with the New Zealand Agricultural Greenhouse Gas Research Centre, is now funding the research.

In housed dairy systems, where small amounts of inhibitors can be controlled in the daily feed rations, Bovaer®, from global nutrient company DSM, has proven to reduce ruminant methane emissions by up to 30%.

We are continuing to collaborate with DSM to investigate whether Bovaer® can be integrated into pastoral dairy systems such as those in New Zealand. Unfortunately, trials this year encountered technical difficulties with measurement on farm, so it is too early to draw conclusions.

The Ruminant Greenhouse Gas Partnership is also collaborating with the New Zealand Agricultural Greenhouse Gas Research Centre to see if we can further develop intellectual property related to some novel methane inhibitors that we originally helped to create via the PGgRC<sup>2</sup>.

One of the novel areas we are investigating is the potential 'destruction' of methane immediately after it has been produced by the cow. For pasture-based cows, this would involve the cows wearing a device. We are investigating three technologies: thermo-catalytic combustion, electro-catalytic conversion and replicated atmospheric destruction.

1 CSIRO - Commonwealth Scientific and Industrial Research Organisation in Australia.

2 PGgRC = Pastoral Greenhouse Gas Research Consortium

## Energy efficiency

Improving energy efficiency in our manufacturing operations remains a vital part of our decarbonisation strategy. Not only does it deliver immediate reduction in our GHG emissions and save costs, but reducing the amount of energy required helps sites prepare for subsequent transition to renewable fuel sources. For some of our manufacturing sites it is simply not feasible or affordable to transition to renewable fuels until we first significantly reduce the thermal energy we use.

This year, our overall energy efficiency improved 0.4% compared to last year, down to 7.08 GJ/tonne of finished goods. A wide range of improvement projects and a continued focus on operational efficiency delivered the overall improvement, despite some extra standby operations required to manage risk during COVID-19 outbreaks.

At Whareroa, prior to starting up for FY22, we upgraded equipment to efficiently remove water from whey permeate. This allowed us to retire ageing and inefficient evaporator assets and reduce the amount of steam we required. During FY22 this has reduced the energy we used for steam production at the site by about 65,000GJ (18 million kWh). That is a saving equivalent to the annual power used by about 2,500 average homes in New Zealand. This winter shutdown, we have installed new equipment which will allow us to use more recovered heat for preheating in our casein pasteuriser. This is expected to deliver about another 12,000GJ (3.3 million kWh) with these two combined projects delivering a reduction in GHG emissions of about 5,500 tCO<sub>2</sub>-e per year.

This year, also at Whareroa, we started a project to install two heat pumps as part of the refrigeration upgrade. Heat pumps are energy efficient and are increasingly being used in homes for heating and cooling, with a typical living room heat pump rated at about 5 kW. We need something considerably larger for our processes, and these heat pumps are each rated at 3.5 MW (700 times larger). We believe this will be the largest heat pump installation in New Zealand, reducing our annual energy use by 120,000 GJ (33 million kWh) per year and reducing our GHG emissions by about 9,100 tCO<sub>2</sub>-e per year.



New biomass boiler under construction at Stirling

## Transitioning to renewable energy sources

In 2017, we partnered with the Ministry for the Environment to develop a Roadmap to a Low Emissions Future. We successfully completed a range of activities including a study to investigate the feasibility of electrification at our Edendale site.

Currently, the operational and capital costs associated with replacing our coal use with electricity are too high, and external infrastructure and networks would need to be upgraded to meet the significantly increased demand. Based on current information, our preferred decarbonisation pathway for our coal fired sites is to continue to implement energy efficiency initiatives (see prior column) combined with switching fuel to wood biomass.

During FY21, we finished the conversion of our Te Awamutu boiler from coal to wood pellets. This year it operated successfully for the full season. The wood pellets are supplied by Taupo-based Nature's Flame and certified by the Forest Stewardship Council. The wood pellets are made from sawdust and shavings from nearby sawmill operations and produced using geothermal energy.

Our focus this year has been on the transition to wood biomass of our Stirling cheese plant in Otago. Go-live has been delayed several months due to the biomass boiler supplier, Austrian-based Polytechnik, going into administration while it restructured its finances. Polytechnik is one of the world's leading providers of biomass combustion plants with more than 3,300 firing systems installed worldwide but its liquidity was negatively impacted by factors such as COVID-19-related delays. They have involved stakeholders in the restructuring process and the Austrian Court has confirmed that they are no longer subject to the Administration process. Commissioning of the new boiler at Stirling is now expected to commence in November 2022. It will be our first site to use 100% wood biomass as renewable thermal energy, reducing our annual emissions by a further 18,500 tCO<sub>2</sub>-e.

Our next step will be replacing one of the three coal boilers at our Waitoa factory in the Waikato with a wood biomass boiler. Installation will commence later this year and we expect the new boiler to begin commissioning in November 2023. The new boiler will reduce the site's annual carbon emissions by at least 48,000 tCO<sub>2</sub>-e, the equivalent of taking 20,000 cars off New Zealand's roads. We also completed wood biomass firing trials at our Edendale and Hautapu sites this year.

Our goal is to transition the nine sites that still use coal to renewable energy by 2037, with the majority of coal transitioned by 2030. We continue to evaluate and improve our planning but the rate at which we can replace coal boilers is paced by upstream fuel supply development, New Zealand's capacity for large simultaneous infrastructure investment and the sequencing of outages during brief winter site shutdowns.

When transitioning to wood biomass, it is important that a reliable and renewable source can be obtained locally. Wood Energy New Zealand, a partnership between Pioneer Energy and Niagara Sawmilling, is supplying our Stirling site. They will be extending their operations into the North Island to support our Waitoa plans and boosting the local wood biomass industry.

In other parts of our business, we have also made changes to emit less, including the use of solar. This year, we added solar to a further three Farm Source stores in New Zealand, our Heerenveen site in the Netherlands and most recently to our administration building at Darnum, Australia. In total this year, about 1.5 million kWh of our energy came from solar generated on our premises, reducing our emissions by about 900 tCO<sub>2</sub>-e.

### Electrifying transport

In New Zealand, GHG emissions from road transport are one of the fastest growing sources and they are now higher than those arising from dairy cows. With solutions already available to reduce the emissions from transport and new technologies close to deployment it is important that we leverage these and play our part in increasing wider adoption.

With our heavy transport fleet, our focus has been on investing in practical ways to reduce our GHG emissions through efficiencies. For example, training helps our drivers improve fuel efficiency and sophisticated software systems help plan and execute our milk collection activities to minimise the distance travelled. In Australia this year, we installed a refuelling facility at our Stanhope site to reduce the wasted distance travelled for tanker refuelling. We have also invested in our tanker fleet, adopting the latest technology in terms of efficiency and lower emissions. This year we took that one step further and, with funding support from EECA<sup>1</sup>, are trialling the first fully electric milk tanker in New Zealand (see Annual Review [page AR-36](#)). We are also investigating a range of other options, including the use of hydrogen, either via direct injection or via fuel cells.

Last year we implemented a new policy that requires all light vehicles that can be electric to be transitioned when they are next replaced. Our aim is for more than 300 light vehicles (about one third of our light vehicle fleet) to be electric vehicles (EVs) by the end of 2023 and expand our network of EV charging stations. Last year, with co-funding assistance from EECA, we installed charging infrastructure at four sites in the South Island, acting as regional hubs. This year we expanded the charging capability to to further sites. We are also continuing to investigate options, including an on-farm trial of an electric side-by-side off-road vehicle, and trials of EVs as personally allocated vehicles for employees who travel extensively.



One of our pool cars in the South Island demonstrating what is possible. Photo by Nick Williams.

**Nick Williams, Lead Automation Engineer and personal owner of an EV, knew that driving an EV would be a new experience for many of our employees and likely to cause some anxiety given our rural operating environment. To increase confidence, he took one of the new pool cars on a round trip from Darfield in Canterbury to Tuamarina at the top of the South Island and back (about 700 km) and shared his experience on our intranet.**

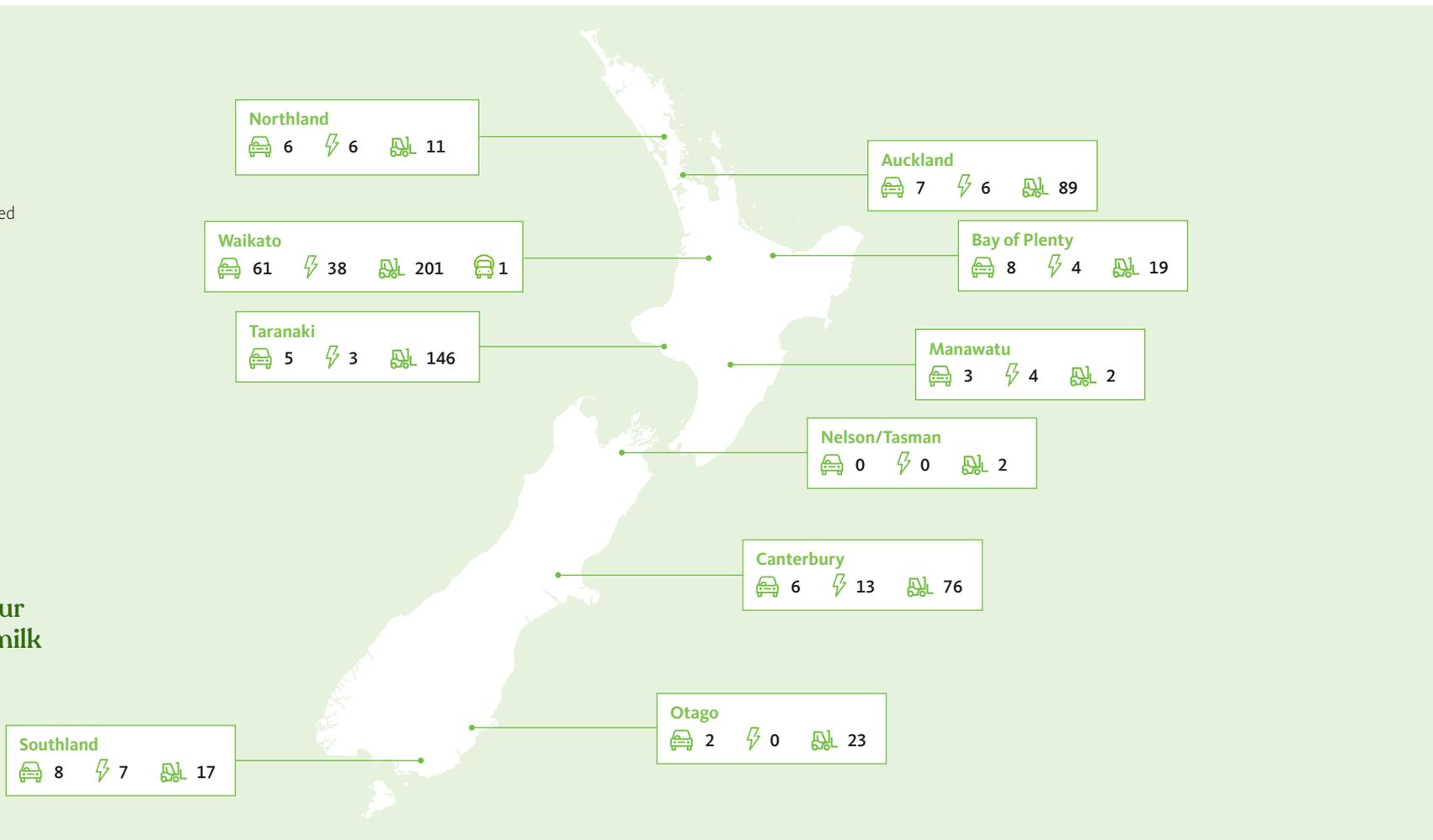
1 EECA – Energy Efficient and Conservation Agency.

## Fonterra's fleet decarbonisation

-  EVs
-  Vehicle chargers installed
-  Electric forklifts
-  Pilot E-tanker



We are trialling our first full electric milk tanker - Milk-E.





PolyJoule battery during farm trial near Te Rapa.

Photo by Glenn Sullivan

### Trialling new organic battery technology

As we transition away from fossil fuels towards renewable alternatives and increased electrification, efficient and effective energy storage will be crucial. Through our partnership with Professor Ian Hunter (Massachusetts Institute of Technology), which is investigating solutions to some of our biggest sustainability challenges, we are working with a spin off called Polyjoule.

Polyjoule has created an organic, low-cost and long-life battery that can compete with the currently dominant lithium options. Unlike traditional batteries, Polyjoule's technology does not include any rare earth elements (i.e. no lithium, nickel, cobalt or lead), is non-flammable and non-toxic and offers outstanding performance features such as fast charge and very fast discharge.

This year, we successfully trialled a Polyjoule battery at our Te Rapa farm, storing electricity produced by the farm's solar panels to increase the use of power from solar and provide an energy back-up. Some of our manufacturing sites are impacted by power quality events each year that can lead to product waste and long shut down times. We believe this battery technology could help minimise the impact from such events and so the next step is to trial the battery at our Waitoa UHT site.

### Milk vat monitoring system

Early this year we completed the installation of electronic monitoring systems on the milk vats at supplying farms in New Zealand. This technology not only helps our farmers supply high quality milk, it also improves the efficiency of our milk collection. To date our computer system has sought to optimise the milk collection based on estimated volumes of milk in the vats and fixed milking times provided by the farmers. The new system collects information on actual volumes and milking times, giving the farmer one less thing to do and allowing us to further improve collection efficiency. This has delivered cost savings and reduced GHG emissions by requiring less use of third-party contractors, and reducing the number of milk tankers we need.

### Our performance



**11.2%**

reduction in scope 1 & 2 GHG emissions since FY18. Well on way to 30% by 2030.

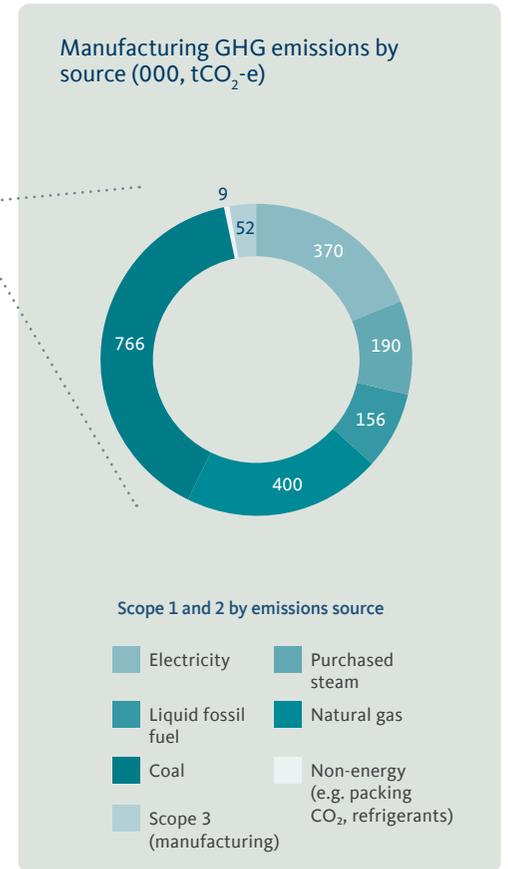
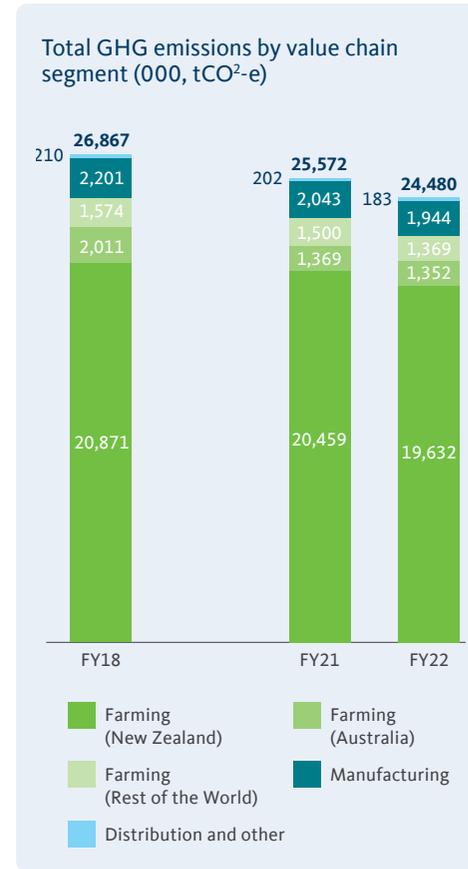
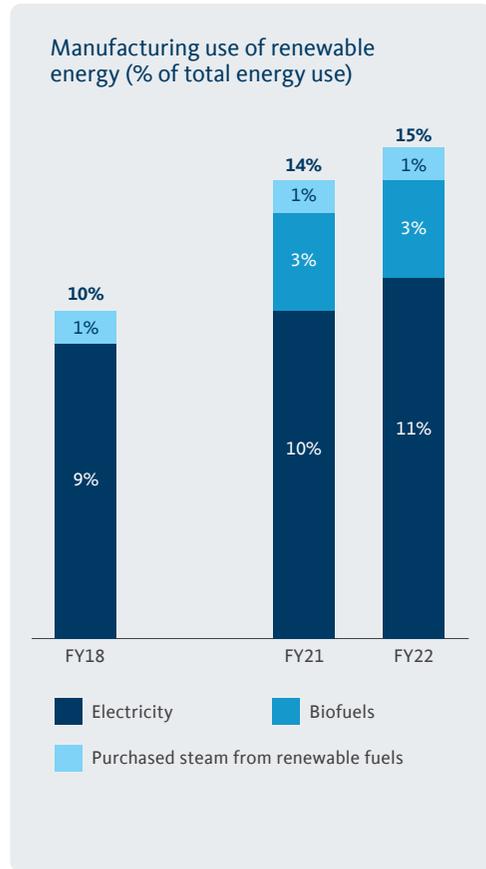


**1,742,123**

reduction in GHG emissions from dairy farming since 14/15 (NZ) (Pre-farm gate tCO<sub>2</sub>-e)

### What's next

- We will continue to use farm-specific GHG emission reports and Farm Environment Plans to help our farmers understand their on-farm footprint and prioritise improvements
- We will continue to invest in research and development to investigate breakthrough mitigation technologies for animal emissions including through the new Centre for Climate Action on Agricultural Emissions
- We will continue to focus on energy efficiency to deliver direct emission reductions, cost savings and help prepare for the transition to low carbon energy sources
- We will continue to develop and deliver our decarbonisation plan, with our Stirling site transitioning fully to renewable sources for thermal energy during FY23, and our Waitoa site installing a wood biomass boiler in FY24



Adding the individual numbers together may not add up to the totals due to rounding. The CO<sub>2</sub> emissions from biofuels are not shown as protocol excludes them from the total. Biofuels emissions in FY22 dropped slightly to 73,345 tCO<sub>2</sub>-e from 82,155 tCO<sub>2</sub>-e, due to lower milk volumes to be processed. The wood pellets used at Te Awamutu are made of waste product from FSC-certified forests and manufactured using geothermal energy.

For detailed information on the scope, methodology and assumptions used in reporting these emissions, including restatements of prior years, see Data Reporting Notes [page 75](#).

# Packaging and waste

## Packaging is vital for delivering safe and quality nutrition, and is also a large part of our direct and indirect waste.

The packaging we use is an important part of our Food Safety and Quality System and allows us to deliver the high-quality dairy products our customers expect. Understanding the source, make-up, quality and functionality of the different packaging types and materials we use is critical to protecting the nutrition we produce, all the way to usage.

We want to play our part in the sustainable packaging journey, which means considering what happens to our packaging once the nutrition inside has been consumed.

This section covers the packaging we use to protect and transport our finished goods at the sites we directly manage and the third-party sites we use. Most of our finished goods are bulk ingredients for use by business customers though we also produce packaged goods for foodservice and consumers. This section also covers the solid waste from sites we directly manage, including manufacturing sites, offices, retail stores and farms.

## Our approach

We want to maximise the nutritional value delivered from every drop of milk by minimising food loss across our supply chain, keeping our food safe and of high quality from the farm to the consumer. This helps us deliver the maximum return to farmers while delivering better outcomes for people, communities and the environment.

Our Group Environment Policy and supporting standards require all our sites to: manage hazardous substances responsibly, maximise manufacturing yield, reduce waste, improve packaging on Fonterra-branded products so that they are reusable, recyclable or compostable, and collaborate with others to enable greater access to waste collection recycling services.

Our aim is to deliver high-quality food right-first-time, capture by-products previously considered waste, such as the whey from making cheese, and make them into new valuable products.

Please refer to “Managing operations” on [page 45](#) and “Working with farmers” on [page 47](#) for further details of our approach.



## What we've been doing

### Sustainable Packaging Programme

Our sustainable packaging programme is making great strides. Using globally accepted recyclability definitions and sales volumes for the 12 months ending June 2022, on a total tonnage of packaging basis, 89% of our packaging is now recycle-ready, up from 87% last year. This leaves 11% that is classified as unsuitable for recycling (e.g. foil based sachets) and that we will continue to focus on reducing.

Using the tools we developed last year, we have worked with our teams in markets around the world and developed roadmaps to ensure timely, meaningful activity is taking place. We are forecasting that we will achieve greater than 95% recycle-ready packaging by the end of 2025.

We are not ending our focus on sustainable packaging at the end of 2025. This year we have worked with external consultants to map a sustainable packaging journey through to 2050. This journey will further improve the circularity of our packaging, going beyond 'recycle-ready'.



### Improving our logistics packaging

Many of our dairy products travel long distances to market, and we want them to arrive in top condition, protected from damage and deterioration. We use a range of wrapping and protective packaging to achieve this, typically unseen by a consumer.

Before the product is placed into a truck or shipping container, we use stretch wrap to hold the individual boxes or bags together. Putting too much stretch wrap on is a waste of material and money but not putting enough on can be even more costly if someone gets injured or the product gets damaged. Our teams have been trying to optimise stretch wrap application for many years including refurbishing equipment, installing real-time monitoring devices, and changing the type of plastic used. This year, improvements removed about a further 45 tonnes of stretch wrap out of the process. We are changing any identification stickers used on the stretch wrap to be made of a compatible plastic so the stretch wrap can be recycled after use without the paper labels contaminating the recycling stream.

When quantities of products don't fit perfectly into a shipping container, we use a type of packaging called 'dunnage' to fill the gaps and minimise product damage by avoiding it moving around inside the container. The dunnage products we currently use are imported into New Zealand and are non-recyclable. In conjunction with a key packaging supplier, our teams have been investigating alternatives, and we are trialling an innovative solution developed in New Zealand. If successful, it will be made in New Zealand using local renewable materials, including recycled materials and would be completely recyclable. At this point in the trials, the dunnage solution appears more effective, with the added benefit of reducing damage to product.



### Improving our consumer packaging

In Sri Lanka, we launched new versions of our stirred fruit yoghurt product range with reduced plastic content in the cup. We also started a pilot to test consumer response to replacing the plastic spoon with one made of paper.

In Australia, for our Mainland Lunch On the Go™ product, we replaced the black plastic spoon with a wooden compostable option.

### Collaborating to improve recycling

To achieve 100% reusable, recyclable or compostable packaging requires a direct focus on the materials we use. It also requires collaboration and engagement with others to align on preferred materials, accelerate delivery of suitable infrastructure and influence the product users.

We co-sponsored a project led by the New Zealand Food Safety Science Research Centre to investigate the quality and safety risks of using recycled plastic content in our food contact packaging materials. We expect that the findings of this project will lead to the development of industry agreed guidelines in Australia and New Zealand.

In Chile, the existing kerbside recycling programme does not support yoghurt pot collection. In partnership with a local recycling company, our Soprole team have established 50 collection points across Chile to collect yoghurt pots, which are then recycled into new items such as delivery crates.

In New Zealand, Fonterra operates a network of 66 Farm Source™ stores retailing farm supplies. This year, partnering with AgRecovery, we extended our collection points for rigid plastics from 12 stores to 65 stores, making it easier for farmers to recycle. Based on the work that our Farm Source team has completed in packaging redesign for our Country Mile and 360 branded products and establishing in-store collection points for packaging waste, they have put together a sustainable packaging guide for vendors. By sharing advice and case studies with the vendors, we hope to influence the packaging profile of more products that go onto farms in New Zealand.

In 2005, we established NZAgbiz to create value from our by-products that would otherwise go to landfill. Waste products that are not suitable for human consumption are reworked into animal nutrition products that are then sold to farmers to help their livestock thrive. This year, NZAgbiz joined a New Zealand soft plastics recycling scheme to provide an additional pathway for our rural customers to recycle the plastic bags used to supply these products. NZAgBiz also joined AgRecovery to support their trial for collecting polypropylene pails and lids. As a result, there are now recycling pathways available for 100% of the packaging that NZAgBiz place on the market. Instructions are provided on their website to help customers understand the different recycling options available to them.

### Working together to reduce solid waste

This year, we continued reducing our solid waste to landfill, down 6.5% from last year and down more than 30% since FY19. This covers the solid waste from sites we directly manage, including manufacturing sites, offices, retail stores and farms.

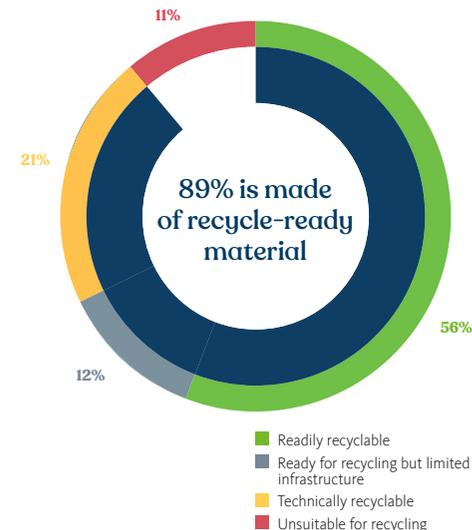
In Australia, since 2019, our team has diverted about 890 tonnes of material into more beneficial uses and almost halved its waste to landfill. By changing inventory management in the warehouses and improving the scrap stock approvals process, the team reduced food waste across the distribution network by around 450 tonnes. Nearly all remaining food waste is now diverted to stockfeed or compost.

In New Zealand, we provided further support for the new saveBOARD plant in Hamilton, by helping to fund a wash and dry plant. This allows saveBOARD to process more liquid paperboard waste by cleaning and drying it first before it is recycled into wall boards.

We have also continued to support food bank initiatives around the world (see Annual Review [page AR-17](#)) and worked with other partners to recycle pallets (see [page 53](#)).

While we still aspire to achieve ‘zero waste’ from our sites, we no longer have a specific deadline. We have already made significant progress on what is a lower priority topic for us, with our current intensity being about 3kg of solid waste per tonne of product. Aligned with waste management principles, we will continue to seek year-on-year improvements and eliminate the sources of waste. We will focus on making products to specification to avoid food waste, work with vendors to prevent non-recyclable materials coming onto our sites and partner with others to increase the range of materials that can be economically recovered.

### Our performance



### What's next

- We will continue to transition our finished goods into packaging that is designed for recycling and continue to analyse our packaging portfolio to identify areas to further reduce the impact
- We will continue to work with vendors to drive innovation and seek to influence others to improve access to recycling collection and re-processing infrastructure in the markets we serve
- We will continue to seek year on year reductions in the solid waste we send to landfill from all our operational sites

# Animal wellbeing



Blair, Billie & Penelope, Taranaki

## We want all animals to be valued and treated with respect and care throughout their lives.

Cows are at the heart of every dairy farm, and their wellbeing is of paramount importance to us. Having healthy cows is not only good for the cow, it also leads to good production of high quality milk and, taking a proactive approach, is better for the farmer too. It's also important for our customers who are increasingly interested in where their food is coming from and how it is produced.

We also want farm environments to be free from infectious diseases and pests that can affect animal, plant and human health.

This section covers animal wellbeing and biosecurity for farms we manage and farms that supply us with raw milk around the world.

## Our approach

Fonterra farmers are required to uphold high standards of animal wellbeing and comply fully with the latest regulations and codes of welfare. These requirements are set out in the Fonterra Farmers' Terms of Supply and are guided by our overarching Global Animal Wellbeing and Biosecurity Policy and supporting standards.

We are guided by globally recognised standards set by the World Organisation for Animal Health. We partner with farmers to continuously improve animal wellbeing outcomes, implement practices that provide positive experiences as described by the Five Domains<sup>1</sup> and eliminate practices that contravene the Five Freedoms.

We work with industry bodies and training organisations so farmers have access to high-quality information and tools that support best practice and facilitate access to training where required. We work with industry partners such as meat processors, transportation companies and regulators so that best practice controls are in place.

The development of strategy, policy and standards for the global management of farm animal wellbeing is the responsibility of Fonterra's General Manager On-Farm Excellence – Animals. The management and implementation of Fonterra's animal wellbeing policies and strategies are undertaken at a local level, supported by our centralised Veterinary and Animals team.

Globally, our international audit and compliance team assesses animal wellbeing as part of its milk sourcing audits in all markets outside of New Zealand where we collect milk. This enables us to identify any issues and recommend improvements to farmers. Many markets also have local veterinary and milk quality support teams to manage this work. See [Working with farmers on page 47](#).

<sup>1</sup> The Five Domains recognise that both positive and negative experiences in each of the four physical domains (nutrition, environment, health, behaviour) contribute to the overall mental state of an animal.

## What we've been doing

### Animal Wellbeing Plans

The increased adoption of Animal Wellbeing Plans (AWPs) is our main approach for further embedding the Five Domains model of animal wellbeing and helping farmers demonstrate leading levels of animal care. We know that farmers with a focus on animal wellbeing and a good relationship with their vet will usually achieve better outcomes for their animals. Therefore, each AWP must be developed with, and signed-off by, a registered vet every season. Ultimately, we want to see these on every farm that supplies milk to Fonterra, but our initial focus is New Zealand, where the percentage of farms with an established AWP increased from 53% to 76% this season.

For the 21/22 season, developing and implementing an AWP with a vet was one of the minimum criteria for a farm to achieve recognition levels within The Co-operative Difference framework which is linked with increased payments to farmers (see [page 47](#)). To qualify, each AWP plan must include a number of key elements which have been identified and prioritised in collaboration with The New Zealand Veterinary Association and DairyNZ. These minimum elements include rates of mastitis and lameness, mortality, body condition scoring, prudent use of antibiotics, mitigation options for heat stress and other extreme weather events, and consideration of genetic improvement strategies to enhance animal wellbeing outcomes. For the 22/23 season, the minimum coverage requirements have been expanded to also include the care of calves.

Based on the excellent uptake of annually refreshed AWP's and the improved animal outcomes they support, we will continue to encourage their adoption for every farm supplying us with milk in New Zealand.



### Providing insights and training

Building on the Farm Insights Report which we piloted with farmers in New Zealand in FY21, this year, we extended this to include key insights related to animal wellbeing. Farms supplying us milk in New Zealand receive a Farm Insights Report, which now includes key animal wellbeing metrics, including somatic cell count, milking efficiency, mastitis rates, lameness and the potential impact of heat stress. In each case, the report provides the farmer with detailed information on the performance of their specific farm relative to regional and national benchmarks, and the potential benefits associated with making certain improvement actions.

To help our farmers make the best use of the Farm Insights Reports and further improve their animal wellbeing outcomes, we have been working with QCONZ<sup>1</sup> and UCOL<sup>2</sup> to develop Animal Wellbeing training modules. For example, a Certificate in Animal Wellbeing is now nationally recognised as a level four qualification and goes beyond welfare compliance to focus on the benefits to be gained through affordable, practical, good animal care practices.

<sup>1</sup> QCONZ is an independent audit, certification, and training body that is ISO 17020 and 17065 accredited ([www.qconz.co.nz](http://www.qconz.co.nz))

<sup>2</sup> UCOL is a modern Institute of Technology and Polytechnic and subsidiary of New Zealand's national vocational skills and training Institute, Te Pūkenga. ([www.ucol.ac.nz](http://www.ucol.ac.nz))



### Managing the risk of travel on biosecurity

Prior to 2020, we hosted several thousand overseas visitors per year. Travel restrictions during the COVID-19 lockdowns provided a pause in visitors and an opportunity to improve our processes and employee training on biosecurity. We have developed a new e-learning module to increase understanding of the biosecurity risks associated with international travel and deployed a more robust process for engaging overseas visitors to prepare them in advance for New Zealand's strong biosecurity requirements and the additional steps we require if they will be visiting a farm.

In 2020, Fonterra became a founding member of The Biosecurity Business Pledge, a partnership developed by New Zealand businesses and Biosecurity New Zealand, to take a proactive approach to biosecurity (for more information see Sustainability Report 2021 [page SP-37](#)). Proactively sharing information is good practice. This year we made the e-learning module and supporting reminder card freely available to our business pledge partners, and recently re-shared, following the outbreak of Foot and Mouth Disease in Indonesia.

## Improving policies and standards

As part of our process of continuous improvement we regularly review our policies and standards. This year, we updated both our Animal Wellbeing and Biosecurity Policy and our Animal Wellbeing Standard, taking a more process-driven and outcome-based approach. We also changed the term used from 'animal welfare' to 'animal wellbeing' and included reference to the Five Domains model in addition to the existing reference to the Five Freedoms. The Policy and Standard apply globally to all animals within our supply chain, with dairy cows on farms supplying us with milk being by far the most relevant animals.

Consumers here in New Zealand and around the world are increasingly looking for more assurances about the quality of life experienced by the animals who produce their food. Therefore, in addition to the refresh of our Policy and Standards, we have introduced a new clause within the Terms of Supply for New Zealand farmers which means calves can only be euthanised on-farm when there are humane reasons for doing so. Fonterra places a strong emphasis on calf wellbeing and a big part of this is all dairy calves having a useful life. Many heifer calves are raised as replacement cows to join the milk herd when they are about two years old. Caring for these calves from the day they are born, not only leads to good animal wellbeing outcomes, but also leads to a long and productive life which reduces the overall environmental footprint of the milk produced. From 1 June 2023, farmers supplying us with milk in New Zealand must direct all their non-replacement calves into a value stream, either beef, veal or pet food. In New Zealand, about 30% of beef finishing animals are already born in the dairy sector, but we know that in parts of New Zealand, the value stream options are currently limited. To help improve this, we're collaborating with the wider industry, investing in R&D and exploring long-term solutions such as dairy-beef partnerships.

## Our performance



76%

of farms in New Zealand agreed an Animal Wellbeing Plan with their vet this year.

Now in its tenth year and covering 150 of the largest food companies in the world, the Business Benchmark on Farm Animal Welfare is a leading global measure of farm animal welfare management, policy commitment, performance and disclosure by food companies. This year, like many other companies, our score and ranking dropped. We dropped but we remained in the top 20 of assessed companies. As acknowledged by the organisers, lower scores were primarily due to changes in the methodology used for scoring.

## What's next

- Our dedicated team will continue to work with farmers, veterinarians, and regulators to support strong biosecurity and on-farm practices that are good for animal wellbeing outcomes
- We will continue to encourage the adoption of Animal Wellbeing Plans as part of The Co-operative Difference
- We will continue to improve the quality of the Farm Insights Reports that we provide to farmers in New Zealand (see [page 29](#)) to help them prioritise improvements on farm



Holli & Penelope, Taranua.

# Managing operations



**We are committed to taking a leading industry approach to environmental management for our manufacturing operations.**

Our Global Environmental Policy defines our approach to the management of all environmental aspects relevant to our activities including, but not limited to, water, climate and energy, waste and pollution prevention across our global value chain. This includes assessing and managing environmental risks, taking a precautionary approach to decision-making to prevent damage to the environment or human health where there is uncertainty and implementing best-practice environmental management systems. We set aspirations, objectives and targets that drive environmental performance and continue to work towards these.

The policy is published on our website.  
[www.fonterra.com/environmentalpolicy](http://www.fonterra.com/environmentalpolicy)

We expect our people to demonstrate a commitment to environmental management, including in their strategic planning and the way they run the business, such as developing innovative approaches for managing and restoring the environment.

All sites have a manager specifically responsible for environmental compliance. At most sites, this is a dedicated Environmental Manager, and they are often supported by a site Environmental Management team. Their focus is on managing site-wide environmental performance and compliance with local environmental requirements.

Manufacturing sites where we do not have operational control are excluded from our performance reporting.

## Independent evaluation and certification of sites

Our manufacturing sites are subject to regular internal and third-party audits. Internal audits are conducted by staff independent of the site and are used to identify areas for improvement. Third-party audits give regulatory authorities and our customers' independent assessments of our performance.

For example, independent audits against the Sedex Member Ethical Trade Audit (SMETA) standard for labour practices, environment, health and safety and business practices are required by some of our customers. Other customers require us to undertake an annual assessment by EcoVadis. This year we retained a Gold rating.

Other third-party audits are part of the independent certification of site Environmental Management Systems (EMS) to international standards, such as ISO14001:2015. Independent certification to ISO14001, or an equivalent such as EnviroMark Diamond, provides a third-party evaluation of the performance of our EMS. Globally, 69% of our manufacturing sites are certified to this level or equivalent.

## Environmental compliance

During FY22, we received no fines for non-compliance with environmental laws or regulations. We received one abatement notice when the mixing chamber at one of nutrient management farms in New Zealand malfunctioned and an unknown volume of wastewater was discharged to a nearby stream.

## Water discharge related spills

We draw on international guidelines and national or local regulation to identify priority substances of concern and establish acceptable limits. We have identified clean-in-place chemicals, refrigerants and contaminated wastewater as our priority substances of concern.

During FY22, we had one discharge which exceeded agreed discharge limits (see Environmental compliance above).

Where an event occurs we take action to improve processes and minimise the risk of further non-compliances.

# Working together

We are working together to deliver a sustainable business.



Stephanie, Craig & Veronica, Waiuku

Nā tō rourou, nā taku rourou ka ora ai te iwi.  
With your contribution and my contribution,  
we'll all thrive together.

We rely on strong relationships with a wide range of stakeholders to produce and deliver valuable nutrition. We also know that by working with others, we will be able to more rapidly deliver our aspirations and overcome challenges we face.

We believe in honest and transparent relationships where the value to the stakeholders is understood, and trust is earned. That's why we follow ethical practices and work closely with our farmers and our vendors. We also establish specific partnerships to help accelerate progress.

It is only in this way that we will be able to provide the strong levels of employment and income creation expected from us long-term into the future.

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**6,315** ↑

farms in New Zealand achieved a recognition level in The Co-operative Difference framework, up from 3,246 – see page 47

**74%** ↑

of purchased palm oil is now certified as at least 'segregated supply' from credible organisations – see page 50

**80%** ↑

of internal audits completed across our global business included an assessment of the risks related to corruption – see page 54

**\$13.7b** ↑

returned to farmers in New Zealand – see page 56

# Working with farmers

**Farmers are at the heart of our Co-operative and we add value to their milk and businesses by supporting continued innovation. This helps them prepare for changing regulations and meet expectations that our customers and communities value, so they can continue to farm for generations to come.**

We have made a strategic choice to focus on New Zealand milk and about 90% of the milk we collect comes from our farmer owners in New Zealand. We also collect milk in other countries to help meet the needs of our customers and generate the most value from our New Zealand milk (see map on [page AR-04](#)).

In this section, we explain our approach to working with farmers to ensure minimum standards are met and how we encourage and support the continuous improvement of good farming practices on farms supplying milk directly to our manufacturing sites.

## The Co-operative Difference

We have farmer engagement and support programmes in every country where we collect milk from farms. These help us build relationships with farmers, set expectations and support them to improve their farming practices. This is especially important for our farmer owners in New Zealand and why we launched The Co-operative Difference in FY19.

The Co-operative Difference framework provides a clear signal to farmers about what needs to happen on farm so the Co-op can meet our customer needs both today and into the future. It pulls the best of what we do into five focus areas.

The five areas are Milk, People and Community, Environment, Animals, and Co-operative and Prosperity. For each of these areas, 'Our Core' covers the things we can never afford to compromise on such as regulatory compliance, producing safe, high-quality milk and looking after people, animals and the environment. Beyond this, 'Our Next Steps' recognises farmers who are making improvements in prioritised areas and 'Our future' helps farmers future-proof decisions being made on farm today by giving them guidance on likely requirements.

'Our Next Steps' is based on meeting specific on-farm targets for the season. There are three levels of achievement possible and we use the analogy of a journey climbing up a mountain. Te Pūtake represents the start, Te Puku represents the mid-point, and Te Tihi represents the summit.

From the start of the 2021/2022 season, farms became eligible for The Co-operative Difference payment of up to 10 cents per kg of milk solids, with 7 cents for reaching Te Pūtake and a further 3 cents for reaching Te Puku. Reaching Te Tihi is about celebrating the farmer leaders in the Co-operative through recognition and is not linked to payments.

The specific criteria for Te Pūtake this season included: accurate and timely completion of annual Farm Dairy Records; completing a DairyNZ Workplace 360 assessment and achieving 100% on the foundational level; having an Animal Wellbeing Plan (see [page 43](#)); having a Farm Environment Plan (see [page 28](#)) and achieving certain key standards related to topics such as nitrogen surplus, dairy shed effluent, on-farm plastics and farm-grown feed.

Te Puku builds upon the achievement of Te Pūtake and is all about milk quality. It requires the milk supplied to achieve the excellence level for at least 30 days during the season and then, all milk that met this standard during the season attracts the extra payment.

Te Tihi builds upon the achievement of Te Puku and provides additional non-financial recognition for those farms delivering delivering 'excellent' quality milk for at least 90% of their season.

This year farmers took significant action with more than 70% of farms achieving The Co-operative Difference payment at some level. This outstanding level of participation is an encouraging indication that farmers are willing to step-up and make changes on farm in a way our customers want. With more farmers achieving Te Pūtake, we're able to give critical assurances around the sustainability credentials of our high quality New Zealand milk.



**1,155**

ACHIEVED  
LEVEL 1

**Te Pūtake**

"THE START  
OF THE JOURNEY"  
7C/KGMS on all milk supplied

**4,522**

ACHIEVED  
LEVEL 2

**Te Puku**

"THE MID POINT"  
3c/kgMS on all qualifying milk

**638**

ACHIEVED  
LEVEL 3

**Te Tihi**

"THE SUMMIT OF  
THE MOUNTAIN"

## Setting expectations for supplying farms

Our Terms of Supply and Farmer Handbooks set expectations for farmers when it comes to people, the environment, animal health and welfare, biosecurity, and food safety and quality.

Our Raw Milk Harvesting, Collection and Transport Global Standard is part of our Global Integrated Management System and sets out the minimum requirements that all farmers must meet. It applies to all farmers, collection points, co-operative vats and chilling centres supplying raw milk to Fonterra around the world, building on compliance with local regulations and forming the basis for our on-farm audits.



Farm Environment Plan discussions, Taranua

Through a combination of our own employees and third parties, we regularly assess farms supplying us:

- In New Zealand, in addition to regular visits by our team, every supplying farm is visited each year by an independent farm assessor. A more detailed assessment is also completed for each farm around once every five years. This year, 14% of farms were placed into our performance management process at some point during the season to address an identified area of concern.
- In Australia, farms are visited multiple times each year by our employees, and independent assessments are scheduled based on prior compliance levels. Every farm is assessed at least once every two years. In FY22, 57% of farmers were assessed, and 12% of the assessed farms were referred for follow-up and resolution.
- In Latin America, each farm is assessed by a combination of our employees, and third parties. In addition, our New Zealand-based Global Assurance team audits a random selection of farms once every three years. This has been disrupted by COVID-19 related travel restrictions but is resuming again in FY23.
- In China, the one farm, which is under our direct control, is assessed by a combination of our own employees and third parties. In addition, it is subject to assessments by our New Zealand based Global Assurance team and Internal Audit team. This has been disrupted by COVID-19 related travel restrictions but is resuming again in FY23.

Where we find mandatory requirements are not being met, our On-Farm Advisors, or equivalent, develop an action plan with the farmer, including target completion dates. We may also suspend the collection of milk until we are satisfied that all minimum requirements are being met and that any actions required to avoid a repeat of the issue have been completed.

Milk collection suspension notices were issued for nine farms in New Zealand this year: six related to milk quality, two related to animal wellbeing and one related to effluent management.



Stephanie & Brent, Whaituku

## Farms we manage

We only have a very small number of farms around the world under our management control. In New Zealand, we manage 29 farms that neighbour our manufacturing sites, including 10 which have dairy herds. We use these farms to manage excess water and nutrients from our manufacturing operations. The water and nutrients improve soil health and support pasture growth, which then allows us to grow and supply supplementary animal feeds for our farmers.

In China, we operate one large-scale dairy farm to produce raw milk for use in local products and this is currently being held for sale.

# Working with vendors

## We have the opportunity to influence our supply chain and achieve alignment with our sustainability commitments and goals.

This means promoting the adoption of responsible practices within our supply chain and working to source goods and services produced in an environmentally and socially responsible way.

By far the largest single input to our business is raw milk, collected directly from farmers. For more information on how we work with our farmers, in New Zealand and around the world, see [page 47](#).

This section covers the way we work with vendors in our non-milk supply chain. Our procurement team is also supporting the vendor selection and engagements to deliver our decarbonisation (see [page 34](#)), wastewater improvement (see [page 26](#)) and sustainable packaging (see [page 39](#)) programmes.

## Our approach

Our Global Procurement Policy and Procurement Standard set out our requirements for the procurement of non-milk goods and services, including capital projects. We are committed to purchasing decisions that set us up for a sustainable future. These requirements apply to all purchasing, and for significant items, our specialist procurement team must be involved in the purchasing decisions and ongoing management of the vendors.

The Global Policy is owned by the Chief Operating Officer and approved by the Board of Directors. Business Unit managers are accountable for ensuring the Global Standard is fully implemented across the organisation. Business Unit procurement leads are accountable for guiding and approving major procurement activities, ensuring procurement control activities are operating effectively and addressing any actual or potential non-compliant behaviours. All employees are responsible for complying with the standard.

Vendors are assessed against a range of criteria, including during initial selection and on an ongoing basis (see [page 50](#)). Suppliers of any material or services that may impact our sustainability commitments must be approved by the Sustainability team. The Fonterra Supplier Sustainability Code of Practice sets our expectations of vendors including upholding standards related to human rights, fair working conditions and environmental protection. This was reviewed and updated during FY22.

[www.fonterra.com/sustainabilitycop](http://www.fonterra.com/sustainabilitycop)



Lex & Francisca, Hamilton

## What we've been doing

### Delivering a framework to improve management of our vendors

Sustainability is one of the key pillars considered when we refresh our category strategies and a standing item on the agenda in our vendor meetings for providers of ingredients, packaging and engineering categories. This year, we have designed a vendor vetting and engagement framework, enabled by an online portal, to help us better understand and manage the risks associated with our vendors.

Globally we engage with over 10,000 vendors, and we are reliant on them to deliver our objectives. The new framework, supported by the online portal and a robust business process, will allow us to assess and manage our vendors in a more efficient and consistent way, both during initial selection and on a proactive ongoing basis.

For our vendors, the goal is to provide them with fast to learn and easy to use systems that supports a transparent assessment with clear requirements and good management processes throughout the entire engagement lifecycle.

For our employees, it allows us to comprehensively cover the broad range of topics that need to be considered and focus on the most relevant and highest risk topics for each given vendor. The topics covered include regulatory compliance, food safety and quality, health and safety, cyber security, environmental performance and working conditions.

The implementation of the portal, including supporting business processes and employee training, was completed in July 2022, and we are now progressing with our rollout. The initial vetting will apply to 50 existing vendors, representing a range of categories, services and vendor size. It will also be applied to new vendors in New Zealand, and gradually over the next three years, we aim to expand coverage globally.

### Forest products

Palm products are purchased as ingredients for use in a limited number of our products, but they are one of the highest-profile raw materials in our supply chain. The production of palm products has been linked to unsustainable practices, including deforestation, habitat destruction and poor human rights.

We have been a member of the Roundtable for Sustainable Palm Oil (RSPO) since 2010 and since 2015, all our palm oil purchases have used one of the RSPO supply chain models. During the 2021 calendar year, we purchased 20,481 tonnes of palm-related products as an ingredient, down 25% on 2020. Volumes were down in most regions except Saudi Arabia and Indonesia and this has contributed to reduced progress towards our target of 100% segregated supply. For the 2021 calendar year, 74% of our purchasing was RSPO certified to at least a segregated supply level and 20% was certified at mass balance level.

By volume, 96% of all direct palm oil being purchased by our New Zealand business and 100% of all direct palm oil being purchased by our Australian business is certified as segregated supply. It is purchasing for our operations in Saudi Arabia, Indonesia and Chile, where most of our remaining improvement is required. This year, we reviewed our palm oil use and we remain committed to achieving certified segregated supply. We are increasing our efforts to positively influence the sustainable production of palm within our supply chains, by updating our responsible sourcing standard and introducing specific supply chain audits.

Palm oil is a versatile, functional fat that can be blended with dairy ingredients to make a wide range of products with the potential to make New Zealand-sourced nutrition available to more consumers at affordable price points in some markets.

Palm kernel expeller (PKE) is a by-product of the palm crop, originally treated as waste, and now used as an effective supplementary feed for animals, including dairy cows in New Zealand. Our farmers are aware of the need to source this responsibly, and we test milk received to detect if the expected low use of PKE is being exceeded. We believe our focus on influencing primary palm production is the best way to deliver sustainably-produced PKE.

We first launched our Palm Product Standard in 2016, and this year we published an updated version to reflect updates to internationally recognised standards and principles, expanding the scope to cover indirect purchasing (i.e. ingredients containing palm products), and aligning with our commitment to zero deforestation. With the launch of the revised standard, we are driving towards 100% certified segregated supply by ensuring any exceptions to this are identified and investigated before the start of the calendar year 2023. We expect only a few exemptions will be granted where there is no segregated supply of the specific oil fractions or indirect purchase currently available in the required locations, or due to unforeseen supply chain constraints.

While we have a specific focus on palm products, we also consider the risk of deforestation more widely in our supply chain and completed our fifth response to CDP on Forests this year.

### Our performance



**74%**

of purchased palm oil is now certified as at least 'segregated supply' from credible organisations.

### What's next

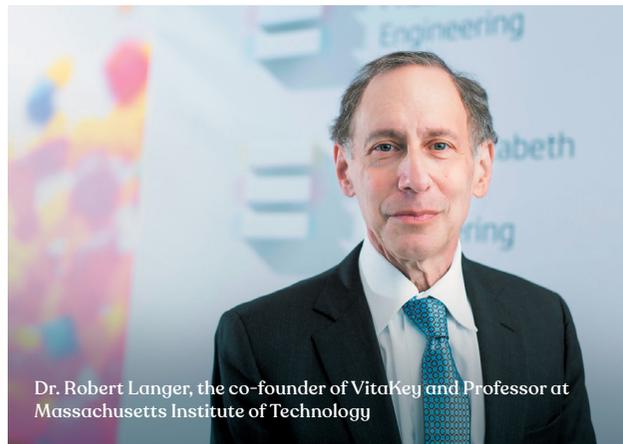
- Using our newly launched online portal, we will continue to expand our assessment and engagement with vendors globally to better understand the practices and manage risks in their supply chains
- We will rollout our updated Sustainability Code of Practice, working with vendors so our expectations are understood and priority risks are being managed
- We will implement our updated Palm Products Sourcing and Procurement Standard, driving harder towards 100% certified segregated supply and introducing supply chain audits

# Working in partnership

## We know we can achieve more and have a greater positive impact when we partner with others.

This section covers some of the impact partnerships we have been progressing this year.

See also “Working with farmers” on [page 47](#), Working with vendors” on [page 49](#) and “Doing Good Together” on [page AR-16](#).



Dr. Robert Langer, the co-founder of VitaKey and Professor at Massachusetts Institute of Technology

## Precision delivery of valuable nutrition

This year, we entered a partnership with US-based company VitaKey to further enhance the value of our internationally recognised probiotic strains. VitaKey specialises in the precision delivery of nutrition – delivering the right nutrients, in the right amount, to the right place in the body, at the right time across the entire food supply chain from animal feed to human food and beverages. Their technology helps protect the nutrients from damage, extends shelf-life and does not require over-fortification, all of which can reduce waste and maximise the nutritional benefit which can be delivered from our farmer’s milk.

The initial focus of this partnership is on probiotics, and our Research and Development Centre is home to one of the largest dairy culture libraries in the world, with more than 40,000 strains. Two of these strains – LactoB HN001™ and BifidoB HN019™ – are recognised as being in the top five global probiotics, with clinically proven benefits including improved digestive health and improved immunity (see ‘Wellness starts within’ on [page 12](#)).

VitaKey’s targeted and time-controlled release technology platform uses a plug-and-play approach to deliver micronutrients, macronutrients, vitamins, probiotics and related items, enhancing the nutritional value of food and beverages. This technology has already led to many successful products in the medical field, and they want to see it have an equal impact in the nutritional field.

More people are seeing the value of food not just for energy, but as a way of getting important nutrients and contributing to improved health and wellbeing. By working with VitaKey, we see the opportunity to advance dairy science, contribute to sustainable nutrition and add extra value to our New Zealand milk.

## Living Water

Living Water is a partnership between Fonterra and the New Zealand Department of Conservation, two large organisations with different skill sets and purposes, and we saw the potential value of working together.

Caring for Aotearoa New Zealand’s ecosystems and species is critical to New Zealand’s economic success and that of the agricultural sector in the future, and it needs to happen across all landscapes, not just on conservation land.

Through a gradual process over time, it is estimated that about 10% of New Zealand’s land area has been artificially drained to make lowland areas productive for agriculture. This has modified the natural water network and these drains can often now be the last refuge for native freshwater species in productive landscapes.

Established in 2013, the partnership is focused on five catchments (see map on [page 52](#)) to identify game-changing and scalable solutions that show dairying and freshwater can thrive together.

As we enter the 10th year of the partnership, there is much to celebrate, including:

- The inclusion of a specific Biodiversity module in the farm-specific Farm Environment Plans that Fonterra uses with its farmers (see [page 28](#))
- 90% of farms supplying milk to Fonterra in Living Water catchments now have FEPs
- 14 identified solutions have been scaled or are being used by others
- 8 potential game-changing approaches have been trialled

## Example projects

### KEY

- Completed
- In progress
- National projects
- ▲ Catchment scale projects
- + Farm scale projects



- ● [LandscapeDNA](#)
- ● [Farming with Native Biodiversity](#)

Wairua River/Te awa o Wairua, Northland/Te Tai Tokerau

- ▲ ● [Detention bunds](#)

Pūkoro-Miranda, Hauraki

- ▲ ● [Trees on farm](#)
- ▲ ● [CAPture catchment prioritisation](#)

Lakes Areare, Ruatuna, Rotomānuka/Ngā roto o Areare, o Ruatuna, o Rotomānuka, Waikato

- + ● [Catchment water monitoring](#)

Ararira-LII River/Te awa o Āraiara, Canterbury)

- ▲ ● [Drainage network redesign](#)
- + ● [In-stream sediment traps](#)

Waituna Lagoon/Te pūroto o Waituna, Southland

- + ● [Fine Particle Fertiliser Application](#)

- 200,000 native plants and trees have been planted in Living Water catchments
- Tangible improvements to instream habitats for native fish have been achieved
- 50% of our farmer shareholders located in Living Water catchments are implementing freshwater improvement actions over and above regulatory requirements

There are valuable lessons learned which can be used to inform, not only our own future work, but also shared and applied more widely.

Some of these include:

- Working at the farm scale alone will not fix the challenges faced. We need to 'reimagine' our productive landscapes for a more-resilient future and design with nature rather than squeeze nature in around farming.
- Aspects of the natural landscape can influence water quality outcomes more than farm management practices, so we need to use the new science of physiographics (natural landscape attributes and processes) for improved catchment and farm planning.
- We need to use all the available knowledge – indigenous, western science and farmers – and use the right solution in the right place for the right purpose.
- Farmers are smart business people who look to maximise their return on investment – we need to support them to implement changes that provide multiple benefits for climate, water, soil, biodiversity, ecosystem function, and long-term farm and business resilience

Living Water has built a strong working relationship and mutual respect between DOC and Fonterra and generated lessons learnt and new knowledge that we look forward to taking beyond the ten year partnership.

## Sustainable Nutrition Initiative

Sustainably nourishing an increasing global population without exceeding the capacity of the planet is a major challenge for society, and there are many narratives on how this should be done. Fonterra is supporting the Sustainable Nutrition Initiative (SNI<sup>®</sup>), which is creating a better understanding of the food system and identifying practical opportunities to sustainably feed the global population with the nutrients required.

We must thoroughly understand the problems to be solved before embarking on changes that will be difficult and slow to introduce, and extremely challenging to reverse if we get them wrong. The global food system of the future will be shaped by the shifts in thinking that we make today. The SNI<sup>®</sup> helps provide context to support this thinking, and helps guide decisions.

The current impacts of the global pandemic, conflict and climate-related issues on the global supply and trade in food and associated nutrients has emphasised the importance of a global approach to food security.

The DELTA Model<sup>®</sup> has been created by the SNI<sup>®</sup> to generate a wide range of possible scenarios and to explore what improvements to the global food system might be possible and practical. Using the DELTA Model<sup>®</sup> to explore global food supply, flows, consumption and losses highlights facts that are not always what people think they are, or may have been told. The food system is already plant-based, and from the perspective of production, consumption and waste, animal-sources of food are not as inefficient as previously thought. There is also strong evidence that to nourish the global population a plant-based and animal-optimised food system is required.

This year, the SNI<sup>®</sup> team used the DELTA model to examine the role of milk in global nutrition.<sup>1</sup> Of the 29 nutrients considered by the model, milk contributes to the global availability of 28. Milk is the main contributing food item for calcium (49% of global nutrient availability), Vitamin B2 (24%), lysine (18%), and dietary fat (15%), and contributes more than 10% of global nutrient availability for a further five indispensable amino acids, protein, vitamins A, B5, and B12, phosphorous and potassium. These high contributions to individual nutrients make milk ‘nutrient rich’. With milk only responsible for 7% of food energy,

it means milk is also ‘nutrient dense’ (high content and range of nutrients compared to associated calories). Among the 98 food items considered by the model, milk ranks in the top five contributors to 23 of the 29 nutrients modelled. This quantification of the importance of milk to global nutrition in the current global food system demonstrates the need for the high valuation of this food when considering future changes to the system.

For more information please visit the SNI<sup>®</sup> website [www.sustainablenutritioninitiative.com](http://www.sustainablenutritioninitiative.com).

## End-of-life pallets upcycled to protect nature

In New Zealand, Fonterra uses more than 800,000 wooden pallets, for transportation and storage of product, moving them about 2.5 million times per year. These pallets are all made from green or heat-treated radiata pine, sustainably sourced locally in New Zealand. We’ve had a long-term relationship with our pallet supplier Timpack (refer to Sustainability Report 2018 [page 65](#)), who replace damaged boards to extend the useful life of the pallets and, at end-of-life, send the pallets to Reharvest Enviromulch who chip them for reuse in children’s playgrounds or landscaping.

This year, with the help of the Department of Conservation, our Living Water partner (see [page 51](#)), we established a new collaboration with the Department of Corrections to reuse waste wood from pallets to make pest trap boxes and help offenders develop basic carpentry skills at the same time.

Every year, more than 450,000 boards are replaced, and about 10,000 pallets reach their end of life. Corrections operates a programme for people serving community work sentences, and it is important that the projects undertaken are meaningful, allowing the people to pay something back to the community for their offending.

We supply our pallet wood waste to Corrections, who run the programme to help upskill the offenders while making the pest traps. Hundreds of trap boxes are now being made available free to community groups through the Department of Conservation to protect New Zealand’s flora, fauna and native animals.



Lawrence Hooker, Fonterra’s National Pallet Manager and Rose Graham – DOC Living Water Ranger

**“The participants are proud of what they produce. They know they’re doing something positive for the environment and community, and they’re learning a range of new skills at the same time.”**

– Department of Corrections Senior Community Work Supervisor Warren Smith

<sup>1</sup> Smith NW, Fletcher AJ, Hill JP and McNabb WC (2022) Modeling the Contribution of Milk to Global Nutrition. *Front. Nutr.* 8:716100. <https://dx.doi.org/10.3389/fnut.2021.716100>

# Ethical business practices

**So that we live up to the intent of our Purpose, the experiences and interactions that our customers, farmers, business partners and communities have with our people must foster trust and credibility. We earn that trust by acting ethically and living our Values every day.**



Jess, Penelope, Blair & Holli, Taranua

## Our approach

The Board, Co-operative Council and Management of Fonterra consider that strong governance plays a critical role in the success of our Co-operative and are committed to achieving the highest standard of corporate governance, representation and leadership (for details, see page [C&S-03](#)).

Our Group Legal and Compliance Policy requires all of Fonterra's business units to clearly assign roles and responsibilities for compliance, with all applicable laws and regulations applying to our operations. We are committed to embedding compliance with all applicable laws, regulations and Fonterra Global Policies into our operations and creating a culture of compliance, including appropriate monitoring, assurance, reporting and continuous improvement.

We are committed to operating in a manner that builds trust and lasting relationships through behaving with honesty, integrity and transparency. We protect the reputation of our business by ensuring robust practices in the areas of actual or potential conflict of interest, gifts and corporate hospitality, bribery and corruption, and the disclosure of fraudulent and unlawful activity.

For more information on our Code of Ethical Behaviour, see page [C&S-03](#).

## Our performance

### Anti-corruption

Each year our Internal Audit team assess all Fonterra businesses for the risk of potential fraud. This risk assessment helps determine the priorities for audits across our global business.

During FY22, over 80% of the internal audits completed across our global business included an assessment of the risks related to corruption. Particular areas of focus included segregation of duties, delegated authorities, procurement practices and sensitive inventory management. Within the coverage of these audits, seven manufacturing sites where we have management control were subject to an anti-corruption check.

Internal Audit was also asked to investigate five potential corruption/ fraud cases identified through our whistle-blowing hotline. All were related to individuals in New Zealand and allegations of unethical behaviour with respect to employment practices. Investigations did not substantiate the claims, and no further action was taken.

In addition to the cases identified through our whistle-blowing hotline, one of our entities in Southeast Asia was investigated for unethical behaviour with respect to sensitive inventory variances. The investigation did not substantiate the claims and no further action was taken.

## Legal compliance

We have not identified any material incidents of non-compliance with laws and regulations in the social and economic area in the past year. There were also no fines or non-financial sanctions related to anti-competitive behaviour, anti-trust, and monopoly practices over this period.

Fonterra is currently a defendant in climate change litigation commenced by Mr Mike Smith, a Māori climate change representative, which was commenced in the Auckland High Court. Fonterra is a co-defendant, along with six other major New Zealand corporates. In basic terms, Mr Smith is claiming that the defendants undertake or enable emitting activities that release greenhouse gases into the atmosphere, that these actions have contributed to climate change, and that Mr Smith has suffered, or will in the future suffer, losses as a result of climate change. Fonterra and the other defendants are vigorously defending these proceedings. Following an application by the defendants, the High Court struck out two of Mr Smith's three specific claims. Under applicable rules, a High Court claim can be struck out if the High Court determines that the claim is not reasonably arguable in law. The decision of the High Court was then appealed by Mr Smith in the Court of Appeal (and Fonterra and the other defendants cross-appealed the decision of the High Court not to strike out the remaining claim). The Court of Appeal ruled in favour of the defendants and struck out all three claims. Mr Smith has been granted leave to appeal the decision of the Court of Appeal to the Supreme Court and this appeal was heard on 15-17 August 2022. The parties are awaiting the Supreme Court's judgement in the appeal.

For further details on environmental compliance, see [page 45](#), for health and safety compliance, see [page 18](#); for product marketing compliance, see [page 13](#).

## Responsible political behaviour

Fonterra does not allow corporate contributions of any kind to a candidate or political party in connection with political elections. No political contributions were made in the past year. We do not offer money or anything of material value to government officials, parties or candidates for the purposes of influencing the acts or decisions of officials.

## Principled approach to tax

Fonterra has a clear set of [principles](#) that guide how we manage our tax obligations in New Zealand and around the world. We pay our fair share of tax in all jurisdictions. We are transparent and work with tax authorities so we can continue to act responsibly.

In New Zealand, co-operatives and corporates are treated differently in tax law. Rather than being taxed directly, Fonterra passes our income on to our farmer shareholders, who pay the tax at their level.



Michelle & Guillaume, Auckland

# Employment and income creation

## Our Co-operative supports the livelihoods of tens of thousands of people.

Delivering sustainable returns to our farmer owners is at the core of our Co-op's purpose. By supporting the success of their farming businesses, the people they employ and the vendors they rely on, we contribute significantly to regional economic development. This year through the milk price we returned more than \$13.7 billion to regional New Zealand.

We also support the livelihoods of our employees. On a full-time equivalent basis, Fonterra directly employs 19,608 people, with over 60% of those based in New Zealand (see Annual Review [page AR-04](#) for the distribution of those people around the world).

In New Zealand, industry-wide figures from 2017<sup>1</sup> showed that, in addition to those working in dairy processing, the dairy sector employed 26,500 on farm and thousands more in jobs supporting the local industry.

## \$13.7b

Through the milk price we returned more than \$13.7 billion to regional New Zealand

## 19,608 people

Fonterra directly employs 19,608 people, with over 60% of those based in New Zealand

1 Source: How does the dairy sector share its growth. NZIER report to DCANZ October 2018. Data from 2017.

## Our approach

Being a farmer-owned co-operative gives farmers control, and they know the Co-op will always collect their milk and work hard to achieve the best price for it. We believe that by working together at this scale provides efficiencies, a flexible product portfolio and broad market access that makes us resilient and competitive in the global market.

Maintaining a strong national dairy co-operative supports all dairy farmers in New Zealand by setting a Farmgate Milk Price which acts as a benchmark. New Zealand is unique in that around 95% of milk production is exported, and Fonterra collects a large proportion of this milk. As a result, there is no 'market price' set through competition for supply. We calculate a Farmgate Milk Price using an independently approved methodology. This enables total returns to be allocated between payments for milk and returns on the share capital invested by farmer shareholders and unit holders in the Co-operative (see [Farmgate Milk Price Statement](#)).

A well-designed remuneration framework helps the Co-operative retain, develop and attract people with the critical skills we need, recognises the role our people play in the success of Fonterra, with a strong link between business performance and reward, and rewards our people equitably. Our remuneration framework for salaried staff is based on a 'total remuneration' approach, which includes base salary, benefits (superannuation and insurance), and variable remuneration (incentives). This approach is consistent with best practice globally. The amounts we pay to our employees are benchmarked against comparable companies in relevant markets, using information obtained from independent remuneration consultants.

Many of our waged employees are covered by collective agreements. New Zealand industry data<sup>1</sup> from 2017 showed that the average dairy processing wage of \$85,510, was well above all other forms of food product manufacturing.



Woody, Palmerston North

## Our performance

ECONOMIC VALUE DISTRIBUTED	FY21	FY22
Payment to suppliers (farmers) for NZ-sourced milk	\$11,660 million	\$13,722 million
New Zealand Farmgate Milk Price	\$7.54 per kgMS	\$9.30 per kgMS
Payment to suppliers (farmers) for non-NZ sourced milk	\$994 million	\$1,113 million
Profit after tax attributable to equity holders of the Co-operative	\$578 million profit – (earnings of \$0.36 per share)	\$584 million profit – (earnings of \$0.36 per share)
Dividend payment to equity holders of the Co-operative	20 cents total dividend	20 cents total dividend.
Employees (FTE)	19,354	19,608

Detailed commentary on our financial performance is included in our Annual Review, see [www.fonterra.com/annualreview2022](http://www.fonterra.com/annualreview2022) and our detailed Financial Statements, see [www.fonterra.com/financialstatement2022](http://www.fonterra.com/financialstatement2022).



### What's next

- We will continue to support regional New Zealand by paying a competitive milk price to farmers
- We are committed to delivering on our financial commitments for FY23 (see [page AR-06](#))

# Appendices

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## Our contribution to United Nations Sustainable Development Goals

### Fonterra supports the United Nations Sustainable Development Goals (SDGs), and we are committed to playing our part, by working collaboratively to deliver change at scale.

The Dairy Declaration of Rotterdam<sup>1</sup>, recognises the SDGs as the overarching framework for achieving sustainable development to 2030 and the critical contribution the dairy sector will play.

We understand that the SDGs and their underlying targets can help us refine our sustainability approach, not only to reduce risks, but also to identify opportunities for growth that contribute positively to their achievement.

We have analysed our business activities, material topics and value chain against the SDGs and their underlying 169 targets. Here we identify the specific goals where we can make the most material contribution, the objectives we have prioritised for specific indicators and provide a link to related coverage in our reporting this year.

The dairy sector's global approach to sustainable development is represented by the Dairy Sustainability Framework (DSF). Fonterra is a founding and implementing member of the DSF. We are committed to addressing all 11 DSF criteria within our supply chain, through a process of continuous improvement prioritised in conjunction with the findings of our materiality assessment. Whenever we refresh our materiality assessment, we ensure that the 11 DSF criteria plus human rights and deforestation are always considered as potential topics in the process.

For more information, see:

- [www.dairysustainabilityframework.org](http://www.dairysustainabilityframework.org)
- [www.saipatform.org/sdp/](http://www.saipatform.org/sdp/)

SDG	OUR CONTRIBUTION	INDICATORS	RELATED COVERAGE
 <b>1 NO POVERTY</b>	Create positive employment opportunities along our value chain	1.2	See Employment and Income Creation on <a href="#">page 56</a>
 <b>2 ZERO HUNGER</b>	Provide access to safe, affordable nutrition	2.1	See Food, safety and quality on <a href="#">page 14</a>
	Address malnutrition through products tailored to specific health needs	2.2	See Nutrition and health on <a href="#">page 10</a>
	Lift dairy productivity to meet growing nutritional needs in a sustainable way	2.4	See Working with farmers on <a href="#">page 47</a>
 <b>3 GOOD HEALTH &amp; WELLBEING</b>	Responsibly provide products to support wellbeing of people, including of mothers and infants	3.1 3.2	See Nutrition and health on <a href="#">page 10</a> See Nutrition and health on <a href="#">page 10</a>
	Continue to improve the nutritional profile of our products	3.4	See Nutrition and health on <a href="#">page 10</a> See Health, safety and wellbeing on <a href="#">page 16</a>
	Promote healthy and informed consumer choices	3.9	See Health, safety and wellbeing on <a href="#">page 16</a>
	Provide a safe working environment	3.9	See Health, safety and wellbeing on <a href="#">page 16</a>
 <b>5 GENDER EQUALITY</b>	Provide equal participation and opportunities for women in the workforce	5.5	See Diversity and inclusion on <a href="#">page 21</a> See Closing our gender pay gap on <a href="#">page 22</a>
 <b>6 CLEAN WATER &amp; SANITATION</b>	Reduce the impact of farming and manufacturing on water quality and ecosystems	6.3	See Improving water stewardship on <a href="#">page 25</a> See Improving wastewater treatment on <a href="#">page 26</a>
		14.1 15.1 15.2	See Prioritising on-farm improvements on <a href="#">page 28</a> See Working with farmers on <a href="#">page 47</a>
 <b>14 LIFE BELOW WATER</b>	Improve water efficiency, especially in areas of constrained supply	6.4	See Using less water on <a href="#">page 26</a>
 <b>15 LIFE ON LAND</b>	Protect and restore freshwater ecosystems	6.6	See Prioritising on-farm improvements on <a href="#">page 28</a> See Sustainable catchments on <a href="#">page 27</a>
		8.5	See Learning and development on <a href="#">page 20</a> See Diversity and inclusion on <a href="#">page 21</a> See Employment and Income Creation on <a href="#">page 56</a>
 <b>8 DECENT WORK &amp; ECONOMIC GROWTH</b>	Provide positive and inclusive employment for all groups	8.5	See Learning and development on <a href="#">page 20</a> See Diversity and inclusion on <a href="#">page 21</a> See Employment and Income Creation on <a href="#">page 56</a>
	Address labour and human rights issues in our supply chain	8.7 8.8	See Working with vendors on <a href="#">page 49</a> See our <a href="#">Modern Slavery Statement</a> .
	Provide a safe and secure working environment	8.8	See Health, safety and wellbeing <a href="#">page 16</a>
 <b>12 RESPONSIBLE CONSUMPTION &amp; PRODUCTION</b>	Reduce food waste throughout our supply chain	12.3	See Packaging and waste on <a href="#">page 39</a>
	Reduce waste generation through our operations and product packaging	12.5	See Packaging and waste on <a href="#">page 39</a>
 <b>13 CLIMATE CHANGE</b>	Support farmers to build resilience to climate change	13.1	See Prioritising on-farm improvements on <a href="#">page 28</a>
	Reduced emissions across our supply chain		See Climate change on <a href="#">pages 30 -38</a>

1. A joint declaration of the UN Food and Agriculture Organisation and the International Dairy Federation signed in 206.

# Our performance

INDICATOR	TARGET	PERFORMANCE					COMMENTARY	SEE PAGE
		FY18	FY19	FY20	FY21	FY22		
<b>People - Nutrition and health</b>								
Percentage of everyday and advanced nutrition products that meet endorsed nutritional guidelines <sup>1</sup> . Fonterra consumer branded products (Global)	100% by 2025				86.5%	87.7%	We are continuing to improve the formulation of our consumer products. On a volume sold basis, we improved from 86.5% to 87.7%. This year we developed an online system which makes it easier for us to analyse and track our progress. This system has been implemented for our global business units but excludes those businesses being held for sale in Latin America. We have continued to track progress in Latin America manually and combined this with our online system to give the overall progress. FY21 results have been restated using the more accurate information available from our online system, it is now 86.5% rather than 84% previously reported. Our nutrition guidelines, as endorsed by the New Zealand Nutritional Foundation are publicly available on our web site.	● <a href="#">11</a>
<b>People - Health safety and wellbeing</b>								
Work-related fatalities (employees, contractors, on-site public)	Zero harm	0	1	0	0	1	Tragically, one tanker driver passed away in April 2022 when his tanker left the road in Canterbury and rolled into a paddock. We have undertaken a review of the incident with an independent investigator, and currently await the serious Crash Unit report from the Police.	<a href="#">17</a>
Number of serious harm injuries (employees, contractors, on-site public)	Zero harm	14	18	10	9	8	We have achieved a further reduction in the number of serious harm injuries this year. Our goal remains to eliminate serious harm so we will continue to seek further improvements. Three of these injuries were associated with falling or moving objects from vehicles or forklifts, two were related to on road driving, the others were related to a slip, a knock and machine safety during maintenance. We continue to work on our vehicle safety and traffic management across the business.	<a href="#">17</a>
Number of recordable injuries <sup>2</sup> (employees – work-related)	Measure and report	284	222	247	230	258	258 injuries required medical treatment, restricted work duties or time away from work. This is the highest number for several years so we will continue to seek further improvements in both rate and severity. Slips, trips and falls (21%) and manual handling (20%), continue to be the main cause of recordable injuries.	<a href="#">17</a>
Total recordable injury frequency rate (TRIFR per million work hours) (employees – work-related)	Less than 5	6.1	4.9	5.8	5.7	6.7	This year, like a number of other New Zealand companies, we have seen an increase in recordable injury rate. Slips, trips and falls, as well as manual handling incidents continue to contribute to more than 40% of our injuries. The total hours worked covered by this injury rate was 38.6 million hours.	● <a href="#">17</a>

1. Assessment of products is based on protein, calcium and added sugars. Everyday nutrition products are intended to deliver a daily source of dairy nutrition. Advanced nutrition products provide a source of dairy nutrition and are fortified for advanced nutrition and health benefits.  
2. Serious harm injuries are injuries that cause temporary or permanent loss of body function and include those to/involving both employees and contractors.

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INDICATOR	TARGET	PERFORMANCE					COMMENTARY	SEE PAGE
		FY18	FY19	FY20	FY21	FY22		
<b>People – Investing in people</b>								
Employee engagement	World-class (Top quartile)	4.00 (2nd highest quartile)	4.07 (2nd highest quartile)	N/A <sup>1</sup>	4.09 (2nd highest quartile)	–	Engagement has continued to be monitored through pulse surveys within individual business units, but no global assessment has been completed during FY22. To measure the impact over time we are implementing a new culturing diagnostic tool more closely related to our culturing work.	● <a href="#">20</a>
Training skills hours (NZ)	Double by 2025 from FY20 baseline	–	–	270,355	346,417	501,879	We have continued to make good progress this year, increasing the hours of skills training by 85.6% compared to FY20, with the average hours per learner being 45 hours. In addition to skills-related training, there were an additional 173,500 hours of onboarding and compliance learning in New Zealand, covering things such as safety and environmental management.	● <a href="#">20</a>
Female representation in senior leadership	50% by 2022	30.1%	28.6%	29.1%	32.4%	34.8%	For the second consecutive year we have made progress on this aspirational target. We have not made as much progress as we hoped within the timeframe originally envisaged but we remain committed to the intent. This year we have set a new goal 40:40:20, which we believe is more appropriate and sends a positive signal on the direction we want to go. 40:40:20 refers to 40% female, 40% male, 20% of any gender. The 20% introduces the flexibility of female, male or non-binary gender. We have also extended the range of senior leadership covered by the goal to Bands 12+.	● <a href="#">21</a>
Ethnic representation in senior leadership	20% by 2022	9%	9%	8%	9%	15%	Privacy concerns and the voluntary nature of reporting ethnicity information continue to limit our understanding and ability to improve but this year an increase in voluntary disclosure has improved data quality and the result. Within senior leadership, 59% identify themselves as European; 10% identify themselves as Asian; 2.4% identify themselves as Māori; 1.8% identify themselves as other ethnicities and 27% have not provided the information. We are investigating alternative ways to express our intent and track progress. The project will start by reviewing the experiences of Māori and Pasifika employees within our Aotearoa New Zealand teams and make recommendations about how we make the Co-operative more inclusive for different ethnicities.	● <a href="#">21</a>
<b>Nature – Land and water, on-farm</b>								
Farms with Farm Environment Plans in New Zealand	100% by 2025	12%	23%	34%	53%	71%	Our goal for FY22 was to reach 67% and this has been exceeded.	● <a href="#">28</a>
Farms with Farm Environment Plans in Australia	Monitor and report	–	–	–	–	13%	This year we commenced rollout of FEP for the farmers supplying us milk in Australia.	● <a href="#">29</a>

1. The engagement survey for FY19 was completed in early FY20 with 86% of employees participating. The next Co-operative wide survey was completed mid-FY21 and is considered to represent FY21.

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INDICATOR	TARGET	PERFORMANCE					COMMENTARY	SEE PAGE
		FY18	FY19	FY20	FY21	FY22		
<b>Nature – Land and water, manufacturing</b>								
Water reduction at manufacturing sites in water-constrained regions	30% reduction by 2030 from FY18 baseline	–	3.9% Increase from FY18	2.9% Reduction from FY18	2.6% Reduction from FY18	6.6% Reduction from FY18	We made good progress this year, turning around the slight increase in FY21 and almost achieving our target for FY22. To achieve this, six of the seven manufacturing sites in water-constrained regions delivered reductions (see highlights on <a href="#">page 26</a> ). From next year we will start reporting progress against our new water stewardship goal (see <a href="#">page 25</a> ).	● <a href="#">26</a>
Improvement in water efficiency <sup>1</sup> (water used per cubic metre of milk processed)	Measure and report (global)	–	0.4% Better than FY18	1.9% Better than FY18	2.5% Better than FY18	3.1% Better than FY18	While our priority is on reducing our absolute water use at sites, a focus on water-efficiency at all sites is an important aspect of water stewardship. We have continued to deliver significant improvements, and this is reflected in water efficiency indicators based on milk processed and finished goods produced.	<a href="#">26</a>
Improvement in water efficiency (water used per tonne finished goods)	Measure and report (global)	–	1.5% Better than FY18	4.8% Better than FY18	5.7% Better than FY18	7.3% Better than FY18	For these underlying performance indicators, prior years have been restated to reflect acquisition of two sites in Australia during FY21.	
Percentage of Manufacturing sites treating wastewater to leading industry standards	>80% of sites by 2030 (global)				53%	56%	Recognising that stakeholders have different views and values when it comes to improving water quality, we believe that a leading industry approach to wastewater quality requires a truly collaborative approach. We judge our success based on a combination of internal guidelines and satisfying the expectations of key stakeholders at a catchment level. We are progressing our investments to upgrade wastewater treatment facilities and this year we completed the planned upgrade of our wastewater treatment at Whareroa.	● <a href="#">26</a>
<b>Water withdrawal by source overall - Volume (000 m<sup>3</sup>)<sup>1</sup></b>								
Freshwater (≤1,000 mg/L Total Dissolved Solids)	Surface water (water that occurs naturally on the Earth's surface)		25,842	24,918	25,726	23,644	Includes rainwater harvesting at our Indonesian site.	
	Ground water (water that is in an underground formation)		14,971	14,835	14,489	14,074		
	Seawater (sea or ocean)		0	0	0	0		
	Produced water (through the extraction, processing or use of any raw material)		0	0	0	0		
	Third-party water (municipal water supplies or other public or private water utilities)		7,473	7,159	7,015	7,415		
<b>Total withdrawal from freshwater</b>			<b>48,286</b>	<b>46,912</b>	<b>47,230</b>	<b>45,153</b>		

1. Where required water data for prior years has been restated for a combination of reasons including acquisition of two Australian sites in FY21 and specific TDS testing (see Data Reporting Notes [page 78](#))

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INDICATOR	TARGET	PERFORMANCE					COMMENTARY	SEE PAGE
		FY18	FY19	FY20	FY21	FY22		
Other water (>1,000 mg/L Total Dissolved Solids)	Surface water		0	0	0	0		
	Ground water		2,439	2,127	1,996	1,992		
	Seawater		0	0	0	0		
	Produced water		10,859	11,236	11,913	12,345	Water is extracted from milk during some processing. The volume is a conservative estimate of produced water, for sites where discharge volumes exceed withdrawal.	
	Third-party water		2,011	1,330	1,536	1,448		
<b>Total withdrawal from other water</b>			<b>15,310</b>	<b>14,693</b>	<b>15,445</b>	<b>15,785</b>		
<b>Grand Total</b>			<b>63,596</b>	<b>61,605</b>	<b>62,675</b>	<b>60,939</b>		
<b>Water discharge by destination overall - Volume (000 m<sup>3</sup>)</b>								
Freshwater (≤1,000 mg/L Total Dissolved Solids)	Surface water		19,079	19,178	19,676	18,507		
	Ground water		4,428	4,200	3,767	3,686		
	Seawater		0	0	0	0		
	Third-party water (total)		1,372	1,446	1,536	1,871		
	Third-party water - for use by other parties		0	0	0	502	By agreement, or for emergency community support, we provide some water to third parties. These are small volumes and not easy to isolate. From FY22, we can report some. The remainder are deemed immaterial.	
<b>Total discharged to freshwater</b>			<b>24,879</b>	<b>24,823</b>	<b>24,978</b>	<b>24,064</b>		
Other water (>1,000 mg/L Total Dissolved Solids)	Surface water		6,013	5,961	5,974	5,704		
	Ground water		13,347	12,250	12,896	11,879		
	Seawater		13,241	12,936	13,265	13,962		
	Third-party water (total)		3,845	3,780	3,854	3,789		
	Third-party water - for use by other parties		0	0	0	0		
<b>Total discharged to other water</b>			<b>36,446</b>	<b>34,928</b>	<b>35,989</b>	<b>35,333</b>		
<b>Grand Total</b>			<b>61,325</b>	<b>59,751</b>	<b>60,967</b>	<b>59,398</b>		

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INDICATOR	TARGET	PERFORMANCE					COMMENTARY	SEE PAGE
		FY18	FY19	FY20	FY21	FY22		
<b>Water discharge overall – Quality (COD mg/L)</b>								
Discharged to surface water			74	69	59	58		
Discharged to ground water			1,220	1,183	1,063	1,110	Prior years restated to remove sludge from wastewater treatment at Maungatūroto which had previously been included.	
Discharged to seawater			2,105	2,062	2,264	1,947		
Discharged to third-party water			1,874	1,703	1,531	1,755		
<b>Water withdrawal by source from areas with water stress - Volume (000 m³)</b>								
Freshwater (≤1,000 mg/L Total Dissolved Solids)	Surface water		0	0	0	0		
	Ground water		0	0	0	0		
	Seawater		0	0	0	0		
	Produced water		0	0	0	0		
	Third-party water		597	582	582	526		
<b>Total withdrawal from freshwater</b>			<b>597</b>	<b>582</b>	<b>582</b>	<b>526</b>		
Other water (>1,000 mg/L Total Dissolved Solids)	Surface water		0	0	0	0		
	Ground water		2,023	1,996	1,862	1,857		
	Seawater		0	0	0	0		
	Produced water		54	125	117	103		
	Third-party water		2,011	1,330	1,536	1,448		
<b>Total withdrawal from other water</b>			<b>4,087</b>	<b>3,451</b>	<b>3,514</b>	<b>3,409</b>		
<b>Total sourced from areas with water stress</b>			<b>4,684</b>	<b>4,033</b>	<b>4,097</b>	<b>3,935</b>		
<b>Water discharge by destination to areas with water stress - Volume (000 m³)</b>								
Discharged as freshwater (≤1,000 mg/L Total Dissolved Solids)			1,358	1,422	1,495	1,342		
Discharged as other water (>1,000 mg/L Total Dissolved Solids)			2,627	2,012	2,211	2,058		
<b>Total discharged to areas with water stress</b>			<b>3,985</b>	<b>3,434</b>	<b>3,706</b>	<b>3,400</b>		

1. Where required water data for prior years has been restated for a combination of reasons including acquisition of two Australian sites in FY21 and specific TDS testing (see Data Reporting Notes [page 78](#))

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INDICATOR	TARGET	PERFORMANCE					COMMENTARY	SEE PAGE
		FY18	FY19	FY20	FY21	FY22		
<b>Water consumption - Volume (000 m<sup>3</sup>)</b>								
Total consumption from all areas			2,271	1,854	1,707	1,541		
Total consumption from areas with water stress			699	599	391	535		
Change in water storage			-6	5	-30	20		
<b>Nature – Climate change</b>								
Reduction in absolute scope 1 & 2 emissions	30% reduction by 2030 from FY18 baseline (Global)	-	1.8% reduction from FY18	3.5% reduction from FY18	6.6% reduction from FY18	11.2% reduction from FY18	Progress in FY22, was much better than planned and significantly exceeded target. In addition to the improvement projects completed, lower milk volumes, a favourable product mix and a higher renewable content in New Zealand grid electricity also contributed.  In FY21, the New Zealand grid electricity had the lowest renewable content since FY15, and this negatively impacted the progress we had made in other areas. This year, the New Zealand grid electricity has returned to more normal levels.  We have made good progress towards our science-based target and remain on track to achieve it. All prior years have been restated slightly (see Data Reporting Notes on <a href="#">page 78</a> ).	● 34
Net change in GHG emissions from dairy farming since 14/15 (NZ) (Pre-farm gate tCO <sub>2</sub> -e)	Neutral to 2030	504,636 reduction on 14/15 (2.4%)	614,156 reduction on 14/15 (2.9%)	690,675 reduction on 14/15 (3.2%)	916,753 reduction on 14/15 (4.3%)	1,742,123 reduction on 14/15 (8.2%)	Our estimated absolute GHG emissions remain well below the baseline season. Emissions intensity on farm for 20/21 season (including LUC) is 0.3% higher than the 14/15 baseline. The significant decrease from FY21 to FY22 is based on decreased milk volume. The lifecycle assessment for 20/21 is the most recent available and is applied to both seasons.  All prior years have been restated to reflect the latest available lifecycle assessment (see Data Reporting Notes on <a href="#">page 78</a> ).	● 32
<b>Total energy used by manufacturing</b>								
Fuel consumption	Energy (PJ)	20.0	19.8	19.5	19.3	18.8		
	Renewable energy (%)	0%	0%	0%	5%	4%		
Steam consumption	Energy (PJ)	4.2	4.1	4.0	4.1	3.8		
	Renewable energy (%)	4%	6%	6%	6%	8%		
Electricity consumption	Energy (PJ)	5.2	5.1	5.0	5.1	5.1		
	Renewable energy (%)	53%	55%	55%	56%	59%		
Energy used	Energy (PJ)	29.5	29.0	28.6	28.6	27.7		
	Renewable energy (%)	10%	11%	11%	14%	15%		
	Non-renewable energy (%)	90%	89%	89%	86%	85%		
<b>Global consolidated emissions (000 tCO<sub>2</sub>-e)</b>								

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INDICATOR	TARGET	PERFORMANCE					COMMENTARY	SEE PAGE
		FY18	FY19	FY20	FY21	FY22		
Scope 1	Scope 1	1,726	1,701	1,708	1,545	1,366	All prior years have been restated to reflect the latest available on-farm lifecycle assessment and other minor updates (see Data Reporting Notes on <a href="#">page 78</a> ).	
	On-farm	232	221	239	173	34		
	Manufacturing	1,494	1,480	1,469	1,372	1,332		
	Distribution and other	0	0	0	0	0		
Scope 2	Scope 2	701	662	634	653	565	As above.	
	On-farm	66	52	53	36	5		
	Manufacturing	635	609	580	617	560		
	Distribution and other	0	0	0	0	0		
Scope 3	Scope 3	24,440	23,788	23,591	23,375	22,549	As above.	
	On-farm	24,159	23,513	23,330	23,119	22,314		
	Manufacturing	71	69	66	55	52		
	Distribution	198	195	186	199	180		
	Other	12	11	8	3	3		
Total Scope 1, 2 & 3	Total Scope 1, 2 & 3	26,867	26,151	25,932	25,572	24,480	As above.	
	On-farm	24,456	23,787	23,622	23,328	22,353		
	Manufacturing	2,201	2,158	2,115	2,043	1,944		
	Distribution	198	195	186	199	180		
	Other	12	11	8	3	3		
<b>GHG Inventory (000 tCO<sub>2</sub>e)</b>								
Scope 1	Direct emissions from owned/controlled operations	1,726	1,701	1,708	1,545	1,366	Stationary combustion, mobile combustion for relevant fuel types including coal, gas, liquid fossil fuels and biofuels. Scope 1 component of on-farm GHG emissions for the small number of farms where we have operational control is also included here. Refrigerant losses are included for New Zealand and Australia. Carbon dioxide for packaging is included for New Zealand. Scope 1 emissions associated with small offices around the world are immaterial and excluded. Data is generally based on invoices and emissions factors from a selection of sources (see Data Reporting Approach on <a href="#">page 76</a> for further information).	

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INDICATOR	TARGET	PERFORMANCE					COMMENTARY	SEE PAGE
		FY18	FY19	FY20	FY21	FY22		
Scope 2	Indirect emissions from the use of purchased electricity, steam, heating, and cooling	701	662	634	653	565	GHG emissions from purchased electricity and steam for all manufacturing sites under our operational control. Scope 2 component of on-farm GHG emissions for the small number of farms where we have operational control is also included here. Scope 2 emissions associated with small offices around the world are immaterial and excluded. All electricity emissions are reported using a location-based approach. Data is generally based on invoices and emissions factors from a selection of sources (see Data Reporting Approach on page 76 for further information)	
Total Scope 1 & 2		2,427	2,363	2,341	2,197	1,931		
Scope 3 - Upstream	Category 1: Purchased goods and services	24,159	23,513	23,330	23,119	22,314	GHG emissions arising from the sourcing of raw milk in all regions are included. The most recently available full lifecycle analysis to farmgate, including brought-in feed, peat soils and direct land-use change is used. This is multiplied by the volume sourced in each region to calculate the total GHG emissions for each region (see page 76). GHG emissions from non-milk suppliers (e.g. non-raw milk ingredients and packaging) are excluded.	
	Category 3: Fuel- and energy-related activities (not included in scope 1 or scope 2)	71	69	66	55	52	For New Zealand, gas and electricity distribution losses; and freight of solid fuels to site, are included. For Australia, the calculation includes indirect emissions attributable to the extraction, production and transport of fossil fuels and fuel burned to generate electricity, as well as losses in the transmission and distribution network. This was calculated using purchased fuel and electricity data and emission factors from the New Zealand Ministry for the Environment and the Australian Government's National Greenhouse Accounts Factors.	
	Category 4: Upstream transportation and distribution	198	195	186	199	180	All international ocean freight under the control of our shipping partner Kotahi has been reported. This includes exports from New Zealand, Australia, Europe and North America to the final destination port. We also report additional ocean freight from New Zealand by our consumer branded business which is not under Kotahi control. Data is also reported for movement within New Zealand, including road, rail and coastal shipping. GHG emissions for air freight from New Zealand has also been included. GHG emissions for ocean freight is based on information provided by the shipping partners. For road, rail and air freight, actual tonne-kms are used with emissions factors provided by the Ministry for the Environment.	
	Category 6: Business travel	12	11	8	3	3	Data has been collected and reported for business-related air travel, rental car, and hotel accommodation. This GHG emissions data has been provided by our nominated travel agents.	
Total Scope 3		24,440	23,788	23,591	23,375	22,549		
Total Scope 1, 2 & 3		26,867	26,151	25,932	25,572	24,480		

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INDICATOR	TARGET	PERFORMANCE					COMMENTARY	SEE PAGE
		FY18	FY19	FY20	FY21	FY22		
<b>Global consolidated emissions intensity</b>								
Scope 1 & 2	Emissions intensity by finished goods (000 tCO <sub>2</sub> -e/t)	0.60	0.59	0.58	0.55	0.49	All prior years have been restated to reflect the latest available on-farm lifecycle assessment and other minor updates (see Data Reporting Notes on <a href="#">page 78</a> )	
	Emissions intensity by revenue (tCO <sub>2</sub> -e /million NZ\$)	119	119	112	104	82		
Scope 1, 2 & 3	Emissions intensity by finished goods (000 tCO <sub>2</sub> -e/t)	6.7	6.6	6.5	6.4	6.3		
	Emissions intensity by revenue (tCO <sub>2</sub> -e /million NZ\$)	1,315	1,313	1,236	1,211	1,045		
<b>Nature – Packaging</b>								
Recycle-ready packaging	Measure and report	–	–	87%	87%	89%	Using globally accepted recyclability definitions and sales volumes for the 12 months ending June 2022 <sup>1</sup> , on a total tonnage of packaging basis, 89% of our packaging is now recycle-ready up from 87% last year. This is made up of: 56% readily recyclable (e.g. cardboard); 12% is ready for recycling but there is limited infrastructure (e.g. rigid plastic); 21% is technically recyclable (e.g. liquid carton board). This leaves 11% that is currently unsuitable for recycling (e.g. foil-based sachets). This is where we are focusing our efforts and we forecast we will achieve greater than 95% recycle-ready packaging by end of 2025.	
Reusable, recyclable or compostable packaging	100% by 2025	–	–	50%	58%	56%	Using globally accepted recyclability definitions and sales volumes for the 12 months ending June 2022 <sup>1</sup> , on a total tonnage of packaging basis 56% is readily recyclable. This is down slightly on FY21, primarily due to increased accuracy in our reporting systems. For example, we identified about 1,000 tonnes of glass jars used by our manufacturing site in Saudi Arabia, that were missing from prior reporting. These are currently wrapped in a PVC sleeve which makes them unsuitable for recycling. Making progress on this aspiration relies not only progress under our direct control (see recycle-ready packaging above) but also on the actions of others (e.g. provision of infrastructure within countries). Like many other food manufacturers, we will continue to make material changes, collaborate and seek to influence others around the world. Currently, achieving 100% by 2025 seems unlikely to be fully achieved but, we remain committed to the intent.	● 39

1. This applies to all primary and secondary packaging for Fonterra-owned brands. Tertiary packaging is also included in the assessment but, due to data availability issues, we have continued to use the same baseline data as reported in FY20 (this represents less than 10% of total packaging tonnage).

**FY22 progress is evaluated against stated targets:**

● Progressing well or target achieved.

● Progressing but not as strongly as we'd like.

● Not progressing well or original timeline significantly delayed.

INDICATOR	TARGET	PERFORMANCE					COMMENTARY	SEE PAGE
		FY18	FY19	FY20	FY21	FY22		
<b>Nature – Solid waste</b>								
Solid waste sent to landfill (tonnes)	Zero waste	-	17,491	16,577	12,833	11,994	<p>Solid waste to landfill (including downgraded product unsuitable for alternative uses) reduced by a further 6.5% this year giving a total reduction of more than 30% since FY19. See <a href="#">page 41</a> for some examples of work completed.</p> <p>This year, in reviewing the target and the planned development of recycling infrastructure over the coming years, we have decided to de-prioritise this target, still aspiring to achieve 'zero waste' but without a specific deadline.</p> <p>We will continue to seek year-on-year improvements with a focus on making products to specification to avoid food waste, working with vendors to prevent non-recyclable materials coming onto our sites and partnering with others to increase the range of materials that can be economically recovered.</p> <p>FY21 has been restated slightly to include the solid waste from Tullamarine and Campbellfield (see Data reporting notes on <a href="#">page 78</a>).</p>	<a href="#">41</a>
<b>Nature – Animal wellbeing</b>								
Farms with an Animal Wellbeing Plan established with their vet. (New Zealand)	100% by 2025	-	-	50%	53%	76%	<p>A large increase was achieved this year. This year, the Co-operative Difference framework (see <a href="#">page 47</a>) included having an Animal Wellbeing Plan as one of the criteria to receive a differentiated payment.</p>	 <a href="#">43</a>
<b>Somatic cell count average (mean) (000 cells/ml)</b>								
		2017/18	2018/19	2019/20	2020/21	2021/22		
New Zealand		180	168	171	170	173	<p>Somatic cell count (SCC) is not only an indicator of milk quality, a low SCC also gives an indication of good animal husbandry.</p> <p>Farmers have continued to deliver excellent results in this area this year, with improvements in Chile, Brazil and Sri Lanka. New Zealand, Australia and China were all negatively impacted by combinations of unusually wet or dry weather conditions. The overall global result increased slightly but remains well ahead of the European Union import/export standard of 400,000 cells/ml, which is a widely quoted standard. We will continue to work towards lower counts.</p>	<a href="#">42</a>
Australia		178	171	172	173	178		
China		168	183	160	167	327		
Chile		319	312	317	309	280		
Brazil		533	467	395	342	335		
Sri Lanka		634	599	662	629	625		
<b>Global weighted average (by volume)</b>		<b>184</b>	<b>173</b>	<b>175</b>	<b>175</b>	<b>177</b>		

**FY22 progress is evaluated against stated targets:**

-  Progressing well or target achieved.
-  Progressing but not as strongly as we'd like.
-  Not progressing well or original timeline significantly delayed.

INDICATOR	TARGET	PERFORMANCE					COMMENTARY	SEE PAGE
		FY18	FY19	FY20	FY21	FY22		
<b>Relationships – Working with vendors</b>								
<b>Palm products</b>								
		(CY 2017)	(CY 2018)	(CY 2019)	(CY 2020)	(CY 2021)		
Sourcing 'segregated supply' palm oil from credible organisations.	100% by end of CY 2018	7%	23%	55%	71%	74%	<p>By volume, 96% of all direct palm oil being purchased by our New Zealand business and 100% of all direct palm oil being purchased by our Australian business is certified as segregated supply. It is purchasing for our operations in Saudi Arabia, Indonesia, and Chile where most of our remaining improvement is required.</p> <p>The 74% is made up of 71% 'segregated supply' and 3% with the higher 'identity preserved' certification, 20% was certified by mass balance and the remaining 6% was certified using RSPO credits.</p> <p>We missed our original target date and, after good gains in CY2020, progress during CY2021 was small, partially due to a lower proportion of volume being purchased by New Zealand and Australia. We reviewed this target in FY22 and have recommitted to delivering it.</p>	● 50

**FY22 progress is evaluated against stated targets:**

● Progressing well or target achieved.

● Progressing but not as strongly as we'd like.

● Not progressing well or original timeline significantly delayed.

# Employee Data<sup>1</sup>

## FULL-TIME EQUIVALENT EMPLOYEES BY EMPLOYMENT CONTRACT BY GENDER

CONTRACT TYPE BY GENDER		PERCENTAGE PER CONTRACT TYPE		
		FY20 (%)	FY21(%)	FY22(%)
Male	Permanent	96.6%	96.8%	97.3%
	Fixed-term	3.4%	3.2%	2.7%
Female	Permanent	96.7%	95.6%	96.1%
	Fixed-term	3.3%	4.4%	3.9%
Gender diverse	Permanent	100.0%	100.0%	100.0%
	Fixed-term	0.0%	0.0%	0.0%
Undeclared or unknown	Permanent	100.0%	100.0%	100.0%
	Fixed-term	0.0%	0.0%	0.0%

## FULL-TIME EQUIVALENT EMPLOYEES BY REGION

GLOBAL EMPLOYEE NUMBERS	FTE (PERMANENT & FIXED TERM)		
	FY20	FY21	FY22
New Zealand	11,757	11,881	11,992
Australia	1,276	1,427	1,437
Greater China	1,774	753	773
Brazil	1,350	1,306	1,274
Chile	1,596	1,570	1,707
Rest of Asia	2,014	1,914	1,902
Rest of World	511	503	523
<b>Global Total</b>	<b>20,278</b>	<b>19,354</b>	<b>19,608</b>

## EMPLOYMENT TYPE BY GENDER

EMPLOYMENT TYPE BY GENDER		PERCENTAGE PER EMPLOYMENT TYPE		
		FY20(%)	FY21(%)	FY22(%)
Male	Full-time	99.5%	99.4%	99.3%
	Part-time	0.5%	0.6%	0.7%
Female	Full-time	96.2%	95.9%	96.1%
	Part-time	3.8%	4.1%	3.9%
Gender diverse	Full-time	100.0%	100.0%	100.0%
	Part-time	0.0%	0.0%	0.0%
Undeclared or unknown	Full-time	100.0%	100.0%	100.0%
	Part-time	0.0%	0.0%	0.0%

## EMPLOYMENT CONTRACT BY REGION

CONTRACT TYPE BY REGION		PERCENTAGE PER EMPLOYMENT TYPE		
		FY20 (%)	FY21(%)	FY22(%)
New Zealand	Permanent	97.6%	97.1%	97.7%
	Fixed-term	2.4%	2.9%	2.3%
Australia	Permanent	95.5%	94.8%	96.0%
	Fixed-term	4.5%	5.2%	4.0%
Greater China	Permanent	97.1%	99.1%	99.2%
	Fixed-term	2.9%	0.9%	0.8%
Brazil	Permanent	100.0%	100.0%	100.0%
	Fixed-term	0.0%	0.0%	0.0%
Chile	Permanent	100.0%	100.0%	100.0%
	Fixed-term	0.0%	0.0%	0.0%
Rest of Asia	Permanent	88.4%	89.0%	89.3%
	Fixed-term	11.6%	11.0%	10.7%
Rest of World	Permanent	88.7%	89.5%	89.1%
	Fixed-term	11.3%	10.5%	10.9%

1. Some percentages shown in tables may not sum to 100% due to rounding.

### DIVERSITY OF GOVERNANCE BODIES AND EMPLOYEES BY AGE

	AGE	PERCENTAGE PER EMPLOYMENT TYPE		
		FY20	FY21	FY22
All employees	<30	14%	13%	13%
	30-50	57%	56%	55%
	>50	26%	28%	28%
	Unknown	4%	3%	3%
Fonterra Management Team (FMT)	<30	0%	0%	0%
	30-50	50%	25%	38%
	>50	50%	75%	63%
	Unknown	0%	0%	0%
Fonterra Board	<30	0%	0%	0%
	30-50	9%	9%	0%
	>50	91%	91%	100%
	Unknown	0%	0%	0%

### DIVERSITY OF EMPLOYEE CATEGORIES BY AGE

EMPLOYEE CATEGORIES	AGE	PERCENTAGE BY AGE RANGE		
		FY20	FY21	FY22
Senior Leaders	<30	0.3%	0.0%	0.0%
	30-50	63.3%	57.2%	60.1%
	>50	31.8%	37.9%	35.5%
	Unknown	4.6%	4.9%	4.3%
Managers	<30	7.3%	5.7%	5.4%
	30-50	68.9%	66.4%	68.2%
	>50	20.4%	24.7%	23.4%
	Unknown	3.4%	3.1%	3.0%
Supervisory & Professional	<30	22.3%	18.1%	17.6%
	30-50	57.4%	58.3%	61.0%
	>50	16.9%	20.6%	18.5%
	Unknown	3.5%	2.9%	2.8%
Operators, Techs, Drivers, Farm Workers	<30	15.8%	13.7%	14.1%
	30-50	49.3%	47.0%	49.2%
	>50	31.0%	36.1%	33.7%
	Unknown	3.9%	3.1%	3.0%

### DIVERSITY OF GOVERNANCE BODIES AND EMPLOYEES BY GENDER

	GENDER	PERCENTAGE BY GENDER		
		FY20	FY21	FY22
All employees	Male	72%	72%	71%
	Female	27%	28%	29%
	Gender diverse	0%	0%	0%
	Undeclared	0%	0%	0%
Fonterra Management Team (FMT)	Male	75%	75%	75%
	Female	25%	25%	25%
Fonterra Board	Male	73%	64%	64%
	Female	27%	36%	36%

### DIVERSITY OF EMPLOYEE CATEGORY BY GENDER

EMPLOYEE CATEGORY	GENDER	PERCENTAGE BY GENDER		
		FY20	FY21	FY22
Senior Leaders	Male	71%	68%	64%
	Female	29%	32%	35%
Managers	Male	63%	62%	60%
	Female	37%	38%	40%
Supervisory & Professional	Male	52%	50%	49%
	Female	48%	50%	51%
Operators, Techs, Drivers, Farm Workers	Male	84%	83%	82%
	Female	16%	17%	18%

### HIRING FROM LOCAL COMMUNITIES

GLOBAL EMPLOYEE NUMBERS	PERCENTAGE OF SENIOR MANAGEMENT		
	FY20	FY21	FY22
New Zealand	97%	100%	100%
Australia	90%	92%	92%
Brazil	100%	100%	100%
Chile	100%	100%	100%
Greater China	69%	89%	89%

## NEW HIRES AND LEAVERS BY AGE AND GENDER<sup>1</sup>

AGE AND GENDER	NEW HIRES BY AGE AND GENDER						LEAVERS BY AGE AND GENDER					
	FY20 (#/%)		FY21 (#/%)		FY22(#/%)		FY20 (#/%)		FY21 (#/%)		FY22(#/%)	
Aged <30	435	32.5%	501	31.6%	626	31.6%	369	18.0%	314	17.3%	417	18.8%
Aged 30-50	662	49.5%	893	56.3%	1052	53.2%	1020	49.8%	917	50.5%	1119	50.5%
Age 50 +	96	7.2%	169	10.7%	234	11.8%	366	17.9%	495	27.2%	606	27.4%
Age unknown	145	10.8%	22	1.4%	66	3.3%	292	14.3%	91	5.0%	72	3.3%
Male	789	59.0%	1005	63.4%	1222	61.8%	1323	64.6%	1194	65.7%	1440	65.0%
Female	549	41.0%	579	36.5%	756	38.2%	723	35.3%	623	34.3%	771	34.8%
Gender undeclared or unknown	0	0.0%	1	0.1%	0	0.0%	1	0.0%	0	0.0%	3	0.1%
<b>Total new employees</b>	<b>1338</b>	<b>7.3%</b>	<b>1585</b>	<b>9.0%</b>	<b>1978</b>	<b>10.7%</b>	<b>2047</b>	<b>11.1%</b>	<b>1817</b>	<b>10.3%</b>	<b>2214</b>	<b>11.9%</b>

## NEW HIRES AND LEAVERS BY REGION

REGION	NEW HIRES BY REGION						LEAVERS BY REGION					
	FY20 (#/%)		FY21 (#/%)		FY22(#/%)		FY20 (#/%)		FY21 (#/%)		FY22(#/%)	
New Zealand	725	54.2%	866	54.6%	1133	57.3%	1023	50.0%	1050	57.8%	1431	64.6%
Australia	69	5.2%	251	15.8%	161	8.1%	183	8.9%	120	6.6%	178	8.0%
Greater China	235	17.6%	180	11.4%	134	6.8%	334	16.3%	234	12.9%	114	5.1%
Brazil <sup>2</sup>	0	0.0%	0	0.0%	0	0.0%	10	0.5%	0	0.0%	0	0.0%
Chile	87	6.5%	94	5.9%	310	15.7%	145	7.1%	119	6.5%	242	10.9%
Rest of Asia	161	12.0%	153	9.7%	180	9.1%	267	13.0%	243	13.4%	191	8.6%
Rest of World	61	4.6%	41	2.6%	60	3.0%	85	4.2%	51	2.8%	58	2.6%
<b>Overall</b>	<b>1338</b>	<b>7.3%</b>	<b>1585</b>	<b>9.0%</b>	<b>1978</b>	<b>10.7%</b>	<b>2047</b>	<b>11.1%</b>	<b>1817</b>	<b>10.3%</b>	<b>2214</b>	<b>11.9%</b>

## TURNOVER BY REASON

TURN OVER REASON	PERCENTAGE TURNOVER BY REASON		
	FY20 (%)	FY21 (%)	FY22(%)
Voluntary	1255 (6.7%)	1168 (6.6%)	1610 (8.7%)
Involuntary	610 (3.2%)	389 (2.2%)	346 (1.9%)
Other (Contract end, Legal Retirement, or deceased)	182 (1.0%)	260 (1.5%)	258 (1.4%)
<b>Total Turnover Rate</b>	<b>2047 (11.1%)</b>	<b>1817 (10.3%)</b>	<b>2214 (11.9%)</b>

1. A small number of new hire and leaver events are backdated each year after year end reporting has been completed. Analysing for FY21, there were 19 leavers and 65 new hires backdated with is similar to prior years. This is considered immaterial and FY21 has not been restated. This allows FY20 to FY22 to be considered on a like-for-like basis.
2. Our JV in Brazil is excluded from new hires and leavers analysis, but we did have some directly employed staff in Brazil during FY20.

GENDER PAY GAP BY COUNTRY AND BY EMPLOYEE CATEGORY – BASIC SALARY

REGION	EMPLOYEE CATEGORY	MEAN			MEDIAN		
		FY20	FY21	FY22	FY20	FY21	FY22
New Zealand	Senior Leaders	0.86	0.85	0.81	0.95	0.93	0.90
	Managers	0.96	0.96	0.96	0.95	0.96	0.94
	Supervisory & Professional	0.88	0.90	0.92	0.84	0.87	0.88
	Operators, Techs, Drivers, Farm Workers	0.84	0.84	0.85	0.85	0.85	0.85
	<b>Overall</b>	<b>0.96</b>	<b>0.97</b>	<b>0.96</b>	<b>0.96</b>	<b>0.96</b>	<b>0.95</b>
Australia	Senior Leaders	0.97	0.98	0.97	0.79	0.78	0.86
	Managers	0.95	0.98	1.02	0.95	0.96	0.99
	Supervisory & Professional	0.84	0.85	0.91	0.85	0.86	0.84
	Operators, Techs, Drivers, Farm Workers	0.78	0.80	0.81	0.74	0.78	0.78
	<b>Overall</b>	<b>0.95</b>	<b>0.99</b>	<b>1.03</b>	<b>0.96</b>	<b>0.97</b>	<b>1.02</b>
Greater China	Senior Leaders	0.94	1.03	1.20	1.13	1.17	1.43
	Managers	1.10	1.04	1.05	1.26	1.11	1.06
	Supervisory & Professional	1.27	1.03	1.02	1.39	1.03	0.99
	Operators, Techs, Drivers, Farm Workers	0.95	1.05	1.13	0.90	1.09	1.09
	<b>Overall</b>	<b>1.60</b>	<b>0.89</b>	<b>0.97</b>	<b>3.90</b>	<b>0.97</b>	<b>1.09</b>
Brazil	Senior Leaders <sup>1</sup>	-	-	-	-	-	-
	Managers	0.90	1.03	1.01	0.93	1.08	0.94
	Supervisory & Professional	1.15	1.04	1.06	1.06	0.98	0.99
	Operators, Techs, Drivers, Farm Workers	0.97	0.89	0.85	1.01	0.95	0.85
	<b>Overall</b>	<b>1.09</b>	<b>1.11</b>	<b>0.96</b>	<b>1.08</b>	<b>0.96</b>	<b>0.84</b>

GENDER PAY GAP BY COUNTRY AND BY EMPLOYEE CATEGORY – BASIC SALARY

REGION	EMPLOYEE CATEGORY	MEAN			MEDIAN		
		FY20	FY21	FY22	FY20	FY21	FY22
Chile	Senior Leaders	-	-	-	-	-	-
	Managers	0.86	0.86	0.85	0.90	0.85	0.87
	Supervisory & Professional	0.98	1.03	1.08	0.99	1.06	1.02
	Operators, Techs, Drivers, Farm Workers	0.98	1.00	0.97	0.98	1.02	0.95
	<b>Overall</b>	<b>1.32</b>	<b>1.36</b>	<b>1.40</b>	<b>1.29</b>	<b>1.31</b>	<b>1.36</b>
Rest of Asia	<b>Overall</b>	<b>1.67</b>	<b>1.84</b>	<b>1.97</b>	<b>3.69</b>	<b>4.10</b>	<b>4.40</b>
Rest of the World	<b>Overall</b>	<b>1.23</b>	<b>1.38</b>	<b>1.30</b>	<b>1.63</b>	<b>1.89</b>	<b>1.86</b>
Overall	Senior Leaders	0.88	0.90	0.88	0.96	0.94	0.91
	Managers	0.96	0.97	0.97	0.96	0.96	0.95
	Supervisory & Professional	1.06	1.05	1.07	1.14	1.10	1.12
	Operators, Techs, Drivers, Farm Workers	0.88	0.89	0.87	0.82	0.83	0.83
	<b>Overall</b>	<b>1.08</b>	<b>1.07</b>	<b>1.07</b>	<b>0.95</b>	<b>0.93</b>	<b>0.93</b>

1. Where a breakdown of information represents a small number of employees, we omit this detail to protect the privacy of individuals.

# Data reporting notes

## Introduction

This section provides supporting guidance on the scope, definitions and approach used for the people and environmental data presented in this report.

In general, reporting covers the activities of Fonterra Co-operative Group Limited and joint ventures under Fonterra's management control. The following sections identify the specific exceptions where data availability prevents this.

## People data reporting

### Scope

Our employee data is drawn from our global SAP-based employee data systems, primarily our MY Fonterra system, and from remuneration systems where required.

Numbers are generally reported for all fixed-term and permanent employees on a full-time equivalent (FTE) basis.

Gender pay gap is on headcount basis with pay compared on an FTE basis.

Turnover and new hires cover permanent employees on a headcount basis but exclude employees in our Brazilian joint venture.

There are no significant seasonal variations in the employee data reported. Casual staff contracted by Fonterra are excluded from these figures as this represents only a very small proportion of the regular workforce. Employees on leave of absence are also excluded.

All analysis, other than turnover and new hires, is at 31st July 2022.

### Definitions

TERM	DEFINITION
Significant locations of operation	Countries where more than 5% of our employees are located. Some items are reported for significant locations of operation only.
Employee categories	Our organisation has a banded approach to remuneration based on business roles.
– Senior Leaders	Bands 14 and above
– Managers	Bands 10-13
– Supervisory & Professional	Bands 3-9
– Operators, Techs, Drivers, Farm Workers	Waged or equivalent workforce
Locally hired employees	Citizens or permanent residents of the given country.

1. Threshold varies according to country.

## Hiring from local communities

To support the recruitment of senior management roles we run talent forums across the different disciplines.

One of the aspects assessed when appointing senior management roles into countries where we have significant operations, is the composition of employees from local communities versus employees on international assignments. We recognise the value of a high representation from local communities but balance that with the opportunity for talent development from other countries. We review the composition and effectiveness of senior management teams on a regular basis.

'Senior Management' is defined as the most senior employee working in a country plus all direct reports to the senior manager but excluding employees working in a different country and non-management staff (e.g. Personal Assistants, Technical Assistants, other admin staff). The CEO and members of the Fonterra Management Team, who have regional responsibilities are excluded. For New Zealand, this means the multiple New Zealand-based managers reporting to the CEO and their direct reports are assessed.

## New employee hires and employee turnover

The analysis of new employee hires and turnover is used to inform decision-making within our People and Culture team. For example, for diversity and inclusion, statistics are used on a 12-month rolling basis to assess implications to the make-up of the organisation and the achievement of specific targets.

## Environmental data reporting

### Reporting Period

The primary reporting period is for the Financial Year 2022 (FY22), 1 August 2021 – 31 July 2022.

To align with Australian regulatory reporting (NGERS), Australian data is reported for period 1 July 2021 – 30 June 2022.

### Common principles

#### Baseline years

For our science-based global scope 1 and scope 2 emissions reduction target of 30% by 2030, our baseline year is FY18 (1 August 2017 – 31 July 2018).

For our water reduction target at sites in water-constrained regions of 30% by 2030, our baseline year is FY18 (1 August 2017 – 31 July 2018) to align with our science-based emissions reduction target.

#### Data collection and aggregation

Wherever possible, data is sourced from a verifiable source. For energy, this is usually records from supplier invoicing. For water this is from supplier invoicing where relevant, or from metering used to satisfy environmental resource permits. Data is aggregated and analysed via Excel.

#### Missing or delayed data

Where measured data is normally available for a given item in a given region, but it is not available for a given time period (e.g. one particular month), it is estimated based on the specific circumstances.

Where there is uncertainty about fuel sources and emissions factors, a conservative approach has been taken. For example, where a site purchases steam from a third party that generally uses biomass but relies on LPG as the back-up energy source, we have assumed that 20% of the input energy comes from the LPG.

If the data subsequently becomes available, the estimated value will be replaced with the actual and totals recalculated. If this difference is significant, prior year data will be restated in the next public reporting period.

### Finished goods

Where an output from any factory is then subject to secondary processing, we only count the finished goods once for intensity purposes.

## Greenhouse gas (GHG) emissions

### Scope

For our GHG reporting we have chosen to report on Scope 1 and 2 where we have operational control. For Scope 3 emissions, we have reported key categories (see [page 67](#)) and excluded categories are explained in the table below. Farms supplying milk to us account for the largest portion of our emissions and fall within our sphere of influence, so we believe it is important to report these under Scope 3 emissions.

Fonterra directly operates a small number of farms in New Zealand and China. For these farms, we have adopted the same approach as for other farms but allocated the emissions to Scope 1 and 2 where required.

Our GHG reporting applies the principles of the GHG Protocol. We also report our GHG emissions via the Carbon Disclosure Project (CDP), with our first submission completed in 2015.

### Energy

Our use of energy dominates our Scope 1 and Scope 2 reporting. These figures include energy used by our manufacturing sites, main research centre, large corporate sites and our own milk collection transport fleet in New Zealand and Australia. It excludes energy used by some smaller offices and support facilities which are considered immaterial.

Energy used on the farms where we have operational control is excluded from our energy reporting because it is immaterial to our overall energy usage. The associated emissions from this energy use are already captured in our on-farm GHG emissions reporting based on the full lifecycle analysis.

Energy is sourced from electricity, purchased steam and purchased fuels. Fuels used include coal, natural gas, diesel, liquid petroleum gas (LPG), furnace oil, petrol and biofuels. Coal and natural gas are primarily used for process heating while liquid fossil fuels are primarily used for vehicles.

Based on the proportion of renewables used to generate the electricity and steam we purchase, and including the biofuels we directly use, we estimate that 15% of our total energy used in manufacturing comes from renewable sources.

Our co-generation facilities in New Zealand generated excess electricity which was sold. The total sold during FY22 was 554GJ. Our Farm Source Retail Stores also generated excess electricity from their solar PV installations. The total sold during FY22 was 318 GJ.

We are unable to report energy used for heating separate to that used for cooling but heating dominates our energy use.

## Methodologies

### On farm

For on-farm information, the estimated emissions are reported using a lifecycle analysis (LCA) methodology, which considers the full on-farm carbon lifecycle, from 'cradle-to-farm gate' and provides an estimated kgCO<sub>2</sub>-e/kg fat-and-protein-corrected milk (FPCM) factor for the given country. For each country where we collect milk, the total quantity of milk collected during the financial year is multiplied by the most recently available factor.

The extent of analysis required to complete an LCA means these cannot be completed for the current season within the reporting timetable. We complete an analysis for New Zealand milk each year because it dominates our on-farm emissions. For other countries we do this less frequently.

For this report, the most recently available LCA results are as follows: 2020/21 season for New Zealand; 2017/18 for Australia and Chile; and 2016/17 for our China farms.

For New Zealand LCA, we commissioned AgResearch to complete this analysis based on regional data from DairyNZ/LIC statistics, a DairyNZ DairyBase survey of 408 farms and Fonterra milk production data.

For Australia LCA, this has been calculated based on data drawn from the 17/18 Dairy Farm Monitor Project Annual reports for Tasmania and Victoria. The data are reported for Tasmania and for all three Victorian dairy regions (Northern Victoria, South-west Victoria and Gippsland) which covers Fonterra's Australian milk pool.

For our China farms, we commissioned AgResearch to complete this analysis based on detailed data for all seven farms from our farm management systems. Only one of these farms remains under our operational control and we continue to apply the average footprint from the analysis.

For Chile LCA, we commissioned AgResearch to complete this analysis based on data from a sample of farms from the northern region supplying Soprole and the southern region supplying Prolesur.

For the smaller milk volumes purchased in Brazil and Venezuela we have used the average of the two lifecycle factors determined for Chile.

For the very small volumes sourced in Sri Lanka, the emission factor has been taken as the average for South Asia in 2015 from the UN FAO/GDP GHG emissions fact sheet.

The main methodology used is common across all LCA and conforms to IDF (2015) and LEAP (2015) guidelines. It considers Methane (CH<sub>4</sub>), Nitrous oxide (N<sub>2</sub>O) and Carbon dioxide (CO<sub>2</sub>) arising from feed sources, animals, fertilisers, energy and land use change. For supplying farms, emissions are split between the milk and meat co-products, with only the milk component being counted. For the few farms that we manage, full emissions are allocated here. The LCA methodology includes emissions related to all on-farm activities and emissions related to supplementary feed, including emissions related to overseas production for PKE.

We have adopted IPCC AR6, with GWP factors of CO<sub>2</sub> = 1; N<sub>2</sub>O = 273 and CH<sub>4</sub> = 27.2. This means that our reported figures for New Zealand may be higher than figures reported in other publications that consider a New Zealand inventory only which still uses IPCC AR4. For the older LCA results which had used an earlier version of IPCC, we have recalculated the overall footprint using the component gases so that all farm-related LCAs make use of IPCC AR6.

### Manufacturing

For countries where energy contents and emission factors are well understood and supported by local regulations and/or reporting guidelines, the local factors have been applied. In other countries, if officially sanctioned factors are available, we have used them, otherwise internationally accepted default factors have been applied.

For thermal energy the convention in New Zealand and Australia is to report energy totals in gross terms (higher heating value). Therefore, for consistency, we have adopted this approach for reporting across all countries.

The sources of the default factors were as follows:

CATEGORY	SOURCE	COMMENTS
Energy contents	International Energy Agency (IEA) "Energy Statistics Manual"	Electricity use has been converted to energy terms at 0.0036 GJ per kWh while fuel use has been converted on a gross calorific, or higher heating value, basis <sup>1</sup> .
Electricity emission factors	IEA "Emission Factors (2019 edition)"	The factors used were as tabulated by country for the 2017 calendar year as this was the most recent complete set available. These factors are used for less than 5% of the electricity used and relate to less than 1% of manufacturing emissions.
Fuels emission factors	Greenhouse Gas (GHG) tools library	Emission_Factors_from_Cross_Sector_Tools_March_2017.xlsx

The sources used for the percentage of renewable energy in grid electricity were as follows:

COUNTRY	SOURCE
New Zealand	Ministry of Business, Innovation & Employment, Quarterly electricity generation and consumption.
Australia	Australian Energy Statistics 2021, Table O9: Australian electricity generation, by fuel type, for year ended 30 Jun 2021.
Other	International Renewable Energy Agency "Renewable Energy Statistics 2022"
Other	World Bank Data: Renewable electricity output (% of total electricity output) for years prior to FY22.

The emission factors used for fuels and electricity apply a mix of IPCC Assessment Report AR4 and AR5 global warming potentials (GWPs) depending on the approach taken by reporting authorities in the respective countries. For manufacturing emissions the difference that occurs from using AR4 versus AR5 factors is immaterial.

Hydrofluorocarbons (HFCs) have been considered with AR5 global warming potential factors. Perfluorinated compounds (PFCs) and sulphur hexafluoride are not used or generated.

### Scope 3 Emissions

Refer to Our Performance on [page 67](#) for the data we are reporting in Scope 3 broken down by categories.

A screening exercise completed when submitting our emissions reduction target to the Science-Based Target initiative estimated that the excluded items account for less than 10% of Scope 3 emissions

NAME	EXCLUSIONS
Category 1 – Purchased goods and services	We have not included scope 3 emissions associated with non-milk ingredients or third-party manufacturing, which we estimate to account for less than 7.5% of emissions from purchased goods and services.
Category 2 – Capital goods	An estimate of the emissions attributable to capital goods purchased suggest these account for less than 1% of our Scope 3 emissions and therefore not considered to be material.

1. Many countries report energy use in net calorific value (lower heating value) terms where the latent heat available in the water formed during combustion is excluded from the available energy. Typically, the gross values are about 5% higher than net values for solid and liquid fuels and up to 10% higher for gaseous fuels.

NAME	EXCLUSIONS
Category 3 – Fuel and energy related activities not included in Scope 1 or Scope 2	For New Zealand, the emissions associated with the extraction and production of fuels; and the transportation of diesel fuel are excluded. For countries other than New Zealand and Australia, fuel and energy related activities not included in Scope 1 or Scope 2 are excluded from our reporting.
Category 4 – Upstream transportation and distribution	Product movements beyond destination port, internal movement of liquid by-product not carried by our tankers, and internal movement of products in manufacturing countries other than New Zealand are excluded from our reporting. The excluded data is estimated to account for less than 15% of the GHG emissions from the distribution of finished goods which is less than 0.1% of total scope 3 emissions.
Category 5 – Waste and wastewater	Most of our solid waste is a by-product of manufacturing practices; for example, packaging, damaged product and personal protective equipment that cannot be reused or recycled. We monitor the materiality of emissions from waste using the national average emissions factor default value from the NZ Ministry for the Environment Guidance 2022 and total mixed waste to landfill from our global manufacturing operations. We have estimated the total emissions arising from waste to be less than 0.03% of Fonterra's Scope 3 emissions. These are therefore not considered to be material. For wastewater treatment, the energy used by the wastewater treatment facilities at our manufacturing sites is included in our scope 2 reporting. GHG emissions (methane and nitrous oxide) from wastewater treatment is estimated to be less than 0.01% of Fonterra's Scope 3 emissions and is therefore not considered to be material.
Category 7 – Employee commuting	Fonterra has undertaken an estimation of emissions from employee commuting using national average data from Statistics New Zealand. Employee commuting is estimated to represent approximately 0.1% of Fonterra's Scope 3 emissions and is therefore not considered to be material.
Category 8 – upstream leased assets	Fonterra does not lease any assets that are not already accounted for in our Scope 1 and 2 emissions.
Category 9 – Downstream transportation and distribution	The majority of products sold by Fonterra are intermediate products, with many potential downstream applications - Fonterra is therefore unable to reasonably estimate the downstream end-of-life emissions associated with the various end uses of the intermediate product. As per the guidance contained in the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard, Fonterra is therefore able to exclude this downstream emission from its report.
Category 10 – Processing of sold products	
Category 11 – Use of sold products	
Category 12 – End-of-life treatment of sold products	In a recent Life Cycle Analysis completed for liquid milk consumer products sold in New Zealand, the GHG emissions from consumer use and end-of-life disposal represented less than 0.8% of the total footprint.
Category 13 – Downstream leased assets	We do not own downstream assets that are leased to third parties.
Category 14 – Franchises	We have a small number of franchisees in our NZ domestic market but we purchase the electricity for their product storage and this is considered under our scope 2 emissions. The emissions from their transportation activities would be considered under our scope 3 transportation and distribution emissions but has been estimated to be immaterial in this context. There is therefore nothing materially relevant left to report under this category.
Category 15 – Investments	Most equity investments held by Fonterra fall under our management control and therefore the emissions are accounted for under our Scope 1 and 2 reporting. Emissions associated with other investments are excluded due to low materiality and lack of available data.

## Water use and discharge

### Scope

We report water use and wastewater discharge globally for the manufacturing sites where we have operational control. The data is reported using an inventory method.

During FY22, we improved the completeness of our data by including our dairy research facility in New Zealand (less than 0.05% of total water withdrawn) and separating out identifiable volumes which we provide to third parties for their use under our consent or other agreements.

A small number of water withdrawal and discharge locations are excluded from our reporting. We have assessed each of these individually and the associated volumes and potential impacts are considered immaterial. In total, these locations are estimated to account for less than 1% of our total water volumes.

We also report our water data via the Carbon Disclosure Project (CDP), with our first submission completed in 2020.

### Water discharge by destination

We do not discharge any volumes of wastewater directly to groundwater. Under regulatory conditions we irrigate some wastewater in Australia and New Zealand to land. Given the options available to meet GRI reporting guidelines we use groundwater as the closest match to irrigation to land.

### Water quality – Total Dissolved Solids

Total Dissolved Solids (TDS) is a standard indicator of water quality globally. A representative (or median result is used to categorise the quality of a water source or wastewater discharge, as 'fresh' ( $\leq 1,000\text{mg/L TDS}$ ) or 'other' ( $>1,000\text{ mg/L}$ ) for the purposes of reporting. Most of our manufacturing sites are in New Zealand where TDS is not commonly used as a measure of water quality. During FY22, we commenced a TDS surveillance testing program to improve the accuracy of the categorisation of our water sources and discharges. Using these results we have restated all water data to reflect the most recently available fresh water quality categorisations.

Where TDS data is still unavailable, alternative information has been assessed by internal subject matter experts to estimate water source and wastewater discharge quality. For example, representative conductivity (EC) measurements can be converted using a correlation ratio derived from research for fresh water or typical dairy effluent to estimate a TDS equivalent.

The correlation ratios we have used are:  $k = 0.55$  for freshwater and  $k = 0.64$  for dairy effluent.

Equation:  $\text{TDS (mg/l)} = \text{Correlation ratio (k)} * \text{EC } (\mu\text{S/cm})$

### Water quality – Chemical oxygen demand

Chemical oxygen demand (COD) is a common water quality measure in the dairy industry and used by many of our manufacturing sites. We have therefore chosen to report on discharge water quality using COD.

Where biological oxygen demand (BOD) results are used rather than COD, we have converted the BOD results to COD using a conversion factor derived from research into typical compositions for wastewater from dairy manufacturing sites ( $\text{COD} = \text{BOD}/0.6$ ). Water quality sampling frequency varies between sites and destination of wastewater but is in line with the requirements of relevant regulations or permits. At some sites it is tested internally to a procedure approved by the relevant authority while at other sites it is analysed by external laboratories.

### Aggregation of global wastewater quality data

For each site outlet, the overall COD result for the reporting period is calculated as an average from the individual test results for that outlet. The average is generally calculated as a median but in some cases a mean is used.

To aggregate these into global results per discharge destination, a weighted average is calculated based on the volume discharged for each overall COD result.

If a facility provides a volume but is unable to provide the matching COD or BOD, that volume has been excluded from the global aggregation calculation.

## Water in areas of water stress

Using the Aqueduct water risk atlas<sup>1</sup> we have identified four of our manufacturing facilities as being in areas considered under current water stress. Our threshold recognises baseline water stress, where the current indication is high or extremely high. When prioritising actions, we also consider factors such as water quality and regulatory or reputational risk.

### Water Storage

Water storage facilities are one method for improved water management. By collecting water when it is plentiful, it can be stored for future use during dryer periods. The data reported (see [page 65](#)) reflects the change in significant storage facilities, such as lagoons, at the end of the reporting year. The impact of precipitation and evaporation is not accounted for.

## Data changes

### Acquisitions and Divestments

For reporting progress against targets, we have adopted the approach recommended by the GHG Protocol. This means that, where the target depends on a baseline value in a given financial year, we have adjusted the baseline value and all subsequent years to reflect acquisition or divestment of the businesses and reported progress on a like-for-like basis (i.e. as if we had never owned that business or always owned the business).

There were no new acquisitions or divestments during FY22 but please refer to the next section for a retrospective update for FY21.

### Restatements of prior year results

During FY21, we acquired two small manufacturing facilities in Australia. Production, energy use, and emissions for the period they were under Fonterra control were included in the FY21 inventory reporting, but they are deducted from comparative measures until an appropriate baseline adjustment could be developed. Data for water withdrawal, wastewater and solid waste to landfill was not available. In FY22 we collected data for water and solid waste to landfill and we have used this to restate FY21 to include an appropriate estimate for the period we had operational control.

Manufacturing Scope 1 and 2 emissions have been updated to reflect minor adjustments including the change in approach for the New Zealand electricity emission factor which we adopted in FY21 but did not apply retrospectively to FY18 and FY19. The combined impact to reported emissions in any year was less than 0.3%.

Scope 3 emissions have been restated for all years since the 14/15 season to reflect the findings of the latest LCA assessment for milk sourced in New Zealand during the 2020/2021 season (see [page 31](#)). This latest LCA adopted the IPCC AR6 GWP factors so for consistency, all on-farm LCAs have been recalculated to use IPCC AR6 (see [page 31](#)). These changes were also applied to the small number of farms where we have operational control leading to a restatement of scope 1 and 2 emissions. At the same time we have further improved the completeness of our reporting by also including the emissions arising from some dry stock on these farms. The combined impact of these changes has meant an increase of between 7% and 11% for on farm emissions in any given season.

Scope 3 emissions for prior years have also been restated for Distribution. More complete data has been obtained for coastal shipping within New Zealand. This improvement in data quality results in an increase of less than 0.2% in reported emissions related to distribution.

Water data has been restated to reflect the outcome of specific quality testing performed this year (see 'Water use and discharge' on the previous page). At the same time, we have also included minor corrections to historical data, such as data from operations divested in FY19, and the removal of an insignificant volume previously incorrectly classified as wastewater.

A reassessment of water stress was performed this year using recognised methodology. One additional manufacturing site has been identified as potentially at risk of water stress, consequently the data for all years have been updated to reflect this re-categorisation.

1. Aqueduct is a peer reviewed global water risk mapping tool provided by the World Resources Institute (WRI) [www.wri.org/data/aqueduct-water-risk-atlas](http://www.wri.org/data/aqueduct-water-risk-atlas)

# Materiality assessment



## Determining what's important

In FY21, we refreshed our materiality assessment. Starting from the results of previous assessments, we identified potential topics of importance based on industry guidance and reports, customer reports and emerging issues derived from risk assessments and media coverage. This long list of topics was assessed and clustered into a set of topics at a common level of granularity for further analysis.

The relative importance of the topics to our stakeholder groups was determined by a combination of specific surveying, findings of specific engagement workshops and interviewing owners of existing relationships. We engaged directly with more than 400 individual stakeholders, who in turn represented many more from their respective stakeholder group. The findings for each stakeholder group were combined into an overall ordered list of importance, treating all stakeholder groups on an equal basis.

We also assessed the significance of our impact on society for each topic by considering the positive and negative impact of our activities against five criteria: the extent of our impact (i.e. local, regional, global), the severity of our impact, the duration of our impact, Fonterra's ability to influence this impact and the likelihood of the impact occurring.

Using the combination of importance to stakeholders and the significance of our impact, we generated an order list of topics that was discussed with our Sustainability Advisory Panel and approved by the Fonterra Management team.

The final findings were also reviewed with and supported by external stakeholders, including dairy sector representatives in New Zealand and Australia and a sustainable business organisation.

This materiality assessment process was conducted by Sustainability Professionals from the Fonterra Sustainability Team with prior experience of conducting materiality assessments, dairy farming and product manufacturing.

## Material topics

TOPIC	SCOPE	STAKEHOLDER GROUPS THAT RAISED THE TOPIC MOST STRONGLY	OUR RESPONSE
Ensuring the <b>food safety and quality</b> of the products we deliver.	All food products we sell, including ingredients, foodservice and consumer products.	All except Iwi and NGOs.	See Food safety and quality on <a href="#">page 14</a>
<b>Adapting to the effects of climate change</b> , while mitigating our impacts.	Our contribution to climate change from the activities in our value chain, including sourcing, farming, manufacturing and distribution; and the potential impact on those activities arising from predicted climate change.	All	See Climate change on <a href="#">page 30</a>
Using <b>water</b> responsibly, including water quality, availability and disposal.	The water used by, and the potential impact on water quality arising from, our manufacturing sites and the farms which supply us with milk.	All except Investors and Vendors	See Land and water on <a href="#">page 25</a>
Protecting the <b>health and safety of people at work</b> , including their wellbeing.	The health and safety of employees and contractors working at Fonterra sites and visitors to those sites. The wellbeing of our employees and farmers. Influencing the health and safety at work on supplying farms and the other businesses which provide us with goods and services.	Employees Iwi Vendors	See Health, safety and wellbeing on <a href="#">page 16</a>
Protecting <b>animal health and welfare</b> within our supply chain, including caring for our cows and responsible use of antibiotics	All dairy animals on farms directly or indirectly supplying fresh milk to Fonterra.	Customers Consumers Employees	See Animal wellbeing on <a href="#">page 42</a>
Supporting the livelihood of thousands of people through meaningful <b>employment and sustainable income creation</b> , including the milk price for our farmers	Local economies in the locations where we operate and source milk, goods and services from, including our impact on the national New Zealand economy.	Farmers Government Iwi	See Employment and income creation on <a href="#">page 56</a>
Protecting <b>soil health</b> which is essential for sustainable food production, including nutrient management.	Directly on Fonterra-managed farms, and influencing best-practice on farms directly supplying fresh milk to Fonterra.	Farmers NGOs	See Land and water on <a href="#">page 25</a>
Contributing to <b>nutrition and health</b> through the products and information we deliver, including obesity and under-nutrition	The nutritional profile, impact and accessibility of our products, and our role in promoting healthy, balanced diets.	Investors	See Nutrition and health on <a href="#">page 10</a>
<b>Maintaining ethical business practices</b> fundamental to the way we work, including anti-corruption and fair competition	All activities undertaken by, or on behalf of, Fonterra, in all markets.	Vendors Iwi	See Ethical business practices on <a href="#">page 54</a>
Using <b>responsible procurement</b> to influence environmental, social and economic performance along our supply chain	All direct procurement of goods and services.	Iwi	See Working with Farmers on <a href="#">page 47</a> and Working with Vendors on <a href="#">page 49</a>
<b>Protecting and enhancing biodiversity</b> and the underlying ecosystem services we rely upon, including the impact of deforestation	The direct impact of our operations and supplying farms, and the indirect impact through procurement of goods, including procurement of animal feed by our farmers.	Governments Iwi NGOs	See Land and water on <a href="#">page 25</a> See Working with farmers on <a href="#">page 47</a> See Working with vendors on <a href="#">page 49</a>
Protecting the <b>employment rights and working conditions</b> of our people, including diversity and inclusion, women's empowerment, and learning and development.	All Fonterra permanent and temporary employees, and those working at our sites	Customers and consumers	See Investing in people on <a href="#">page 19</a>
Minimising <b>post-consumption waste</b> , including product packaging and food waste.	All Fonterra consumer branded products and packaging of ingredients products	No stakeholder group raised this particularly highly.	See Packaging and waste on <a href="#">page 39</a>

For reporting, we have focussed our disclosure on those topics which rated medium or above for importance to stakeholders or significance of impact. The table above lists these topics, in order, and where we cover our response in this report. For each topic, we have assessed and defined the scope of our impact and identified which stakeholder groups raised the topic most strongly.

Protecting the **human rights** of individuals impacted by our business actions, including modern slavery, did not make the materiality threshold for inclusion in this report but we recognise our responsibility to care for the human rights of people directly or indirectly impacted by our operations and decisions.

Rather than manage human rights as a standalone topic, our approach is to embed our respect of human rights across our range of policies and standards including our Code of Business Conduct (see [page C&S-03](#)). This means our main activities are covered already covered in our reporting: see Investing in people [page 19](#), Health, safety and wellbeing [page 16](#), Working with vendors [page 49](#) and our [Modern Slavery Statement](#).

# GRI Content Index

This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core option. The GRI Standards are the world's most widely used standards for sustainability reporting, enabling organisations to measure and report their most important sustainability topics.

For more information see [www.globalreporting.org](http://www.globalreporting.org)

REF	TOPIC TITLE	REFERENCE	
<b>GRI 102: GENERAL DISCLOSURES 2016</b>			
102-1	Name of the organisation	Fonterra Co-operative Group Limited	X <sup>1</sup>
102-2	Activities, brands, products, and services	About us. See <a href="#">page AR-04</a>	X
102-3	Location of headquarters	Headquarters. See <a href="#">page 89</a>	X
102-4	Location of operations	About us. See <a href="#">page AR-04</a>	X
102-5	Ownership and legal form	Co-operative Status. See <a href="#">page C&amp;S-21</a>	X
102-6	Markets served	About us. See <a href="#">page AR-04</a>	X
102-7	Scale of the organisation	About us. See <a href="#">page AR-04</a> How we create value. See <a href="#">page AR-11</a> Financial Statements. See <a href="#">pages FS-02, FS-27</a>	X
102-8	Information on employees and other workers	Employee Data. See <a href="#">page 71</a>	X
102-9	Supply chain	How we create value. See <a href="#">page AR-11</a> Working with farmers. See <a href="#">page 47</a> Employment and income creation. See <a href="#">page 56</a>	X
102-10	Significant changes to the organisation and its supply chain	None.	X
102-11	Precautionary principle or approach	Managing operations. See <a href="#">page 45</a>	X
102-12	External initiatives	External initiatives. See <a href="#">page 89</a>	X
102-13	Membership of associations	Membership of associations. See <a href="#">page 89</a>	X
102-14	Statement from senior decision-maker	Message from the Board Chair. See <a href="#">page AR-05</a> Message from the Board Chair and CEO. See <a href="#">page 03</a>	X
102-16	Values, principles, standards, and norms of behaviour	Our Values. See <a href="#">page AR-09</a> Code of Ethical Behaviour. See <a href="#">page C&amp;S-03</a>	X

1. X – Within scope of assurance.

REF	TOPIC TITLE	REFERENCE	
102-17	Mechanisms for advice and concerns about ethics	Code of Ethical Behaviour. See <a href="#">page C&amp;S-03</a>	X
102-18	Governance structure	Governance of sustainability. See <a href="#">page C&amp;S-09</a>	X
102-20	Executive-level responsibility for economic, environmental, and social topics	Governance of sustainability. See <a href="#">page C&amp;S-09</a>	X
102-23	Chair of the highest governance body	Principle 2: Division of Roles. Corporate Governance Statement. See <a href="#">page C&amp;S-04</a>	X
102-24	Nominating and selecting the highest governance body	Principle 2: Board Composition and Performance. Corporate Governance Statement. See <a href="#">page C&amp;S-04</a>	X
102-25	Conflicts of interest	Principle 1: Code of ethical behaviour. Corporate Governance Statement. See <a href="#">page C&amp;S-03</a> Entries in the Interests Register. Statutory Information. See <a href="#">page C&amp;S-26</a>	X
102-28	Evaluating the highest governance body's performance	Principle 2: Assess Performance. Corporate Governance Statement. See <a href="#">page C&amp;S-06</a>	X
102-33	Communicating critical concerns	Principle 1: Code of ethical behaviour. Corporate Governance Statement. See <a href="#">page C&amp;S-03</a>	X
102-40	List of stakeholder groups	How we create value. See <a href="#">page AR-11</a>	X
102-42	Identifying and selecting stakeholders	Responding to what's important. See <a href="#">page 08</a>	
102-43	Approach to stakeholder engagement	Materiality assessment. See <a href="#">page 79</a>	
102-44	Key topics and concerns raised		
102-41	Collective bargaining agreements	Investing in people. See <a href="#">page 19</a>	X
102-45	Entities included in the consolidated financial statements	For the list of entities see <a href="#">page FS-63</a>	X
102-46	Defining report content and topic boundaries	Materiality assessment. See <a href="#">page 79</a>	X
102-47	List of material topics	Responding to what's important. See <a href="#">page 08</a>	X
102-48	Restatements of information	See Data reporting notes. See <a href="#">page 78</a> . See Our performance. See <a href="#">page 62</a> and <a href="#">67</a> .	X
102-49	Changes in reporting	No significant changes.	X

REF	TOPIC TITLE	REFERENCE	
102-50	Reporting period	Period is 1 August 2021 – 31 July 2022	X
102-51	Date of most recent report	September 2021 for period 1 August 2020 – 31 July 2021	X
102-52	Reporting cycle	Annual	X
102-53	Contact point for questions regarding the report	Email: sustainability@fonterra.com	X
102-54	Claims of reporting in accordance with the GRI Standards	About this report. See <a href="#">page 02</a>	X
102-55	GRI content index	Global Reporting Initiative Standards. See <a href="#">page 81</a>	X
102-56	External assurance	Bureau Veritas Assurance Statement. See <a href="#">page 88</a>	X
<b>GRI 201: ECONOMIC PERFORMANCE 2016 – Employment and income creation. See <a href="#">page 56</a></b>			
201-1	Direct economic value generated and distributed	About us. See <a href="#">page AR-04</a> Doing Good Together. See <a href="#">page AR-16</a> Remuneration. See <a href="#">pages C&amp;S 11-14, C&amp;S 21-25, FS-20</a>	X
<b>GRI 205: ANTI-CORRUPTION 2016 – Ethical business practice. See <a href="#">page 54</a></b>			
205-3	Confirmed incidents of corruption and actions taken.	Anti-corruption. See <a href="#">page 54</a>	X
<b>GRI 206: ANTI-COMPETITIVE BEHAVIOR 2016 – Ethical business practice. See <a href="#">page 54</a></b>			
206-1	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	Legal compliance. See <a href="#">page 55</a>	X
<b>ENVIRONMENTAL TOPIC DISCLOSURES</b>			
<b>GRI 302: ENERGY 2016 – Climate change. See <a href="#">page 30</a></b>			
302-1	Energy consumption within the organisation	Our performance. See <a href="#">page 65</a>	X
302-3	Energy intensity	Our performance. See <a href="#">page 34</a>	X
<b>GRI 303: WATER AND EFFLUENTS 2018 – Land and water. See <a href="#">page 25</a></b>			
303-1	Interactions with water as a shared resource	Land and Water. See <a href="#">page 25</a>	X
303-2	Management of water discharge-related impacts	Improving wastewater treatment. See <a href="#">page 26</a>	X
303-3	Water withdrawal	Water withdrawal. See <a href="#">page 62-64</a>	X
303-4	Water discharge	Water discharge. See <a href="#">page 62-64</a>	X
303-5	Water consumption	Water consumption. See <a href="#">page 65</a>	X
<b>GRI 305: EMISSIONS 2016 – Climate change. See <a href="#">page 30</a></b>			
305-1;	Direct (Scope 1) GHG emissions	Our performance. See <a href="#">page 66</a>	X
305-2;	Energy indirect (Scope 2) GHG emissions	Our performance. See <a href="#">page 67</a>	X

REF	TOPIC TITLE	REFERENCE	
305-3;	Other indirect (Scope 3) GHG emissions	Our performance. See <a href="#">page 67</a>	X
305-4	GHG emissions intensity	Our performance. See <a href="#">page 68</a>	X
<b>GRI 307: ENVIRONMENTAL COMPLIANCE 2016 – Managing operations. See <a href="#">page 45</a></b>			
307-1	Non-compliance with environmental laws and regulations	Environmental compliance. See <a href="#">page 45</a>	X
<b>GRI 308: SUPPLIER ENVIRONMENTAL ASSESSMENT 2016 – Working with farmers. See <a href="#">page 47</a></b>			
308-2	Negative environmental impacts in the supply chain and actions taken	Working with farmers. See <a href="#">page 48</a>	X
<b>SOCIAL TOPIC DISCLOSURES</b>			
<b>401 EMPLOYMENT 2016 – Investing in people. See <a href="#">page 19</a></b>			
401-1	New employee hires and employee turnover	See <a href="#">page 73</a>	X
<b>403 OCCUPATIONAL HEALTH AND SAFETY 2018 – Health, safety and wellbeing. See <a href="#">page 16</a></b>			
403-1	Occupational health and safety management system	Health, safety and wellbeing. See <a href="#">page 16</a>	
403-2	Hazard identification, risk assessment, and incident investigation	Health, safety and wellbeing. See <a href="#">page 16</a>	
403-3	Occupational health services	Health, safety and wellbeing. See <a href="#">page 16</a>	
403-4	Worker participation, consultation, and communication on occupational health and safety	Health, safety and wellbeing. See <a href="#">page 16</a>	
403-5	Worker training on occupational health and safety	Health, safety and wellbeing. See <a href="#">page 16</a>	
403-6	Promotion of worker health	Health, safety and wellbeing. See <a href="#">page 16</a>	
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Health, safety and wellbeing. See <a href="#">page 16</a>	
403-8	Workers covered by an occupational health and safety management system	Health, safety and wellbeing. See <a href="#">page 16</a>	
403-9	Work-related injuries	Health, safety and wellbeing. See <a href="#">page 16</a>	
<b>404 TRAINING AND EDUCATION 2016 – Investing in people. See <a href="#">page 19</a></b>			
404-2	Programmes for upgrading employee skills and transition assistance programmes	Learning and development. See <a href="#">page 20</a> Employee Assistance Programme. See <a href="#">page C&amp;S-04</a>	
<b>405 DIVERSITY AND EQUAL OPPORTUNITY 2016 – Investing in people. See <a href="#">page 21</a></b>			
405-1	Diversity of governance bodies and employees	Employee data. See <a href="#">page 72</a>	X

REF	TOPIC TITLE	REFERENCE	
405-2	Ratio of basic salary and remuneration of women to men	Gender pay. See <a href="#">page 22</a>	X
<b>406 NON-DISCRIMINATION 2016 – Investing in people. See <a href="#">page 19</a></b>			
406-1	Incidents of discrimination and corrective actions taken	The Way We Work Hotline. See <a href="#">page C&amp;S-03</a> Non-discrimination. See <a href="#">page 22</a>	X
<b>415 PUBLIC POLICY 2016 - Ethical business practice. See <a href="#">page 54</a></b>			
415-1	Political contributions	Responsible political involvement. See <a href="#">page 55</a>	
<b>416 CUSTOMER HEALTH AND SAFETY 2016 – Food safety and quality. See <a href="#">page 14</a></b>			
416-1	Assessment of the health and safety impacts of product and service categories	Food safety and quality. See <a href="#">page 14</a>	X
<b>419 SOCIOECONOMIC COMPLIANCE 2016 – Ethical business practice. See <a href="#">page 54</a></b>			
419-1	Non-compliance with laws and regulations in the social and economic area	Legal compliance. See <a href="#">page 55</a>	

# New GRI Standards – Content Index

From FY23, new versions of the GRI Standards will apply. Although we have continued to align primarily with the 2016 version of the GRI Standards, the following table provides an index to key content using the new version of GRI Standards.

NEW GRI REF	NEW TOPIC TITLE	CURRENT GRI REF	CURRENT TOPIC TITLE	REFERENCE
Disclosure 2-1	Organizational details	102-1	Name of the organisation	Fonterra Co-operative Group Limited
		102-3	Location of headquarters	Headquarters. See <a href="#">page 89</a>
		102-4	Location of operations	About us. See <a href="#">page AR-04</a>
		102-5	Ownership and legal form	Co-operative Status. See <a href="#">page C&amp;S-21</a>
		102-7	Scale of the organisation	About us. See <a href="#">page AR-04</a> How we create value. See <a href="#">page AR-11</a> Financial Statements. See <a href="#">pages FS-02, FS-27</a>
Disclosure 2-2	Entities included in the organization's sustainability reporting	102-45	Entities included in the consolidated financial statements	For the list of entities see <a href="#">page FS-63</a>
Disclosure 2-3	Reporting period, frequency and contact point	102-50	Reporting period	Period is 1 August 2021 – 31 July 2022
		102-51	Date of most recent report	September 2021 for period 1 August 2020 – 31 July 2021
		102-52	Reporting cycle	Annual
		102-53	Contact point for questions regarding the report	Email: <a href="mailto:sustainability@fonterra.com">sustainability@fonterra.com</a>
Disclosure 2-4	Restatements of information	102-48	Restatements of information	See Data reporting notes. See <a href="#">page 78</a> See Our performance. See <a href="#">pages 62-67</a>
		102-49	Changes in reporting	No significant changes.
Disclosure 2-5	External assurance	102-56	Policy and practice for external assurance. External assurance	Bureau Veritas Assurance Statement. See <a href="#">page 88</a>
Disclosure 2-6	Activities, value chain and other business relationships	102-2	Activities, brands, products, and services	About us. See <a href="#">page AR-04</a>
		102-6	Markets served	About us. See <a href="#">page AR-04</a>
		102-9	Supply chain	How we create value. See <a href="#">page AR-11</a> Working with farmers. See <a href="#">page 47</a> Employment and income creation. See <a href="#">page 56</a>
		102-10	Significant changes to the organisation and its supply chain	None.
Disclosure 2-7	Employees	102-8	Information on employees and other workers	Employee Data. See <a href="#">page 71</a>
		405-2	Ratio of basic salary and remuneration of women to men	Gender pay. See <a href="#">page 22</a>

NEW GRI REF	NEW TOPIC TITLE	CURRENT GRI REF	CURRENT TOPIC TITLE	REFERENCE
Disclosure 2-9	Governance structure and composition	102-18	Governance structure	Governance of sustainability. See <a href="#">page C&amp;S-09</a>
		102-20	Executive-level responsibility for economic, environmental, and social topics	Governance of sustainability. See <a href="#">page C&amp;S-09</a>
		405-1	Diversity of governance bodies and employees	Employee data. See <a href="#">page 72</a>
Disclosure 2-10	Nomination and selection of the highest governance body	102-24	Nominating and selecting the highest governance body	Principle 2: Board Composition and Performance. Corporate Governance Statement. See <a href="#">page C&amp;S-04</a>
			Criteria used for nominating and selecting the highest governance body	
Disclosure 2-11	Chair of the highest governance body	102-23	Chair of the highest governance body	Principle 2: Division of Roles. Corporate Governance Statement. See <a href="#">page C&amp;S-04</a>
Disclosure 2-15	Conflicts of interest	102-25	Conflicts of interest	Principle 1: Code of ethical behaviour. Corporate Governance Statement. See <a href="#">page C&amp;S-03</a> Entries in the Interests Register. Statutory Information. See <a href="#">page C&amp;S-26</a>
Disclosure 2-16	Communication of critical concerns	102-33	Communicating critical concerns	Principle 1: Code of ethical behaviour. Corporate Governance Statement. See <a href="#">page C&amp;S-03</a>
Disclosure 2-18	Evaluation of the performance of the highest governance body	102-28	Evaluating the highest governance body's performance	Principle 2: Assess Performance. Corporate Governance Statement. See <a href="#">page C&amp;S-06</a>
Disclosure 2-22	Statement on sustainable development strategy	102-14	Statement from senior decision-maker	Message from the Board Chair. See <a href="#">page AR-05</a> Message from Board Chair and CEO. See <a href="#">page 03</a>
Disclosure 2-23	Policy commitments	102-11	Precautionary principle or approach	Managing operations. See <a href="#">page 45</a>
		102-12	External initiatives	External initiatives. See <a href="#">page 89</a>
		102-16	Values, principles, standards, and norms of behaviour	Our Values. See <a href="#">page AR-09</a> Code of Ethical Behaviour. See <a href="#">page C&amp;S-03</a>
Disclosure 2-25	Processes to remediate negative impacts	308-2	Negative environmental impacts in the supply chain and actions taken	Working with farmers. See <a href="#">page 48</a>
Disclosure 2-26	Mechanisms for seeking advice and raising concerns	102-17	Mechanisms for advice and concerns about ethics	Code of Ethical Behaviour. See <a href="#">page C&amp;S-03</a>
Disclosure 2-27	Compliance with laws and regulations	307-1	Non-compliance with environmental laws and regulations	Environmental compliance. See <a href="#">page 45</a>
		419-1	Non-compliance with laws and regulations in the social and economic area	Legal compliance. See <a href="#">page 55</a>
Disclosure 2-28	Membership associations	102-13	Membership of associations	Membership of associations. See <a href="#">page 89</a>
Disclosure 2-29	Approach to stakeholder engagement	102-40	List of stakeholder groups	How we create value. See <a href="#">page AR-11</a>
		102-42	Identifying and selecting stakeholders	Responding to what's important. See <a href="#">page 08</a>
		102-43	Approach to stakeholder engagement	Materiality assessment. See <a href="#">page 79</a>
		102-44	Key topics and concerns raised	
Disclosure 2-30	Collective bargaining agreements	102-41	Collective bargaining agreements	Investing in people. See <a href="#">page 19</a>
Disclosure 3-1	Process to determine material topics	102-46	Defining report content and topic boundaries	Materiality assessment. See <a href="#">page 79</a>
Disclosure 3-2	List of material topics	102-47	List of material topics	Responding to what's important. See <a href="#">page 08</a>

# SASB<sup>1</sup> Content Index

While we do not claim alignment with SASB Reporting Standards, the following index is provided as alternative approach to finding common disclosures associated with the SASB Food & Beverage – Meat, Poultry & Dairy Standard.

REF	TOPIC TITLE	REFERENCE
FB-MP-000.A	Location of operations	About us. See <a href="#">page AR-04</a>
FB-MP-110a.1	Gross global Scope 1 emissions.	Our performance. See <a href="#">page 66</a>
FB-MP-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Climate change. See <a href="#">page 30</a> Our performance. See <a href="#">page 65</a>
FB-MP-130a.1	(1) Total energy consumed (2) Percentage grid electricity (3) Percentage renewable	Climate change. See <a href="#">page 34</a> Our performance. See <a href="#">page 65</a>
FB-MP-140a.1	(1) Total water withdrawn, (2) Total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Water withdrawal. See <a href="#">pages 62-64</a> Water consumption. See <a href="#">page 65</a>
FB-MP-140a.3	Number of incidents of non-compliance with water quality permits, standards, and regulations	Environmental compliance. See <a href="#">page 45</a>
FB-MP-160a.3	Animal protein production from concentrated animal feeding operations (CAFOs)	None
FB-MP-250a.2	Percentage of supplier facilities certified to a Global Food Safety Initiative (GFSI) food safety certification program	Food, safety and quality. See <a href="#">page 14</a>
FB-MP-250a.3	(1) Number of recalls issued (2) Total weight of products recalled	Food, safety and quality. See <a href="#">page 14</a>
FB-MP-250a.4	Discussion of markets that ban imports of the entity's products	Nutrition and health. See <a href="#">page 13</a>
FB-MP-320a.1	(1) Total recordable incident rate (TRIR) (2) Fatality rate	Health, safety and wellbeing. See <a href="#">page 60</a>

1. SASB – Sustainability Accounting Standards Board.

## Assurance Statement

### INDEPENDENT ASSURANCE STATEMENT

**To: The Stakeholders of Fonterra Co-operative Group Limited**

#### Introduction and Objectives of Work

Bureau Veritas New-Zealand Ltd ("Bureau Veritas") was engaged by Fonterra Co-operative Group Limited ("Fonterra") to undertake a limited assurance engagement on selected information and data presented in the Fonterra 2022 Sustainability Report (the Report). This Assurance Statement applies to the related information included within the scope of assurance described below.

#### Scope of Limited Assurance

The scope of assurance was limited to the information and data related to sites and operations under which Fonterra has operational control for the period of 1<sup>st</sup> August 2021 to 31<sup>st</sup> July 2022.

The complete list of assured disclosures is referred to within the GRI Index of the Report.

Our assurance engagement does not extend to any other information included in the Report or information in respect of earlier periods.

#### Limited Assurance Conclusion

On the basis of our procedures as described under "Methodology" and the evidence we have obtained, we provide limited assurance that nothing has come to our attention:

- to indicate that the statements reviewed within the scope of our assurance engagement are inaccurate and the information included therein is not fairly stated.
- that causes us to believe that the information, within the scope of our assurance engagement, is not prepared, in all material respects, in accordance with the criteria indicated under "Understanding how Fonterra has Prepared the Information".

It is our opinion that Fonterra has established systems for the collection, aggregation and analysis of relevant information and quantitative data.

#### Understanding how Fonterra has prepared the Information

The Report was prepared in accordance with the GRI Standards: Core option including appropriate considerations of the reporting principles for defining report content and report quality, profile disclosures, management approach disclosures and performance indicators.

#### Fonterra's Responsibilities

Management of Fonterra was responsible for:

- Selecting and establishing suitable criteria for preparing the Report and information subject to our limited assurance;
- Preparing the information in accordance with the criteria; and
- Designing, implementing and maintaining internal controls over information relevant to the preparation of the Report that is free from material misstatement, whether due to fraud or error.

#### Our Responsibilities

Bureau Veritas was responsible for:

- Planning and performing the engagement to obtain limited assurance about whether the information included within the scope of assurance is 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.

Bureau Veritas was not involved in the drafting of the Report and our independence has not been compromised. This is the sixth year in which we have provided limited assurance over the Fonterra's Report.



## Assurance Statement

### Methodology

Our limited assurance engagement was performed in accordance with International Standard on Assurance Engagements 3000 (Revised) *Assurance Engagements other than Audits or Reviews of Historical Financial Information* issued by the International Auditing and Assurance Standards Board, and informed by Bureau Veritas' standard procedures and guidelines for external verification of sustainability reports.

Our work was planned and executed in a manner designed to produce a limited level of assurance and to provide a sound basis for our conclusions. We undertook the following activities:

- Review of the suitability of the criteria used as the basis for preparing the information subject to assurance;
- Interviews and follow-up communication with relevant individuals;
- Review of documentary evidence produced by Fonterra representatives;
- Audit of performance data and factual information including source verification; and
- Review of Fonterra's processes for identification, aggregation and analysis of relevant information, report content and performance data.

### Limitations and Exclusions

Excluded from the scope of our work is any assurance of information relating to:

- Activities outside the defined reporting period;
- Statements of commitment to, or intention to undertake future actions by Fonterra;
- Statements of position, opinion, belief and/or aspiration by Fonterra;
- Financial data audited by an external third party; and
- Other sites and/or activities not included in the scope.

This independent assurance statement should not be relied upon to detect all errors, omissions or misstatements that may exist within the Report.

### Statement of independence, impartiality and competence

Bureau Veritas is a global leader in Testing, Inspection and Certification ("TIC") services. The Group's mission is to reduce its clients' risks, improve their performance and help them innovate to meet the challenges of quality, health, safety, hygiene, environmental protection and social responsibility. Leveraging its renowned expertise, as well as its impartiality, integrity and independence, Bureau Veritas has helped build trust between companies, public authorities and consumers for more than 190 years.

Bureau Veritas has implemented a Code of Ethics across the business to maintain high ethical standards among its personnel in their day to day business activities. We are particularly vigilant in the prevention of conflicts of interest.

No member of the assurance team has a business relationship with Fonterra, its Directors or Managers beyond that required of this assignment. We have conducted this assurance engagement independently and there has been no conflict of interest.

The assurance team was selected based on its extensive Industry Sector knowledge and experience in conducting independent verification, validation and assurance of Environmental Social and Governance (ESG) information and associated systems and processes.

**Jeremy Leu**  
General Manager – Certification Pacific



14<sup>th</sup> September 2022  
Bureau Veritas New Zealand Ltd



**BUREAU**  
**VERITAS**



## External initiatives

Fonterra is a supporter of the following voluntary initiatives:

INITIATIVE	DATE ADOPTED
CDP	2015
Science-based targets initiative	2020
Dairy Sustainability Framework	2013
New Zealand Climate Leaders Coalition	2017
Rainbow Tick	2019
Global food safety initiative (AUS/NZ forum)	2019
TupuToa	2018
New Zealand Plastic Packaging Declaration	2019
The Australian Packaging Covenant	2011
Chilean Plastics Pact	2019

## Membership of associations

Fonterra is a member of the following organisations:

International Dairy Federation
Global Dairy Platform
Dairy Companies Association of New Zealand
Sustainable Agriculture Initiative Platform
Roundtable for Sustainable Palm Oil
Business New Zealand
Sustainable Business Council
Sustainable Business Network
Fwd: Buyer
The Aoteroa Circle
Dairy Womens' Network

## Registered office

### Fonterra Co-operative Group Limited

Private Bag 92032  
Auckland 1010  
New Zealand

## Headquarters

### Fonterra Centre

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Email: sustainability@fonterra.com

## Disclaimer

This report contains some forward-looking statements, targets and projections relating to Fonterra Co-operative Group Limited (Fonterra) and its subsidiaries (the Fonterra Group) that are based on the beliefs of the Fonterra Group's management as well as assumptions made by and information currently available to the Fonterra Group's management.

There can be no certainty of outcome in relation to the matters to which the forward-looking statements, targets and projections relate. These forward-looking statements, targets and projections involve known and unknown risks, uncertainties, assumptions and other important factors that could cause the actual outcomes to be materially different from the events or results expressed or implied by such statements, targets and projections. Those risks, uncertainties, assumptions and other important factors are not all within the control of the Fonterra Group and cannot be predicted by the Fonterra Group.

While all reasonable care has been taken in the preparation of this report, none of Fonterra or any of its respective subsidiaries, affiliates and associated companies (or any of their respective officers, employees or agents) (Relevant Persons) makes any representation, assurance or

## Non-GAAP measures

Fonterra uses several non-GAAP measures when discussing financial performance. These measures include normalised profit after tax, normalised EBIT, EBIT, normalised earnings per share, normalisation adjustments and total Group measures. Total Group measures present the combined financial performance of the Group's continuing and discontinued operations. Non-GAAP financial measures are not defined or specified by NZ IFRS.

Management believes that these measures provide useful information as they provide valuable insight on the underlying performance of the business. They are used internally to evaluate the underlying performance of business units and to analyse trends.

These measures are not uniformly defined or utilised by all companies. Accordingly, these measures may not be comparable with similarly titled measures used by other companies. Non-GAAP financial measures should not be viewed in isolation nor considered as a substitute for measures reported in accordance with NZ IFRS. Non-GAAP measures are not subject to audit unless they are included in Fonterra's audited Financial Statements.

Please refer to the Non-GAAP Measures section in Fonterra's 2022 Annual Review for further information about non-GAAP measures used by Fonterra, including reconciliations back to NZ IFRS measures. Definitions of non-GAAP measures used by Fonterra can be found in the glossary included within Fonterra's Business Performance Report.

guarantee as to the accuracy or completeness of any information in this report or likelihood of fulfilment of any forward-looking statement, target or projection or any outcomes expressed or implied in any forward-looking statement, target or projection. The forward-looking statements, targets and projections in this report reflect views held only at the date of this report. None of the forward-looking statements, targets or projections in this report shall be construed as profit or revenue forecasts.

Accordingly, no-one should place reliance on any forward-looking statements, targets or projections in this report. All forward-looking statements, targets and projections in this report are qualified by reference to the cautionary statements set forth in this section.

Statements about past performance are not necessarily indicative of future performance. Except as required by applicable law or any applicable Listing Rules, the Relevant Persons disclaim any obligation or undertaking to update any information in this report.

This report does not constitute investment advice, or an inducement, recommendation or offer to buy or sell any securities in Fonterra or the Fonterra Shareholders' Fund.

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Dairy for life