



Australian Dairy Industry **Sustainability Report 2019**

Towards our 2030 Goals



About this report

This report shows the progress of the Australian Dairy Industry Sustainability Framework (the Framework) for the period 1 January to 31 December 2019 unless otherwise stated.

In 2018, a revised set of goals and targets to 2030 was released. This year, the reporting focus is on performance against these revised goals and targets, which reflect an expansion of the Framework's scope, covering all aspects of the Australian dairy industry, with specific focus on farm and manufacturing activities.

Although this report focuses on progress towards our 2030 goals and targets, for completeness and transparency, progress towards the original 2020 goals and targets continues to be monitored (see Appendix 4).

This report contains the findings from a materiality assessment undertaken in 2019 to determine the priority issues for the ongoing development of the Framework and related performance reporting. Details of the methodology and findings are included in Appendix 5.

This report references disclosures from the Global Reporting Initiative's (GRI) Standards 2016, specifically: GRI 101 Foundation 2016, GRI 102 General Disclosures 2016, GRI 305-4 Emissions 2016 and GRI 416-2 Customer Health and Safety 2016 (see Appendix 7 for a GRI Content Index).

This report has not been externally assured. A policy on external assurance for the Framework and associated performance reporting is yet to be developed. Some data provided by third party agencies may have been assured for other purposes.

Disclaimer

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Message from the Chairs	1
Our Dairy Promise	2
2030 Goals and Targets – progress at a glance	4
Why is sustainability a focus for Australian dairy?	7
Australia’s dairy sustainability framework in a global context	8
About the Australian dairy industry	9
Material issues – managing what matters	10
<hr/>	
Commitment 1	
Enhancing economic viability and livelihoods	14
<hr/>	
Commitment 2	
Improving wellbeing of people	38
<hr/>	
Commitment 3	
Providing best care for animals	50
<hr/>	
Commitment 4	
Reducing environmental impact	62
<hr/>	
Appendices	
1 Governance	82
2 Framework principles and guidance	83
3 Stakeholder engagement	84
4 Progress against 2020 goals and targets	88
5 Applying the materiality principle	91
6 References, data sources and abbreviations	100
7 GRI content table	103



Message from the Chairs

In 2019, Australian dairy farmers have faced dry and challenging seasonal conditions that have impacted dairy operations with high feed, energy and water costs, resulting in lower milk production and lower farmer confidence. The lower milk production impacts the whole supply chain, impacting milk available for processing, adversely affecting dairy processors margins and customer confidence in our industry. The dry and challenging seasonal conditions are forecast well into 2020 for some regions.

Although not every dairy farmer did it tough, profit margins for everyone were squeezed.

Beyond the farmgate, well-balanced global markets, exchange rates, and competition among manufacturers are all in dairy farmers' favour. Autumn rains were good for many of our 5,200 farmers.

It has been a sobering start to the New Year with fires torching much of our country in the south coast of New South Wales (NSW), East Gippsland and north-eastern Victoria. The resilience of regional communities in these areas has been tested during the fires and will continue to be tested in the recovery phase. At this stage we know that over 100 dairy farms have been affected in some way, and tragically, two dairy farmers lost their lives defending their farms. Additionally, dairy processors, their staff and rural communities generally have been impacted through this period. The dairy industry stands with those communities affected by these devastating fires and we are doing everything we can to assist them.

Despite the fires and their impact, looking ahead, dairy farmers will seek to take advantage of some of the highest farmgate prices in recent years. The prices for grain, hay and water will be key to value creation and profitability. Processors will continue to focus on translating milk into the highest value products and markets.

We are hopeful that confidence will be restored in the industry. The release of the final *Australian Dairy Plan* in March 2020 promises to unite industry behind a set of strategic priorities, one of which is sustainability.

The implementation of the *Australian Dairy Plan* will drive changes in what the industry considers to be the priority issues. Over time the Framework will be revised and enhanced to include additional topics where required. New goals and targets will be set, existing goals and targets refined, and action plans developed to support achieving these in line with the *Australian Dairy Plan*.

The ambition in the Framework is aligned with the United Nations Sustainable Development Goals (SDGs), the world's plan to meet the needs of today and tomorrow. We show you how and where it links in this report.

The Framework is our guide to sustainable dairy production. The goals and targets in the Framework are set for 2030 – the same as the SDGs. Four commitments in the Framework underpin our promise to the world.

Over the next few years, using the Framework as a guide, and assisted by tools, research and services from Dairy Australia, Australian dairy farmers and manufacturers will continue to make progress on sustainability.

Farmers will stop tail docking, invest more in renewable energy, end deforestation, reduce GHG emissions and have water security risk management plans. Increasingly, they will implement biodiversity action plans, exclude stock from waterways, increase water-use efficiency and water recycling, and reduce their use of antibiotics in animals. Dairy manufacturers will ensure 100% of their packaging is recyclable, compostable or reusable, divert more waste from landfill, and reduce the intensity of greenhouse gas emissions and water consumption. They will continue to ensure nutritious, high quality dairy products are available for the health and wellbeing of consumers – with an enhanced focus on dairy as part of a nutritionally sustainable diet.

Not only does the Framework present industry with a shared vision for continuous improvement, it builds confidence in the community that the Australian dairy industry is serious about being sustainable.

The Australian dairy industry's promise is: *To provide nutritious food for a healthier world.*

This report shows where and how we are delivering on this promise, meeting our commitments to the community, our people, the environment and our animals, and where extra effort is required.

It's our sixth report. We invite you to read it and welcome your feedback.




A handwritten signature in black ink that reads "Chris Griffin".

Chris Griffin
Chair, Dairy Sustainability Steering Committee
and Consultative Forum



A handwritten signature in black ink that reads "Terry Richardson".

Terry Richardson
Chair, Australian Dairy Industry Council



Our Dairy Promise
To provide nutritious food
for a healthier world

Our Dairy Promise is underpinned by our sustainability commitments



Enhancing economic viability and livelihoods

Creating a vibrant industry that rewards dairy workers and families, their related communities, business and investors



Improving wellbeing of people

Providing nutritious, safe, quality dairy food



Providing best care for all our animals

Striving for health, welfare and best care for all our animals throughout their lives



Reducing environmental impact

Meeting the challenge of climate change and providing good stewardship of our natural resources



We publicly report our progress and support the United Nations Sustainable Development Goals (UN SDGs).

2030 Goals and Targets – progress at a glance

The Australian dairy industry Sustainability Framework outlines the industry's commitment to providing nutritious food for a healthier world. We do this through our four Sustainability Commitments: creating a vibrant industry that produces nutritious, safe, quality food, while caring for our animals and the environment, and meeting the challenge of climate change. We are pleased to report our progress against our 2030 goals and targets. In some areas, we are yet to finalise

either the target metrics or the baseline metrics – but will be developing these during 2020. Full details for each Goal and Target are provided in this report.

As a transition to the 2030 goals and targets, we have provided a final report against the 2020 goals and targets (see Appendix 4). Many of the goals and targets are still applicable for 2030, but some have changed, and some new goals and targets have been introduced. This will be our last report against the 2020 goals and targets.

A summary of our 2019 progress				Baseline	2019	2030 Target	Progress	
Enhancing economic viability and livelihoods	1 Increase the competitiveness and profitability of the Australian dairy industry	1.1	More than 50% of farm businesses achieve at least \$1.50 EBIT/kg MS for at least 3 out of 5 years ¹	*20% (2018)	16%	>50%	●	
		1.2	Increase the Australian dairy industry's share of global dairy trade to 10% by volume ²	*6% (2018)	6%	10%	●	
		1.3	Increase RD&E expenditure in the dairy sector by 2% per annum	*\$47 million (2019)	\$47 million	\$58.5 million	N/A	
			– % dairy farmers constantly looking for new information to improve farm business ³	79% (2018)	83%	–	●	
			– % dairy farmers reporting new farming ideas were very important to them ⁴	74% (2018)	78%	–	●	
			– % dairy farmers reporting they were amongst the first in their area to try new ideas and products ⁵	46% (2018)	48%	–	●	
		1.4	Provide consumers with a range of products to meet different needs ⁵	85% (2018)	88%	100%	●	
	2 Increase the resilience and prosperity of dairy communities	2.1 Increase the contribution the dairy industry makes to supporting the economy of dairy regions		– The total value of payments made to dairy farmers on a region-by-region basis ⁷	*\$4.269 billion (2018)	\$4.374 billion	TBC	●
				– The number of jobs supported by dairy economic activity in each dairy region – indicated by number of people directly employed in the dairy industry ⁸	*42,600 (2018)	46,200	TBC	●
		2.2 Increase the recognition of the dairy industry's benefit to regional communities		– The community sees the dairy industry as vital to the Australian economy ⁹	44% (2018)	51%	75%	●
				– % of people in regional areas who think dairy is an essential part of their community ¹⁰	88% (2018)	90%	95%	●
				– % of farmers who agree "people in my region appreciate the role that dairy farmers like myself play in our community" ¹¹	67% (2018)	68%	90%	●
		2.3 Increase the contribution people in dairy make to social capital (community initiatives) in their community		– % of farmers who say they/their employees actively participate in their local community initiatives ¹²	*69% (2019)	69%	100%	N/A
				– % of farmers who believe it's important for them/their employees to support their local community initiatives ¹³	*87% (2019)	87%	100%	N/A
				– % of dairy companies investing funds and participating in local community initiatives	*TBC	TBC	100%	N/A
				– % increase in the level of participation of DA/RDPs in community-related events/initiatives	*TBC	TBC	TBC	N/A
				– Dairy farmers who agree their community has effective leaders and strong social networks – scale of 1 (strongly disagree) to 7 (strongly agree) ¹⁴	*4.6 (2018)	4.6	TBC	N/A

1 DairyBase, Dairy Farm Monitor Project data

2, 7, 8 In Focus, refer Appendix 6

3, 4, 5, 9, 11, 12, 13 National Dairy Farmer Survey, refer Appendix 6

6, 10 Dairy Trust Tracker Survey, refer Appendix 6

14 University of Canberra Regional Wellbeing Survey, Refer Appendix 6

A summary of our 2019 progress				Baseline	2019	2030 Target	Progress
Enhancing economic viability and livelihoods	3 Provide a safe work environment for all dairy workers	3.1 Zero workplace fatalities on farm and in manufacturing ¹⁵	– Dairy farming	2 (2017)	0	0	●
			– Dairy companies	0 (2017)	0	0	●
		3.2 100% of dairy workers implementing good safety practices	**N/A	**N/A	100%	N/A	
		3.3 More than 90% of dairy workers working less than 50 hours per week	**N/A	**N/A	90%	N/A	
		3.4 30% reduction in Lost Time Injury Frequency Rate (LTIFR) for farm and manufacturing workplaces on figures reported in 2017 ¹⁶	– Dairy farming	9.3 (2017)	N/A	6.5	N/A
			– Dairy companies	6.4 (2017)	N/A	4.5	N/A
	4 Provide a productive and rewarding work environment for all dairy workers	4.1 Less than 25% of dairy workers report low levels of life satisfaction	TBC	*N/A	<25%	N/A	
		4.2 Rates of dairy remuneration are similar to or higher than for other regional industries	*N/A	*N/A	Yes	N/A	
		4.3 80% of dairy employees are retained within the industry year-on-year ¹⁷	71% (2017)	*N/A	80%	N/A	
		4.4 Less than 20% of dairy employers report difficulty in sourcing suitable applicants	*N/A	*N/A	<20%	N/A	
		4.5 More than 70% of dairy farm owners have an agreed farm transition/succession plan ¹⁸	21% (2017)	*N/A	>70%	N/A	
		4.6 Human rights – dairy industry has a national human rights position – <i>Indicators to be developed in 2020</i>	TBC	N/A	N/A	N/A	
Improving wellbeing of people	5 All dairy products and ingredients sold are safe	5.1 Zero non-compliant chemical residues found during the Australian Milk Residue Analysis (AMRA) Survey	0	0	0	●	
		5.2 Zero product recalls due to food contamination (as reported by Product Safety Recalls Australia)	8	11	0	●	
		5.3 95% of consumers agree Australia produces safe and high quality dairy products	– The dairy industry produces safe products ¹⁹	81% (2018)	82%	95%	●
			– The dairy industry produces high quality products ²⁰	83% (2018)	86%	95%	●
			5.4 Food Safety Culture embedded into the dairy food business	N/A	N/A	N/A	N/A
	6 Dairy contributes to improved health outcomes for all Australians	6.1 Improve consumers' perception of the health and nutrition benefits of dairy foods	– 90% of consumers believe dairy foods such as milk, cheese and yoghurt play an important role in a healthy well-balanced diet ²¹	*67% (2019)	67%	90%	N/A
			– 90% of individuals agree "Dairy foods are essential for good health and wellbeing" ²²	72% (2018)	80%	90%	●
			– <20% of individuals agree "I'm concerned consuming dairy foods will increase my weight" ²³	32% (2018)	34%	<20%	●
		6.2 The National Health and Medical Research Council (NHMRC) <i>Australian Dietary Guidelines</i> continue to recommend milk, cheese and yoghurt as part of a healthy diet	Recognised	Recognised	Recognised	●	
		6.3 Australians meet recommended daily serves for dairy	*TBC	*TBC	*TBC	N/A	
6.4 All dairy companies adopt a stated position on responsible consumption by 2020 and publicly report on progress by 2030	*TBC	*TBC	100%	N/A			

15, 16 Safe Work Australia, refer Appendix 6

17, 18 Power of People in Dairy Survey, refer Appendix 6

19, 20, 21, 22, 23 Dairy Trust Tracker Survey, refer Appendix 6

Key

● Progress towards 2030 targets against baseline

● Result maintained or marginal change

● Regression

N/A = no data available or target metrics still to be finalised

* Reporting for the first time in 2019

** To be reported in 2020

A summary of our 2019 progress			Baseline	2019	2030 Target	Progress
Providing best care for all our animals	7 Provide best care for all animals for whole of life	7.1 100% ongoing compliance with legislated animal welfare standards				
		– % of farmers who have a copy of the <i>AHW Standards and Guidelines</i>	47%	77%	100%	●
		– % of farmers who agree complying with animal welfare standards is an important sustainability requirement ²⁴	95%	98%	100%	●
		7.2 All of industry adopting relevant recommended industry practices for animal care ²⁵				
		– No tail docking	91%	96%	100%	●
		– No routine use of calving induction	90%	91%	100%	●
		– All calves managed appropriately				
		• sale calves sold at a minimum of 5 days old	78%	91%	100%	●
		• sale calves fed within 6 hours of transport	96%	99%	100%	●
		– All calves disbudded				
		• prior to two months of age	63%	72%	100%	●
		• with pain relief (for calves <2 months)	N/A	*76%	100%	N/A
		– All farmers implementing a lameness strategy	95%	96%	100%	●
		– All farmers where relevant have infrastructure to keep cows cool	92%	96%	100%	●
– All farmers have a documented biosecurity plan	*58% (2019)	58%	100%	N/A		
7.3 90% of consumers believe dairy farmers do a good job caring for animals ²⁶	58% (2018)	74%	90%	●		
7.4 Antimicrobial Stewardship (AMS) – The dairy industry uses antibiotics responsibly – as little as possible, as much as necessary – to protect the health and welfare of our animals						
– All dairy farmers access antibiotics from a registered vet ²⁷	*100%	*100%	100%	N/A		
– All dairy farmers use antibiotics responsibly under veterinary direction ²⁸	*90%	*90%	100%	N/A		
– Antibiotics of high importance to human Antimicrobial Resistance (AMR) in Australia are only used to treat dairy livestock in exceptional circumstances where no other alternative exists	TBC	TBC	TBC	N/A		
Reducing environmental impact	8 Improve land management	8.1 100% of stock excluded from waterways ²⁹	76% (2015)	N/A	100%	N/A
		8.2 100% of riparian zones actively managed and maintained	N/A	N/A	100%	N/A
		8.3 100% of farmers complete and implement a soil and nutrient management plan ³⁰	58% (2015)	N/A	100%	N/A
		8.4 100% of farmers have and implement a documented biodiversity action plan ³¹	81% (2018)	N/A	100%	N/A
		8.5 Zero net deforestation by 2020	*N/A	N/A	0	N/A
	9 Increase water use efficiency	9.1 30% reduction in the consumptive water intensity of dairy companies (on 2010-11 levels) (ML water consumed per ML of milk processed) ³²	1.75	1.91	1.22	●
		9.2 Improve water use and water productivity to utilise 2.0 tonnes of dry matter per ML used	*N/A	*N/A	2	N/A
		9.3 100% of farmers recycling water from dairy sheds ³³	75% (2015)	N/A	100%	N/A
		9.4 100% of farmers monitoring water consumption	*N/A	N/A	100%	N/A
		9.5 100% of farmers have a water security risk management plan by 2020 and are implementing it by 2030	60%	*N/A	100%	N/A
	10 Reduce greenhouse gas emissions intensity	10.1 30% reduction in greenhouse gas (GHG) emissions intensity across the whole industry (from a baseline of 2015)				
		– Manufacturers (tonnes CO ₂ ~e/ML milk processed) ³⁴	140	143.4	98	●
		– Farmers (kg CO ₂ ~e/kg FPCM)	1.0	N/A	0.72	N/A
	11 Reduce waste	11.1 100% diversion rate from landfill (for dairy companies) (tonnes of waste per ML milk processed) ³⁵	2.69 (2011)	1.5	0	●
		11.2 100% of silage wrap recycled (for farm) ³⁶	28% (2015)	*N/A	100%	N/A
11.3 All dairy companies participate in the Australian Packaging Covenant (APCO) or equivalent scheme		9	10	All dairy companies	●	
11.4 100% of Australian dairy packaging to be recyclable, compostable or reusable by 2025 or earlier		*N/A	*N/A	100%	N/A	
11.5 Halve food waste by 2030 (placeholder – tonnes of dairy products per ML of milk processed)		*630,000 (2017)	*N/A	TBC	N/A	

24 National Dairy Farmer Survey, refer Appendix 6

25, 27, 28 Genetics and Animal Husbandry Survey, refer Appendix 6

26 Dairy Trust Tracker Survey, refer Appendix 6

29, 30, 31, 33, 36 Natural Resource Management Survey, refer Appendix 6

32, 34, 35 Dairy Manufacturers Sustainability Council, refer Appendix 6

Why is sustainability a focus for Australian dairy?

Sustainability is a strategic pillar in the new *Australian Dairy Plan* – a plan which sets future priorities and will deliver transformational change for a more profitable, confident and united Australian dairy industry.

As the *Australian Dairy Plan* is implemented over coming years, the Australian Dairy Industry Sustainability Framework (the Framework) will continue to be revised and enhanced to include what industry considers to be priority issues and topic areas. New goals and targets will be set, existing goals and targets refined, and action plans developed to support achieving outcomes in line with the *Australian Dairy Plan*'s strategic priorities and what stakeholders expect.

Food industries like dairy are at the centre of many of the sustainability challenges facing the world today, with issues such as land degradation, biodiversity loss, climate change, population growth, water scarcity, animal welfare, public health, human rights and technological disruption challenging the way food is made.

As a sector that requires land, water and animals, people and technology, the Australian dairy industry is working to meet these challenges and, in doing so, sustain the trust and support of the community and consumers.

For people who care about how food is produced the Framework offers hard evidence – facts and figures – that dairy foods are made in a way that is good for people, animals, the environment and producers.

For those people who produce dairy foods, sustainability presents opportunities such as increasing access to markets and investment, building confidence in the integrity of dairy foods, enhancing community trust, rewarding industry people and producing nutritious food that the world cannot live without.

A focus on these sustainability challenges and opportunities is why customers buy Australian dairy foods and almost nine out of 10 Australians trust the dairy industry to be an essential part of their community.

Our sustainability journey



Australia's dairy sustainability framework in a global context

The Australian Dairy Industry Sustainability Framework (the Framework) was the first national, whole-of-industry framework for sustainable agricultural production worldwide. It has informed the development of a global Dairy Sustainability Framework (which provides a framework for a holistic approach to sustainability in the dairy value chain worldwide), as well as frameworks in other agricultural sectors in Australia.

The Framework has enabled Australian dairy farmers and manufacturers to maintain Australia's status among international customers as a source of sustainably produced food and ingredients.

The commitments in the Framework align with the United Nations (UN) Sustainable Development Goals (SDGs) for ending hunger, promoting good health and wellbeing, taking action on climate change and providing decent work and economic growth.

The contribution of the dairy industry globally to the SDGs is recognised in the 2016 Dairy Declaration of Rotterdam, a joint declaration of the Food and Agriculture Organization of the United Nations (FAO) and the International Dairy Federation (IDF). It is estimated that one billion people rely on the dairy sector to support their livelihoods and sustain their communities in all corners of the world.

In making progress towards the goals and targets in the Framework, the Australian dairy industry supports international agreements on climate change and sustainable development signed by the Australian Commonwealth Government and national targets and goals for waste, packaging and food waste. It also serves to assist global dairy customers meet commitments to source food ingredients responsibly and supports Australian manufacturers to access high-value export markets.

Those goals in the Framework for food waste, greenhouse gas emissions, water use, farm safety, workforce capacity and business planning align with sustainability metrics in the National Farmers Federation's (NFF) 2030 Roadmap, a plan to grow the value of Australian agricultural production to \$100 billion by 2030.

In setting goals and targets in the Framework, the Australian dairy industry has heeded warnings from the FAO and the World Health Organization (WHO) that major steps forward to reduce food loss and food waste, and combat antimicrobial stewardship, are critical to achieving the SDGs by 2030.

In 2019, the Australian dairy industry, via the Dairy Sustainability Steering Committee and Dairy Australia, contributed to the Global Sustainable Agriculture Initiative (SAI) Dairy Working Group (DWG) Business-to-Business (B2B) pilot project. This project developed the Sustainable Dairy Partnership (SDP), a B2B model that customers can use to source responsibly-produced dairy foods and ingredients.

The dairy industry will continue to work with others nationally and around the world to refine our sustainability goals, targets and practices. Australian dairy is committed to providing nutritious food for a healthier world and ensuring our practices support us to do this into the future.

THE AUSTRALIAN DAIRY INDUSTRY 2018–19



35%
of milk production is exported



MAJOR EXPORT MARKETS tonnes

244,828 t	70,119 t
Greater China	Singapore
98,816 t	61,184 t
Japan	Malaysia
	56,647 t
	Indonesia

ANNUAL PRODUCTION OF MAIN COMMODITIES

381,111 t
Cheese

224,107 t
Milk powders

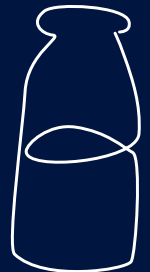
73,322 t
Butter



AVERAGE ANNUAL MILK PRODUCTION PER COW

6,169
litres

8,795
million litres



DAIRY COMPANIES

140

(including those who source milk direct from farms and who source from other companies)

VALUE OF FARMGATE PRODUCTION

\$4.4 billion



AUSTRALIAN MILK UTILISATION

38% Cheese

4% Whole milk powder

28% Drinking milk

9% Other

21% Skim milk powder or butter



ANNUAL PER CAPITA CONSUMPTION

98.6 litres
milk

13.5 kg
cheese



4th

Dairy is Australia's fourth largest rural industry

AVERAGE HERD SIZE

276
cows



AUSTRALIAN DAIRY FARMS

5,213

AUSTRALIAN DAIRY HERD

1.44 million
cows



Material issues – managing what matters

A materiality assessment was undertaken during 2019 to determine the priority issues for both the development of the Framework and related performance reporting. This work refreshed previous materiality reviews undertaken in 2011-12 and 2016. The assessment was informed by various standards and guidance including the Global Reporting Initiative (GRI) Standards, Sustainability Accounting Standards Board (SASB), the UN Sustainable Development Goals (SDGs), as well as the Dairy Sustainability Framework (DSF) and the Sustainable Agriculture Initiative (SAI) Dairy Working Group’s Declaration of Trust to support business-to-business (B2B) responsible sourcing. A GRI Content Index is available in Appendix 7.

Materiality was defined according to two dimensions:

- Significance of the industry’s economic, environmental and social impacts.
- Significance to and influence on stakeholder assessments and decisions.

The results from the materiality assessment were plotted in a materiality matrix (Figure 1). Two thresholds for materiality were set to differentiate topics across three levels – ‘Important’, ‘Material’ and ‘Highly Material’, and this is represented by the curves on the matrix. These thresholds are set as a guide to help the industry consider relative priorities in its strategic responses to those topics and the nature of disclosures in its sustainability reporting.

The most material topics emerging from the assessment were:

- Product safety and quality
- Water availability and efficiency
- Animal care
- Physical climate risk
- Farm biosecurity
- Antimicrobial stewardship
- Calves, including bobby calves
- Animal husbandry
- Resilience of dairy regions
- Greenhouse gas emissions

In 2020 the Dairy Sustainability Steering Committee will review these highly material topics and recommend strategic responses for consideration by the Australian Dairy Industry Council. The outcomes will be included in future reporting.

A full list of the issues and their scope is detailed in Appendix 5. It lists the significant topics for the industry, with their descriptions and the level of influence the industry has in managing these topics.

Appendix 5 also has more detail on the methodology used for the materiality assessment.

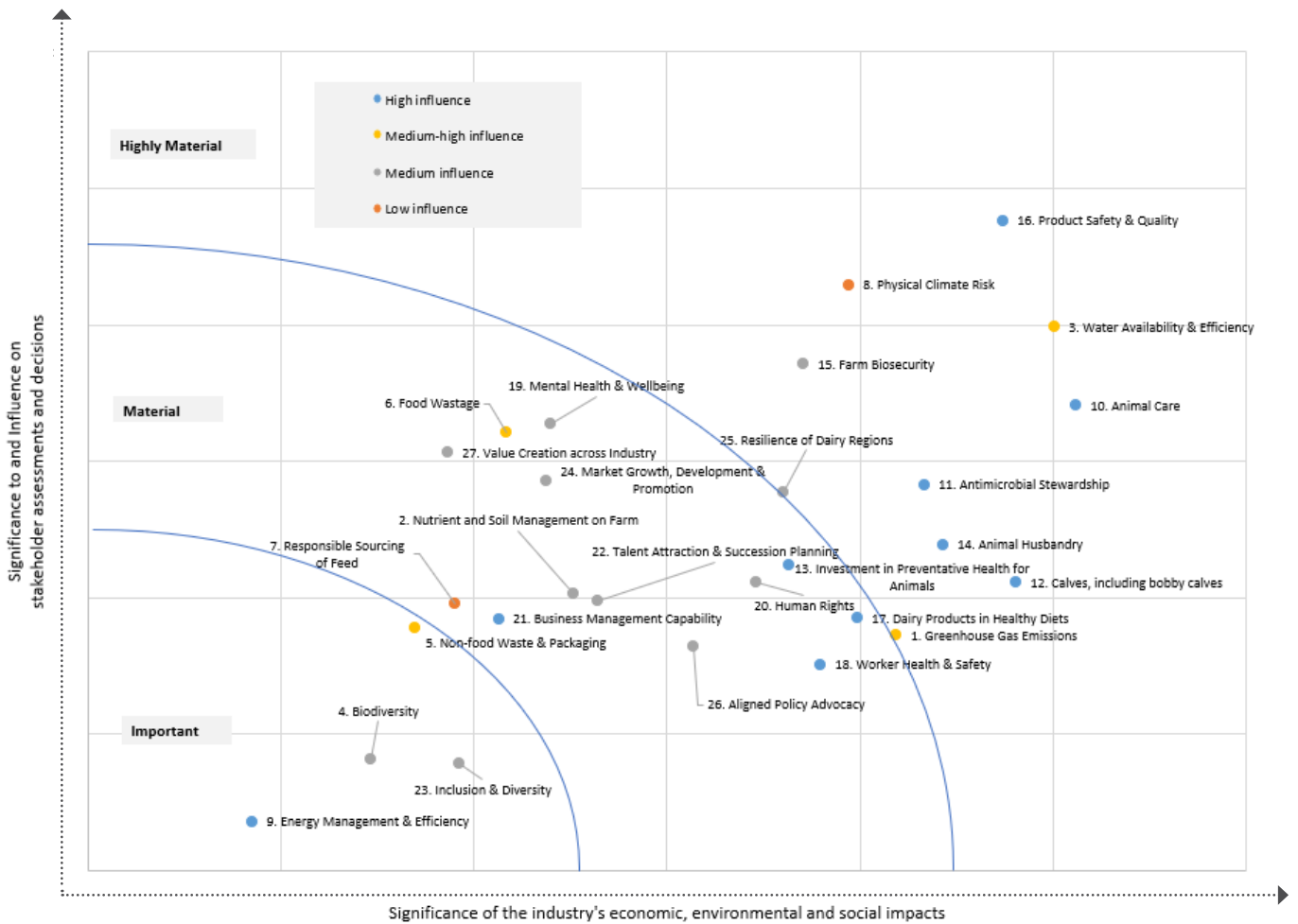


FIGURE 1. THE AUSTRALIAN DAIRY INDUSTRY MATERIALITY MATRIX 2019

Impact along the value chain

The diagram shows the extended dairy value chain, the material and emerging issues, and where in the supply chain these issues impact.


Material issue

Resilience of dairy regions

Scope

Understanding and promoting the contribution that the dairy industry makes to the resilience and economic viability of farmers and rural communities.

Commitment

 **Enhancing economic viability and livelihoods**

Areas of supply chain impacted by this issue

Inputs	
Imports	
Milk Production	●
Manufacturing	●
Marketing & Distribution	
Exports	
Retail & Food Service	
Consumer	


Material issue

Farm biosecurity

Scope

Protecting individual farms, the dairy industry and Australian agriculture against the spread of pests and diseases on and between farms, and from overseas.

Commitment

 **Providing best care for all our animals**

Areas of supply chain impacted by this issue

Inputs	●
Imports	
Milk Production	●
Manufacturing	
Marketing & Distribution	
Exports	
Retail & Food Service	
Consumer	


Material issue

Antimicrobial stewardship

Scope

Promoting the responsible use of antibiotics for effective animal health treatments to avoid development of antibiotic resistance and potential impacts on public health.

Commitment

 **Providing best care for all our animals**

Areas of supply chain impacted by this issue

Inputs	
Imports	
Milk Production	●
Manufacturing	●
Marketing & Distribution	
Exports	
Retail & Food Service	
Consumer	


Material issue

Animal care

Scope

Treating dairy animals humanely and with a high degree of care, with the expectation that animals should experience freedom from hunger, thirst, discomfort, stress, disease, pain and fear.

Commitment

 **Providing best care for all our animals**

Areas of supply chain impacted by this issue

Inputs	
Imports	
Milk Production	●
Manufacturing	
Marketing & Distribution	
Exports	
Retail & Food Service	
Consumer	


Material issue

Animal husbandry

Scope

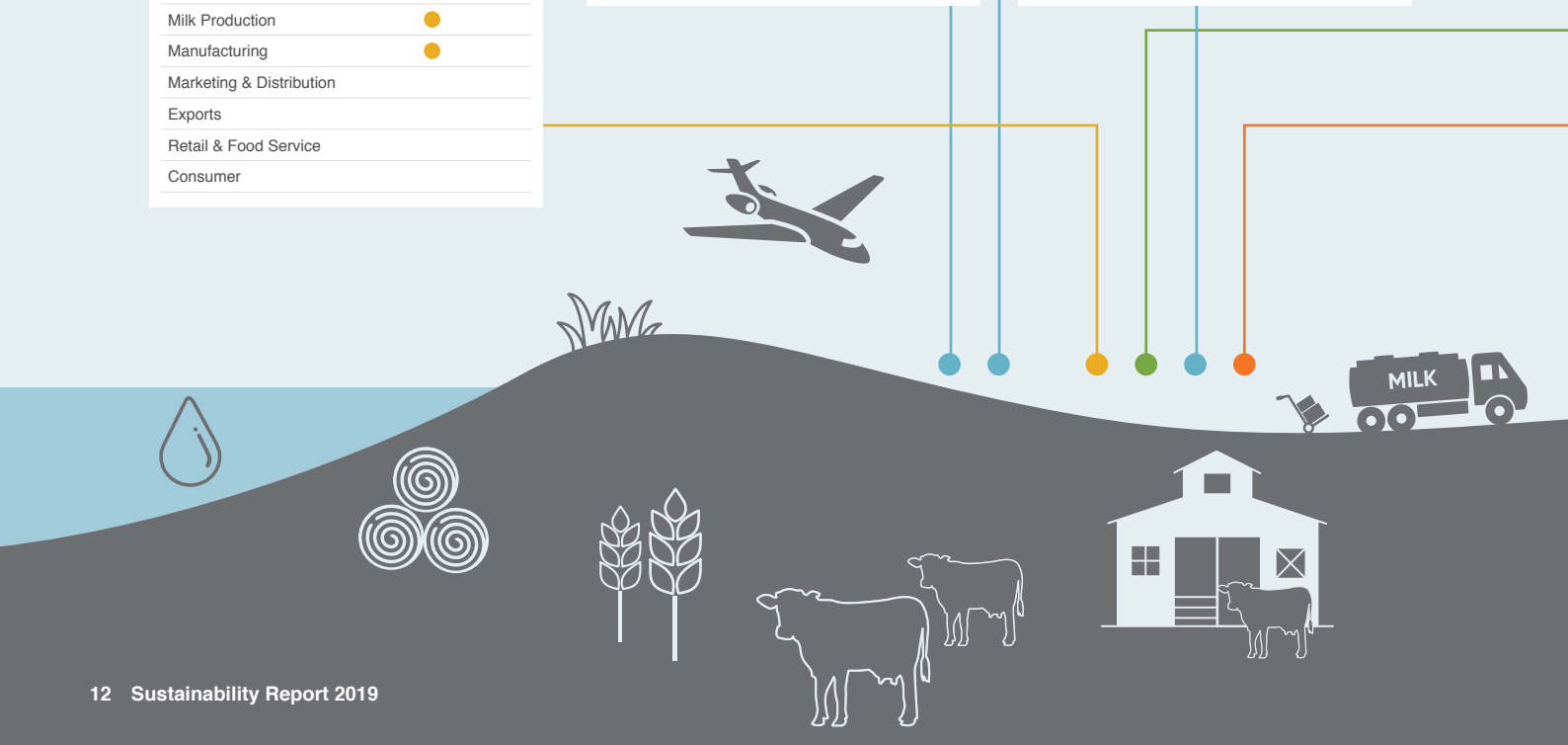
Ending husbandry practices that may cause unacceptable levels of pain, distress or health consequences to cows which would compromise the industry's capacity to deliver safe, quality dairy products.

Commitment

 **Providing best care for all our animals**

Areas of supply chain impacted by this issue

Inputs	
Imports	
Milk Production	●
Manufacturing	
Marketing & Distribution	
Exports	
Retail & Food Service	
Consumer	



Material issue

Calves, including bobby calves

Scope

Improving the welfare of calves that will not enter the dairy herd, and prioritising their sustainable integration into the beef chain.

Commitment



Providing best care for all our animals

Areas of supply chain impacted by this issue

Inputs	
Imports	
Milk Production	●
Manufacturing	
Marketing & Distribution	
Exports	
Retail & Food Service	
Consumer	

Material issue

Greenhouse gas emissions

Scope

Quantifying and reducing GHG emissions across the value chain through all economically viable mechanisms.

Commitment



Reducing environmental impact

Areas of supply chain impacted by this issue

Inputs	
Imports	
Milk Production	●
Manufacturing	●
Marketing & Distribution	
Exports	
Retail & Food Service	
Consumer	●

Material issue

Water availability and efficiency

Scope

Efficient and responsible use and management of water across the dairy supply chain, helping to increase resilience of the industry and maintain productivity in the face of the challenges of climate change.

Commitment



Reducing environmental impact

Areas of supply chain impacted by this issue

Inputs	
Imports	
Milk Production	●
Manufacturing	●
Marketing & Distribution	
Exports	
Retail & Food Service	
Consumer	

Material issue

Physical climate risk

Scope

Adapting wherever possible to avoid impacts of climate change such as water scarcity, temperature increase and extreme weather events, which can affect animal welfare, milk supply and the viability of the industry in some regions.

Commitment



Reducing environmental impact

Areas of supply chain impacted by this issue

Inputs	
Imports	
Milk Production	●
Manufacturing	●
Marketing & Distribution	
Exports	
Retail & Food Service	
Consumer	

Material issue

Product safety and quality

Scope

Maintaining the safety and quality of dairy products throughout the supply chain in a transparent manner.

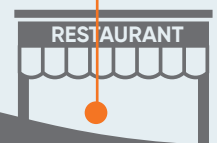
Commitment



Improved wellbeing of people

Areas of supply chain impacted by this issue

Inputs	
Imports	
Milk Production	●
Manufacturing	●
Marketing & Distribution	●
Exports	●
Retail & Food Service	●
Consumer	●







1

Commitment

Enhancing economic viability and livelihoods

Creating a vibrant industry that rewards dairy workers and families, their related communities, business and investors

2030 goals

Goal 1

Increase the competitiveness and profitability of the Australian dairy industry

Goal 2

Increase the resilience and prosperity of dairy communities

Goal 3

Provide a safe work environment for all dairy workers

Goal 4

Provide a productive and rewarding work environment for all dairy workers

1

Our challenges and opportunities

Profitability of farm businesses is core to the success of the Australian dairy industry, enabling it to contribute strongly to rural and regional economies, for both employment and as an earner of export income.



Profitability of farm businesses – core to the success of the industry – has been front and centre for the dairy industry in 2019. Ongoing drought, high input costs and limited feed availability continue to be the number one concern for dairy farmers. During the materiality assessment undertaken during 2019 the profitability of farmers and processors was highlighted as a sustainability risk which industry needs to work harder to manage.

In 2019-20, dairy farmers entered a season of record farmgate milk prices but continue to be challenged by input costs, as well as an outlook for dry conditions. For those farmers in northern Australia, it is the second year with few feed options available. As in previous years, the prices for grain, hay and water will be key to all dairy farmers' profitability during 2019-20. Reduced industry profitability impacts milk production. It is estimated it will decrease between 3% to 5% in 2019-20 to 8.3 to 8.5 billion litres.

Until now the industry has found identifying reliable indicators and data for measuring and reporting the profitability of dairy farmers to be difficult. Different measures and sources have been used over time. However, following consultation with farmers as part of the development of the *Australian Dairy Plan*, a new indicator for farm profitability will be used.

The *Australian Dairy Plan* will set commitments for the dairy industry to create a more profitable, confident and united Australian dairy industry. While Return on Total Assets (ROTA) enables comparisons in profitability between industries, an industry target of more than 50% of farm businesses achieving more than \$1.50 EBIT/kg MS for at least three out of five years is the proposed measure. For most farm businesses an EBIT of \$1.50/kg MS will result in a return on total assets (ROTA) of around 5%. If this is achieved, we can expect growth in milk production to follow as the dairy industry will be able to compete

more effectively for land and water resources with other industries and be able to invest more in technologies that lead to increased production from existing resources.

Nationally, dairy products have shown growth across all major categories, indicated by supermarket sales. Global demand for dairy also remains strong as trade continues to increase, especially to China. We need to continue to invest in RD&E to ensure we can continue to produce and process dairy efficiently and capitalise on the opportunities we have in export markets. Given the reduced milk production due to drought and margin squeeze, dairy manufacturers will look to supply higher value markets.

Of course, the health and safety of our dairy workers remains paramount. According to Safe Work Australia, the rate of injuries on dairy farms decreased somewhat in 2016–17 (the latest figures available) while injuries in dairy manufacturing increased. Mental health has emerged as a material risk. We are currently considering how best to measure and monitor progress.

Stakeholders' interest in the impact of the dairy industry on human rights in the value chain has increased following the establishment of the Commonwealth's *Modern Slavery Act 2018* that took effect on 1 January 2019. It requires large entities to report their actions to assess and address modern slavery risks in their supply chains. Allegations in the Federal Court of Australia during September 2019 that a dairy company had under-paid foreign farm workers also increased stakeholders' interest.

During the Consultative Forum workshop held in May 2019, stakeholders supported an industry initiative to develop a position statement on human rights. A national dairy industry position on human rights has subsequently been approved by the Australian Dairy Industry Council (ADIC).



Goal 1

Increase the competitiveness and profitability of the Australian Dairy Industry

Our performance

Goal 1	Increase the competitiveness and profitability of the Australian Dairy Industry	Baseline	2019	2030 target	Progress
Target 1.1	More than 50% of farm businesses achieve at least \$1.50 EBIT/kg MS for at least 3 out of 5 years ³⁷	*20% (2018)	16%	>50%	●
Target 1.2	Increase the Australian dairy industry's share of global dairy trade to 10% by volume ³⁸	*6% (2018)	6%	10%	●
Target 1.3	Increase RD&E expenditure in the dairy sector by 2% per annum	*\$47 million (2019)	\$47 million	\$58.5 million	N/A
	– % dairy farmers constantly looking for new information to improve farm business ³⁹	79% (2018)	83%		●
	– % dairy farmers reporting new farming ideas were very important to them ⁴⁰	74% (2018)	78%		●
	– % dairy farmers reporting they were amongst the first in their area to try new ideas and products ⁴¹	46% (2018)	48%		●
Target 1.4	Provide consumers with a range of products to meet different needs ⁴²	85% (2018)	88%	100%	●

³⁷ DairyBase, Dairy Farm Monitor Project data

³⁸ *In Focus*, refer Appendix 6

^{39, 40, 41} National Dairy Farmer Survey, refer Appendix 6

⁴² Dairy Trust Tracker Survey, refer Appendix 6

Key

● Progress towards 2030 targets against baseline

● Result maintained or marginal change

● Regression

N/A = no data available or target metrics still to be finalised

* Reporting for the first time in 2019

** To be reported in 2020



Towards Goal 1

Increasing competitiveness and profitability underpins the industry's ability to be sustainable and continues to be a focus at the farm, manufacturer and industry levels. Performance against the targets indicates these are remaining steady at the aggregate level.

Target 1.1

More than 50% of farm businesses achieve at least \$1.50 EBIT/kg MS for at least 3 out of 5 years

Determining an agreed target by which to measure profitability at the farm business level has been difficult, however the extensive consultation to develop the *Australian Dairy Plan* has supported development of a robust target that will allow year-on-year comparison of profit. The Framework has adopted the profitability target from the draft *Australian Dairy Plan*, which is expected to be finalised in March 2020. For most farm businesses, earnings before interest and taxes (EBIT) of \$1.50 per kilogram of milk solids (kg/MS) results in a return on total assets (ROTA) of around 5%.⁴³ In 2018-19, 16% of farmers achieved this. This reflects the tough seasonal conditions in many areas and the high cost of inputs linked to the drought. Using Dairy Farm Monitor Project (DFMP) and Queensland Dairy Account Scheme (QDAS) historical data, observations show that where over 50% of farm participants in a region have achieved more than \$1.50 EBIT/kg MS, regional milk production has generally increased. Nationally, 20% of dairy farmers achieved an EBIT of more than \$1.50/kg MS in 2016-17 and 2017-18.

DairyBase is now well established and is supported by DFMP, which has been expanded to cover all dairy regions in Australia. DairyBase provides a comprehensive picture of farm performance nationally using consistent and industry agreed methods.

Target 1.2

Increase the Australian dairy industry's share of global dairy trade to 10% by volume

In 2019, Australian dairy's share of global dairy trade remained steady at 6%, the same as in 2018. This makes Australia the fourth largest exporter behind New Zealand (37%), the European Union (31%) and the USA (14%).⁴⁴ Our next closest competitors are Argentina and Uruguay with 3% each.

Target 1.3

Increase RD&E expenditure in the dairy sector by 2% per annum

Approximately 80% of Dairy Australia's expenditure in 2018-19 qualified as RD&E under the Government's matching funding agreement⁴⁵ – equating to \$47 million. While Dairy Australia is not the only organisation investing in RD&E, it is an indicator as Dairy Australia research funds can leverage RD&E funding from other groups, including government. It is also reported publicly by Dairy Australia in its *Annual Report*. The degree of uptake of RD&E is reflected in dairy farmers' responses to questions in the 2019 National Dairy Farmer Survey. Approximately 83% of dairy farmers reported they were constantly looking for new information to improve farm business (compared with 79% in 2018) and 78% reported that new farming ideas were important to them (74% in 2018). Around 48% considered they were amongst the first in their area to try new ideas and products (up from 46% in 2018).

⁴³ DairyBase and Dairy Farm Monitor Project (DFMP) data

⁴⁴ *In Focus 2019*, p20, Figure 10

⁴⁵ *Dairy Australia 2019 Annual Report*, p20 – 80% of \$58,789 (\$47,031)

Target 1.4

Provide consumers with a range of products to meet different needs

As part of the annual Dairy Trust Tracker survey, consumers are asked if the dairy industry provides a range of products to meet different needs. In 2019, 88% of consumers agreed with this, an increase of 3% from the previous year, and a 13% increase from 2017.⁴⁶

Key initiatives supporting Goal 1

Policy direction – The focus of the Australian Dairy Farmers' (ADF) Farming Systems and Herd Improvement Policy Advisory Group (PAG)' is to drive sustainable farm profitability, through supporting ADF's policy and advocacy work on a range of issues. ADF and the Australian Dairy Products Federation (ADPF), supported by Dairy Australia, also advocate for tariff reductions and increased market access. As of 1 January 2020, tariff cuts take effect in China, South Korea and Trans-Pacific market access arrangements – providing greater opportunity for Australian dairy products.

DairyBase is a web-based tool that enables dairy farmers to measure and compare their farm business performance over time. It identifies opportunities to drive profit and reduce risk, as well as make more informed business decisions.

Taking Stock helps farmers manage high feed costs and limited fodder availability to map out a plan for the season ahead, with support from a farm consultant who reviews their farm business. Dairy Australia's on the ground support included 546 one-on-one Taking Stock sessions where trained advisors worked with farmers on decision making during challenging times of drought and input cost increases.

The **DairyFeedbase** program aims to improve pasture performance, animal nutrition and the cost competitiveness of the feedbase. Dairy Australia, the Victorian Government and the Gardiner Dairy Foundation have jointly committed \$54 million for the program over six years.

DataGene is an independent, industry-owned organisation responsible for developing modern tools and resources to drive genetic gain and herd improvement in the Australian dairy industry, through RD&E activities. DataGene implemented a new and improved computing infrastructure for genetic evaluation. This ensures Australian evaluations are quick, accurate and world-class and can respond to the needs of the herd improvement sector.

DairyBio continues to develop important breeding tools for pasture and cattle. DairyBio achieved 20% yield increases for perennial ryegrass trials.

Our Farm, Our Plan is a new program developed by Dairy Australia with support from the Gardiner Dairy Foundation and DairyNZ, designed to equip farmers to clarify their long term goals, identify the actions needed, and manage uncertainty and risk.

The **Forage Value Index** is a rating system that helps Australian dairy farmers make more informed decisions when selecting perennial ryegrass cultivars. Selection of better performing cultivars will help to increase pasture productivity at key times of the year and ultimately, farm profitability.

⁴⁶ Dairy Trust Tracker 2019

Goal 1 in action

Webinars drive manufacturing insights⁴⁷

Dairy Australia's Dairy Manufacturing Workforce Webinar series allows dairy farmers and manufacturers to hear from experts – both global and domestic.

The Little Big Dairy Co's Emma Elliott was among the webinar presenters in 2019.

Ms Elliott's family, the Chesworths, have been dairy farming for eight generations, with a registered herd of Holstein cattle based in Dubbo, NSW. They milk 1000 cows across three herds, three times per day.

The family decided to start their own manufacturing operation on the family farm to remain viable as dairy farmers, and continue to do what they love, Ms Elliott said.

Ms Elliott researched boutique manufacturing extensively to give their operation the best chance of success. She visited other small-scale manufacturers and studied the requirements, including regulations. Many of these resources are available on the [Dairy Manufacturing Resource Centre](#).

Today, the Little Big Dairy Co is a rapidly growing operation which operates the manufacturing, distribution and marketing side of the business.

"We invested in five delivery trucks and a semi-trailer, which we operate out of our farm factory warehouse," Ms Elliott said. "This enables us to service all of our customers directly without using third-party distributors, offering a service that matches the quality of our offering."

In her webinar presentation, Ms Elliott shared tips for other dairy farmers considering going into manufacturing, including the importance of focusing on quality control.

"In this boutique area, it's very important we don't compromise on quality," she said.

"It is important to have set roles and ensure everything is done to the highest standard, you can't be out there milking the cows and running a factory and expect it all to be perfect."

⁴⁷ "Webinars drive manufacturing insights", p34, *The Australian Dairyfarmer* May-June 2019.



Jim and Emma Elliott manage the processing, distribution and marketing of the family dairy farm brand.

Goal 1 in action

Predicting research a game changer⁴⁸

Agriculture Victoria research scientists have developed a model that can predict how likely a dairy cow is to conceive at first insemination with up to 77% accuracy.

The world-first research combines mid-infrared spectroscopy (MIR) – which shines an infrared light through cows' milk – with other on-farm data for 3,000 dairy cows from 19 herds across Australia.

Cow fertility is a key driver of profitability for Australia's dairy industry but until now there has been little research towards enabling farmers to predict the outcome of insemination.

Agriculture Victoria research scientist and leader of this DairyBio initiative, Professor Jennie Pryce, said dairy farmers could use this research to optimise their breeding decisions, increasing farm productivity and profitability.

“The expected outcome of this research is a valuable prediction tool for farmers who choose to herd-test in early lactation, before the joining season starts,” she said.

“We are now collaborating with DataGene and the herd test centres, working towards implementing the research and providing the best advice for farmers.”

The model is currently undergoing extensive validation using data from NSW dairy farms before being made available to dairy farmers.

This research is part of the DairyBio initiative between Agriculture Victoria, Dairy Australia and the Gardiner Dairy Foundation, in collaboration with DataGene.

⁴⁸ Agriculture Victoria.



Researchers Dr Phuong Ho and Professor Jennie Pryce.

Credit: Agriculture Victoria

Goal 2

Increase the resilience and prosperity of dairy communities

Our performance

Goal 2	Increase the resilience and prosperity of dairy communities	Baseline	2019	2030 target	Progress
Target 2.1	Increase the contribution the dairy industry makes to supporting the economy of dairy regions				
	– The total value of payments made to dairy farmers on a region-by-region basis ⁴⁹	*\$4.269 billion (2018)	\$4.374 billion	TBC	●
	– The number of jobs supported by dairy economic activity in each dairy region – indicated by number of people directly employed in the dairy industry ⁵⁰	*42,600 (2018)	46,200	TBC	●
Target 2.2	Increase the recognition of the dairy industry’s benefit to regional communities				
	– The community sees the dairy industry as vital to the Australian economy ⁵¹	44% (2018)	51%	75%	●
	– % of people in regional areas who think dairy is an essential part of their community ⁵²	88% (2018)	90%	95%	●
	– % of farmers who agree “people in my region appreciate the role that dairy farmers like myself play in our community” ⁵³	67% (2018)	68%	90%	●
Target 2.3	Increase the contribution people in dairy make to social capital (community initiatives) in their community				
	– % of farmers who say they/their employees actively participate in their local community initiatives ⁵⁴	*69% (2019)	69%	100%	N/A
	– % of farmers who believe it's important for them/their employees to support their local community initiatives ⁵⁵	*87% (2019)	87%	100%	N/A
	– % of dairy companies investing funds and participating in local community initiatives	*TBC	TBC	100%	N/A
	– % increase in the level of participation of DA/RDPs in community-related events/initiatives	*TBC	TBC	TBC	N/A
	– Dairy farmers who agree their community has effective leaders and strong social networks – scale of 1 (strongly disagree) to 7 (strongly agree) ⁵⁶	*4.6 (2018)	4.6	TBC	N/A

49, 50 In Focus, refer Appendix 6

51 National Dairy Farmer Survey, refer Appendix 6

52 Dairy Trust Tracker Survey, refer Appendix 6

53, 54, 55 National Dairy Farmer Survey, refer Appendix 6

56 University of Canberra Regional Wellbeing Survey, Refer Appendix 6

Key

● Progress towards 2030 targets against baseline

● Result maintained or marginal change

● Regression

N/A = no data available or target metrics still to be finalised

* Reporting for the first time in 2019

** To be reported in 2020



Towards Goal 2

As Australia's fourth largest rural industry, dairy makes an enormous contribution to the regions in which it operates. Our goal is to continue this contribution through resilient and prosperous dairy communities, with this contribution recognised and valued. Available results for 2019 indicate dairy's contribution remains strong.

Target 2.1

Increase the contribution the dairy industry makes to supporting the economy of dairy regions

- The total value of payments made to dairy farmers on a region-by-region basis**
Dairy farmers received payments of \$4.374 billion in 2019, marking an increase of \$105 million compared to 2018.⁵⁷
- The number of jobs supported by dairy economic activity in each dairy region – indicated by the number of people directly employed in the dairy industry**
The number of jobs directly supported by dairy economic activity in dairy regions increased in 2019 to 46,200, from 42,600 in 2018.⁵⁸

These metrics/indicators have been adopted from the global Dairy Sustainability Framework.

Target 2.2

Increase the recognition of the dairy industry's benefit to regional communities

- The community sees the dairy industry as vital to the Australian economy**
Results of the 2019 NDFS show that 51% of dairy farmers believe the community sees dairy as vital to the Australian economy, recovering to 2017 levels following a drop to 44% in 2018.
- % of people in regional areas who think dairy is an essential part of their community**
Measured in the Dairy Trust Tracker survey, the proportion of people in regional areas who think dairy is an essential part of their community increased from 88% in 2018 to 90% in 2019.⁵⁹ It has increased over the longer term, up from 70% in 2014.
- % of farmers who agree “people in my region appreciate the role that dairy farmers like myself play in our community”**
The NDFS collects data on the percentage of farmers who agree “people in my region appreciate the role that dairy farmers like myself play in our community”. This increased slightly in 2019 (68%), up from 67% in 2018.⁶⁰ The 2019 result is still 10% lower than in 2016.

^{57, 58} *In Focus 2019* Appendix 2, p34

⁵⁹ Dairy Trust Tracker 2019

⁶⁰ NDFS 2019



Target 2.3

Increase the contribution people in dairy make to social capital (community initiatives) in their community

- **% of farmers who say they/their employees actively participate in their local community initiatives**

In the 2019 NDFS, 69% of dairy farmers report that they and/or their employees actively participate in their local community initiatives. This was the first time this question was asked.

- **% of farmers who believe it's important for them/their employees to support their local community initiatives**

In the 2019 NDFS, 87% of dairy farmers believe it is important that they and/or their employees actively participate in their local community initiatives. This was the first time this question was asked.

- **% of dairy companies investing funds and participating in local community initiatives – first time reporting**

Dairy companies contribute to their communities in a wide variety of ways under their corporate social responsibility programs. Information will be collected over 2019–20 for future reporting.

- **% increase in the level of participation of DA/RDPs in community-related events/initiatives**

Information will be collected over 2019–20 for future reporting.

- **% of dairy farmers who agree their community has effective leaders and strong social networks**

The 2018 Regional Wellbeing Survey data tables were used to provide information on where dairy farmers sit in relation to other groups in Australia. The latest survey data was collected between November 2018 and January 2019 by the University of Canberra, Institute of Applied Ecology, which undertakes the Regional Wellbeing Survey. The data set will be published on the university website early in 2020.

Community Leadership and Collaboration was measured by asking survey participants whether they strongly disagreed (1) or strongly agreed (7) with the following three statements: “people around here are good at getting help and ideas from other communities”; “whatever the problem, someone in this community takes the lead in sorting it out”; and “local groups and organisations around here are good at getting things done”. The scores recorded were: Australia (4.3), regional Australia (4.3), non-farmers (4.3) mixed farming (4.6), farmers (4.6) and dairy farmers (4.6). A similar set of questions relating to ‘Getting involved in the community’ was also asked. The scores recorded were Australia (3.2), regional Australia (3.4), non-farmers (3.2), mixed farming (3.9), farmers (3.8) and dairy farmers (3.6). Compared to other groups, dairy farmers scored in the mid range.

Key initiatives supporting Goal 2

Young Dairy Network – Dairy Australia plays an active role in engaging and building a network through the Young Dairy Network (YDN) to provide the opportunity for young dairy workers to develop skills to further their career in dairy. The YDN currently supports around 2,500 young farmers across Australia.

Australia’s Legendairy Women’s Network (ALWN) connects women who are involved in dairy from across the country. It aims to work alongside, support and connect its members, and provide them with the opportunities to improve their skills and capabilities, to continue to grow and add value to their dairy businesses and communities.

Maffra and Leongatha football teams line up with Saputo employees before the 'grudge match' on Maffra ground, improved thanks to Saputo Dairy Australia's sponsorship.



Source: *Devondaler*

Goal 2 in action

Community support makes a difference

Sponsorship of community events and sporting clubs by Saputo Dairy Australia makes a strong contribution to the communities where the business operates.

Through the Saputo Legacy Program, the company has donated \$125,000 to local sport and health facilities to promote a healthier lifestyle for families and make a meaningful contribution within communities.

In Cobram, the community Soccer pavilion and club received a \$50,000 contribution to the development of the Cobram Community Soccer Pavilion, while an extra \$10,000 helped the Leongatha Football Netball Club build two new outdoor netball courts. Saputo also helped the Kiewa Sandy Creek Netball Club upgrade their courts with a \$30,000 donation.

The Maffra Football Club received \$25,000 towards refurbishing the local recreation reserve. This was celebrated on 22 June at the 'Saputo grudge match' between Maffra and Leongatha, attended by staff from both regions as well as from head office.

Saputo takes pride in seeing the difference the support has made to the communities in which it operates, with its staff, suppliers and local communities enjoying the new or improved facilities. Local projects like these encourage people to exercise and build community ties.

Goal 2 in action

The milk of human kindness

On 30 May 2019, Foodbank’s national milk program partners – Parmalat (Lactalis), Lion Dairy & Drinks, Fonterra and Saputo Dairy Australia – collectively received the 2019 Foodbank Award for their collaboration to fight hunger in Australia.

Foodbank praised its dairy partners for the extraordinary collaboration with regular contributions of fresh milk to help Foodbank provide relief to more than 710,000 Australians every month.

Announcing Foodbank’s highest accolade, Foodbank Australia CEO, Brianna Casey, said; “This prestigious award is presented to an AFGC member or members showing vision, innovation and leadership in partnering with Foodbank to deliver greater impact in providing food and groceries to vulnerable families across Australia.

“This year, our dairy partners receive the award for what has proven to be an extraordinary eight-year collaboration providing one million litres of fresh

milk a year. This industry sector program is unique to Australia and sets a benchmark for foodbank/ industry partnerships around the world.

“Without the support of generous partners such as these wonderful milk companies, we would simply not be able to assist the millions of Australians accessing food relief from our network of 2,600 charities around the country.

“Despite facing turbulent industry and market conditions, Parmalat, Lion Dairy & Drinks, Fonterra and Saputo Dairy Australia supply Foodbank with fresh milk in every state and territory each and every week of the year. This allows school students around the country to have milk on their cereal when they sit down at a breakfast club; it enables pensioners to add milk to their cup of tea or coffee at the drop in centre; and it provides families with a staple ingredient for meals such as mac and cheese,” Ms Casey said.

Dairy companies Parmalat, Lion Dairy & Drinks, Fonterra and Saputo Dairy Australia – collectively received the 2019 Foodbank Award





Goal 3

Provide a safe work environment for all dairy workers

Our performance

Goal 3	Provide a safe work environment for all dairy workers	Baseline	2019	2030 target	Progress
Target 3.1	Zero workplace fatalities on farm and in manufacturing⁶¹				
	– Dairy farming	2 (2017)	0	0	●
	– Dairy companies	0 (2017)	0	0	●
Target 3.2	100% of dairy workers implementing good safety practices	**N/A	**N/A	100%	N/A
Target 3.3	More than 90% of dairy workers working less than 50 hours per week	**N/A	**N/A	90%	N/A
Target 3.4	30% reduction in Lost Time Injury Frequency Rate (LTIFR) for farm and manufacturing workplaces on figures reported in 2017⁶²				
	– Dairy farming	9.3 (2017)	N/A	6.5	N/A
	– Dairy companies	6.4 (2017)	N/A	4.5	N/A

61, 62 Safe Work Australia, Refer Appendix 6

Key

- Progress towards 2030 targets against baseline
- Result maintained or marginal change
- Regression
- N/A = no data available or target metrics still to be finalised
- * Reporting for the first time in 2019
- ** To be reported in 2020



Towards Goal 3

The physical and mental health of our dairy workers is a key priority for the industry and constant vigilance is required by everyone in the value chain to ensure people are safe. Industry is still considering how best to recognise the key issue of mental health.

In early 2019, the Rural Safety and Health Alliance (RSHA) was established as a partnership of rural research and development corporations (RDCs) to invest in a fresh approach to improve primary production's health and safety record centred on innovative research and extension.

The RSHA, which includes Dairy Australia, is focused on setting clear priorities to better target RD&E, strengthening industry leadership and developing a 'Shark Tank' funding model, where applicants work together to pitch projects for funding. For more information, visit the [RSHA website](#).

Target 3.1

Zero workplace fatalities on farm and in manufacturing

Safe Work Australia has no reported fatalities on dairy farms or at dairy product manufacturers for 2018, which is the most recent data available.⁶³ Figures for 2019 will be made available in 2020.

Target 3.2

100% of dairy workers implementing good safety practices

Data for this indicator for dairy farm workers will be collected through a question in the 2020 Power of People on Australian Dairy Farms (POP) survey, and will be reported by the Framework in 2020. Information for processors is still to be decided.

Target 3.3

More than 90% of dairy workers working less than 50 hours per week

Data for this indicator will be collected through a question in the 2020 POP Survey for dairy farmers, and will be reported by the Framework in 2020. Information for processors is still to be decided.

Target 3.4

30% reduction in Lost Time Injury Frequency Rate (LTIFR) for farm and manufacturing workplaces on figures reported in 2016–17 (latest from Safe Work Australia)

Safe Work Australia injury statistics are calculated on a lag basis – with the latest figures publicly available being those for 2016–17. These levels have now been set as the baseline for the 2030 target of a 30% reduction. The 2016–17 figures shown as the baseline are 9.3 for dairy farming and 6.4 for dairy processing (down from 13.7 for dairy farming and up from 5.6 for dairy processing, as reported in the 2018 Sustainability Report). Figures for 2017–18 will be made available in 2020.

⁶³ Source: Safe Work Australia's Work-related Traumatic Injury Fatality (TIF) data (see safeworkaustralia.gov.au/)



Key initiatives supporting Goal 3

Workplace safety inspectors are increasing the number of dairy farm inspections in a bid to improve farm safety. Dairy Australia has created **resources** to assist farmers through these inspections and to implement or improve their farm safety systems.

The Milk Tanker Operator (MTO) program is an industry led initiative to enable consistency of collection procedures and food safety and compliance requirements for all dairy farm milk collections. Through agreeing to an industry accredited standard, milk tanker operators follow the same protocols regardless of which company they deliver to with a three-year refresher element to ensure ongoing best practice and compliance.

The **Power of People in Dairy (POP) Survey** is conducted every three years and is a key source of benchmark, program and impact data about farmers' attitudes and practices relating to a number of areas including farm safety. The next survey will be conducted in late 2020.

The **Farm Safety Starter Kit** provides practical, easy-to-use resources to assist dairy farmers in making sustainable improvements to the safety of farm owners, employees, families, contractors, services providers and visitors.

Goal 3 in action

Farmers taking action on Q fever⁶⁴

Dairy farmers are protecting their teams from Q fever – a disease spread to humans from animals including dairy cows. It causes a severe flu-like illness lasting up to six weeks and can lead to fatigue, hepatitis, pneumonia, chronic infections or heart problems.

Farm workers are more at risk of contracting Q fever when dealing directly with animals, particularly calving down cows, making the lead-up to calving a great time to ensure farm teams are safe, tested and vaccinated.

New workers should be tested for Q fever before their first day on farm, even if they have worked on a farm before.

Fifth-generation dairy farmer Peter Middlebrook knows firsthand how even experienced farmers are at risk, after he contracted Q fever on his 450-cow farm near Finley, NSW.

As he attempted to rescue a stuck cow, he was bucked and suffered a wound to his hand.

After being hospitalised with Q fever, Mr Middlebrook was told he would be unable to return to work for at least 10 days.

“I was young and thought I was bulletproof, but I wish I’d been vaccinated before it happened,” he said.

“It really knocks you around and it took me a long time to get over it.”

He now ensures his four farm workers are tested regularly.

NSW district vet Dr Lyndell Stone said vaccination was the best protection against Q fever.


“Farm workers are highly susceptible to Q fever — having any contact with an infected animal puts you at risk,” Dr Stone said.

“Calving cows is especially risky, as bacteria is shared in faeces, urine, blood, uterine and foetal fluids.”

She said anyone over 15 years of age should be vaccinated if they’re spending time on farm, because people can be infected by breathing in bacteria carried in dust.

In Australia, it is an employer’s responsibility to ensure the safety of their staff, including from the risk of contracting bacterial infections. Dairy Australia’s Farm Safety Manual is a comprehensive guide for farmers to improve safety systems on their farm.

⁶⁴ “Farmers taking action on Q fever”, p21, *The Australian Dairyfarmer* January-February 2019.



Anyone over 15 years of age should be vaccinated against Q fever if they’re spending time on farm.



Goal 4

Provide a productive and rewarding work environment for all dairy workers

Our performance

Goal 4	Provide a productive and rewarding work environment for all dairy workers	Baseline	2019	2030 target	Progress
Target 4.1	Less than 25% of dairy workers report low levels of life satisfaction	TBC	*N/A	<25%	N/A
Target 4.2	Rates of dairy remuneration are similar to or higher than for other regional industries	*N/A	*N/A	Yes	N/A
Target 4.3	80% of dairy employees are retained within the industry year-on-year ⁶⁵	71% (2017)	*N/A	80%	N/A
Target 4.4	Less than 20% of dairy employers report difficulty in sourcing suitable applicants	*N/A	*N/A	<20%	N/A
Target 4.5	More than 70% of dairy farm owners have an agreed farm transition/succession plan ⁶⁶	21% (2017)	*N/A	>70%	N/A
Target 4.6	Human rights – dairy industry has a national human rights position <i>Indicators to be developed in 2020</i>	TBC	N/A	N/A	N/A

65, 66 Power of People in Dairy Survey, refer Appendix 6

Key

● Progress towards 2030 targets against baseline

● Result maintained or marginal change

● Regression

N/A = no data available or target metrics still to be finalised

* Reporting for the first time in 2019

** To be reported in 2020



Towards Goal 4

The dependency on skilled labour and attracting people to a career in dairy continues to be a priority. An estimated additional 800 employees will be needed on Australian dairy farms by 2023 and potentially new skills will be needed for both farm and processing as technology changes. The farm statistic is in line with a predicted increase in farms with six or more employees across the industry from 4% to 20% by 2025 people. In addition, farmers are making a clear statement about the need to attract more young people to dairy, and this was further highlighted at recent consultation workshops for the *Australian Dairy Plan*, a five-year strategic plan for the dairy industry.

Providing a productive and rewarding work environment for all dairy workers is a goal that was updated in 2018 with a new series of targets and indicators.

Target 4.1

Less than 25% of dairy workers report low levels of life satisfaction

This is a new indicator for 2030. The Regional Wellbeing Survey conducted annually by the University of Canberra, Institute of Applied Ecology provides a measure of Global Life Satisfaction. Survey participants are asked to rate their satisfaction with their 'life as a whole' – from completely dissatisfied (0) to completely satisfied (10) and the score was then converted to 100. The latest results are from the 2018 Regional Wellbeing Survey. The scores recorded were:

Australia (69.4), regional Australia (71.0), non-farmers (69.4), mixed farming (76.7) and dairy farmers (73.5).

While this provides a score of life satisfaction, it does not provide information on the percentage of dairy farmers who feel this way – further investigation is needed. It also does not provide information for dairy processors.

Target 4.2

Rates of dairy remuneration are similar to or higher than for other regional industries

Australian Bureau of Statistics (ABS) collects some data in this area. However, further research is needed to determine the best possible metrics or

proxy information, their sources and latest data, time frames, what industries to compare with and how readily available is the information. We need to decide which 'other regional industries' we would like to benchmark against.

Target 4.3

80% of dairy employees are retained within the industry year-on-year

Data for this new indicator will be collected through a question in the 2020 POP Survey, and will be reported in the 2020 Framework Report. Processor information/indicators are still to be agreed.

Target 4.4

Less than 20% of dairy employers report difficulty in sourcing suitable applicants

Data for this new indicator will be collected through a question in the 2020 POP Survey, and will be reported in the 2020 Framework Report. Processor information/indicators are still to be agreed.

Target 4.5

More than 70% of dairy farm owners have an agreed farm transition/succession plan

Transition and succession planning are key to ensuring the success and growth of the dairy industry. In the 2017 POP Survey, 21% of dairy farmers reported having a well-developed business transition plan. A further 30% said they had a plan but had not formalised it. Updated data for this indicator will be collected through a question in the 2020 POP Survey, and will be reported in the 2020 Framework Report.

Target 4.6

Human rights – target and indicators to be developed in line with the national dairy industry human rights position

A national position has been agreed as follows:

The Australian Dairy Industry is committed to building a profitable and sustainable future for the dairy industry. All sectors of the dairy industry need to act responsibly, respecting internationally recognised human rights as set out in the Universal Declaration of Human Rights and related core international standards. In addition, all sectors of the dairy industry should fulfil their responsibilities consistent with the UN Guiding Principles on Business and Human Rights – the internationally recognised global standard for preventing and addressing business-related human rights harm.

We recommend all sectors of the dairy industry put policies and processes in place proportionate and reasonable to their size, to ensure they can fulfil their responsibility to respect human rights and work towards continuous improvement.

Further work to be undertaken in 2020:

- (a) Review the dairy supply chain to identify and assess any actual or possible adverse human rights risks
- (b) Develop action plans to address these risks
- (c) Develop indicators and metrics to track and report industry's performance against our Human Rights commitments
- (d) Showcase what good practice looks like
- (e) Communicate, publicly where appropriate, industry's responses to actual and potential adverse human rights impacts.

Key initiatives supporting Goal 4

Policy direction – The ADF's People and Human Capacity Policy Advisory Group (PAG) drives farm sector policy development and advocacy in supporting the attraction, development and retention of a highly skilled workforce for the dairy industry.

Industry extension and training programs – Dairy Australia offers a range of extension services focused on making good on-farm decisions, such as **Cool Cows**, **InCalf**, **People In Dairy**, **Our Farm, Our Plan** as well as farm business management programs, **Farm Business Fundamentals**, and **Dairy Business Analysis**.

Rural Veterinary Resident Training Program is an industry training program to attract, upskill and retain veterinarians in the Australian dairy industry, by providing young vets with advanced clinical training skills in diagnosis and treatment of dairy cattle and supports farm-based research.

The **DairyLearn Network** connects education and training providers with Dairy Australia to ensure educational experiences are framed with industry-approved resources and tools, supporting quality dairy learning experiences and capable people for the dairy workforce.

DairyPATH is an 18-month pilot program designed to allow young people to tailor their learning pathway and maximise their potential in their chosen sector of the dairy industry.

The **Diploma in Human Resources Management (Dairy)** program provides skills and qualifications for dairy farmers, or for those working with dairy farmers, to increase profitability through a more efficient and productive workforce, to comply with legal requirements and to reduce the business risk associated with people.

Dairy Science Travel Grants aim to attract and retain the best and brightest scientists to work in the industry. Grants were awarded in 2019 to four young scientists to attend the American Dairy Science Association annual meeting in Cincinnati, Ohio – the world's largest dairy conference, featuring the latest breakthroughs and cutting-edge science.

Repro right is a 10-month professional development program designed to upskill dairy professionals such as vets, agronomists, herd managers, and extension field staff to deliver higher quality reproduction services to farmers. It improves the advisor's ability to provide intensive problem-solving and whole herd reproductive management services to dairy farmers.

Cows Create Careers is a program aimed at attracting secondary school students to a career in dairy. In 2019, the farm module was delivered in 240 schools involving 527 volunteer farmers and industry advocates, reaching over 14,000 students. Of those, 599 students indicated an interest in work experience, 415 were interested in a dairy career when they left school and a further 1,559 students expressed interest in a possible dairy career option.

Stepping Up, Stepping Back – Dairy Australia delivered workshops covering topics on transition and succession, with a focus on assisting young people and new entrants to set goals and understand their options. The program enables those looking to step back to create a plan and have the right team around them to make decisions. It also assists those within the industry to explore business models including share farming, leasing and share equity arrangements.



DairyPATH pilot program participants: (back row) Clare Slater, Jessie Weaver, Bryana McNamara, Pieter van Jaarsveld, Kristen Davis, Sally Downie, Ashleigh Rood, (front row) Jeremy Miller, Tim Bradley, Owen Daley and Taylor Hamilton.



Source: *The Australian Dairyfarmer*

Goal 4 in action

DairyPATH develops next generation⁶⁷

A new Dairy Australia extension program is guiding the next generation of dairy leaders to forge long-term careers in the Australian dairy industry.

Eleven dairy enthusiasts from throughout Australia, aged between 18 and 35, took part in Dairy Australia's 18-month DairyPATH pilot program.

The program aims to turn ambition into knowledge by providing early career farmers with a tangible career progression framework.

"These are passionate young people who have bright futures ahead of them, and we want to ensure they have meaningful, long-term careers in the Australian dairy industry," Dairy Australia's Sarah Thompson said.

The program gives participants tools to map out career and personal development, and information about programs, workshops, conferences and events.

All participants are currently working in roles on-farm, ranging from farm hands, to herd managers, to lessees, while one participant works in the herd improvement industry.

The program started in May 2018 with participants creating a learning and development plan, before coming together every six months for face-to-face workshops in Melbourne run by an experienced facilitator.

Between workshops, the group is supported remotely through Facebook chats, regular email conversations and webinars.

At the conclusion of the program, participants presented to the Australian Dairy Farmers National Council in November on program highlights and the outcomes of their involvement.

"When this program wraps up, participants will have a clear picture of where they are heading in the dairy industry and how to get there," Ms Thompson said.

"While this was a pilot program, its early success means we are excited to see what the future holds for the program."

⁶⁷ "DairyPATH develops next generation", p21, *The Australian Dairyfarmer* July-August 2019.

Goal 4 in action

How to build a team⁶⁸

There's no greater asset to a dairy business than a high performing team, say 2019 Tasmanian share farmers of the year Damien and Brooke Cocker.

Mr Cocker said it was important to share knowledge with people and recognise their valuable contribution. Leading by example is core to their management style.

The Cockers share-farm on Rushy Lagoon, one of the state's largest dairy farms.

Rushy Lagoon in the far north east of Tasmania spans almost 21,000 hectares, including 14,000ha of grazing country, and milks 2500 dairy cows alongside all dairy young stock and 7000 beef cattle. It has an average rainfall of 750 millimetres per year and has 1000ha of irrigated area.

The Cockers operate two of the four dairy farms on a cents-per-kilogram of milk solids payment arrangement and have recently purchased their own dairy farm.

They employ five full-time employees and have a staff-cow ratio of one full-time equivalent staff member (FTE) to 228 cows.

Mr Cocker said everyone has the opportunity to do additional training.

Staff rosters are drawn up well in advance so staff can plan ahead. The Cockers run a seven-days-on three-off roster, a schedule that reflects feedback from the team.


Farm maps and a large whiteboard in the dairy providing day-to-day instructions supports communications. Daily team meetings are held at breakfast following morning milking. A diary recording grazing rotations informs staff of herd and paddock movements.

Team meetings are held to raise important issues such as high cell counts or identifying cycling cows.

Mr Cocker said they encourage staff to take time off, outside of any busy times such as artificial insemination (AI) and calving periods.

He is conscious of leading by example, so at calving time, he looks after night calving so his team can focus on their core roles during the day, and Mrs Cocker looks after the majority of the calves.

68 "How to build a team", p97, *The Australian Dairyfarmer* May-June 2019



The 2019 Tasmanian share farmers of the year are Damien and Brooke Cocker.





2

Commitment

Improving wellbeing of people

Providing nutritious, safe quality dairy food

2030 goals

Goal 5

All dairy products and ingredients sold are safe

Goal 6

Dairy contributes to improved health outcomes for all Australians

2

Our challenges and opportunities

Population growth will place increasing pressure on food production, especially demand for protein. Plant based dairy substitutes are gaining attention as consumers increasingly focus on the sustainability credentials of their food supply.



The Australian dairy industry is committed to continuous improvement to ensure dairy continues to have a role as a part of a healthy, sustainable diet.

Dairy product safety is taken for granted by our customers and consumers. It is essential that the Australian dairy industry continues to maintain the highest food safety standards at every point in the value chain. This will ensure the health and wellbeing of our customers and maintain our global reputation for producing safe, high quality dairy products. In June 2019, **World Food Safety Day** was celebrated for the first time after being declared by the United Nations in 2018, reinforcing the message that there is no food security without food safety.

The Australian dairy industry continues to demonstrate a high standard of food safety, but between 2016 and 2019, the number of Australian dairy product recalls due to food contamination increased from seven to 11. Across all food industries, there were **100 food safety recalls** in Australia last year, up from 69 in 2017. The increasing number of food recalls due to allergens is a concern. Safe food production is key to industry growth and ongoing access to domestic and international markets. A target for measuring Food Safety Culture in the dairy industry has been added to the Framework as it is critical that all sectors work to ensure food safety.

Beyond safety, dairy foods are nutrient rich. The *Australian Dietary Guidelines* recommend that adults consume between 2.5 to 4 serves of milk, cheese, yoghurt and/or alternatives every day, depending on their age and gender. However only 10% of adults and 20% of children currently meet the recommendations. Therefore, many are missing out on associated health benefits. The evidence for dairy's role in the diet to protect against non-communicable diseases and weight management has continued to strengthen. For overweight or obese consumers, there is a strong opportunity for dairy to play a role in improving diet and health outcomes.

In recent years, there has been an intensified consumer focus on diet and healthy lifestyles, and this has prompted product transformations and new innovations centred on natural and wholesome ingredients. Healthy foods and sustainability have emerged as major growth categories and will remain in the spotlight for food manufacturers as consumer awareness regarding social and environmental impacts of food products continues to grow. As part of this healthy eating mega trend, there is an increasing demand for plant-based foods and beverages. In this area, it is important that the dairy industry promotes the role of dairy in a nutritionally sustainable diet.

Goal 5

All dairy products and ingredients sold are safe

Our performance

Goal 5	All dairy products and ingredients sold are safe	Baseline	2019	2030 target	Progress
Target 5.1	Zero non-compliant chemical residues found during the Australian Milk Residue Analysis (AMRA) Survey	0	0	0	●
Target 5.2	Zero product recalls due to food contamination (as reported by Product Safety Recalls Australia)	8	11	0	●
Target 5.3	95% of consumers agree Australia produces safe and high quality dairy products				
	– The dairy industry produces safe products ⁶⁹	81% (2018)	82%	95%	●
	– The dairy industry produces high quality products ⁷⁰	83% (2018)	86%	95%	●
Target 5.4	Food Safety Culture embedded into the dairy food business	N/A	N/A	N/A	N/A

69, 70 Dairy Trust Tracker Survey, refer Appendix 6

Key

● Progress towards 2030 targets against baseline

● Result maintained or marginal change

● Regression

N/A = no data available or target metrics still to be finalised

* Reporting for the first time in 2019

** To be reported in 2020



Towards Goal 5

Safety of dairy products is a top priority for the Australian dairy industry. We take our responsibility for our customers health and wellbeing very seriously. Safety standards remained extremely high during the year.

Target 5.1

Zero non-compliant chemical residues found during the Australian Milk Residue Analysis (AMRA) Survey

During the period 1 July 2018 to 30 June 2019, 1000 milk samples were randomly collected from milk tankers and 13,430 analyses for potential chemical and environmental contaminants were conducted. Of the samples tested, 100% complied with the Australian Standards. Dairy has consistently achieved this result since the Framework commenced reporting against this target in 2014. The full [AMRA Survey report](#) for 2018–19 is available online.

Target 5.2

Zero product recalls due to food contamination (as reported by Product Safety Recalls Australia)

The number of Australian dairy foods that were recalled due to food contamination (as reported by Product Safety Recalls Australia) was 11 in 2019, up from 8 in 2018.

Target 5.3

95% of consumers agree Australia produces safe and high quality dairy products

- **The dairy industry produces safe products**
The percentage of consumers who agree Australia produces safe dairy products increased 1% to 82%, as measured in the 2019 Dairy Trust Tracker survey, continuing an upward trend since the Framework commenced reporting against this target.

- **The dairy industry produces high quality products**

The percentage of consumers who agree Australia produces high quality dairy products increased 3% to 86% as measured in the 2019 Dairy Trust Tracker survey, continuing an upward trend since the Framework commenced reporting against this target.

Target 5.4

Food Safety Culture embedded into the dairy food business

An appropriate target and metrics are still being developed to measure performance against this target. Dairy Food Safety Victoria (DFSV) is developing a model for assessing food safety culture performance across the dairy industry. Companies will be able to use the results to better understand the maturity level of food safety culture in their own businesses to help implement actions as required. The Dairy Food Safety Victoria RegTech 2022 pilot is currently underway – appropriate targets and metrics will be set once the pilot is finalised.

Key initiatives supporting Goal 5

The annual **Australian Milk Residue Analysis (AMRA) survey** is the national residue monitoring program for agricultural and veterinary chemicals and environmental contaminants in milk and provides valuable evidence that the dairy industry's food safety systems are operating effectively.

Each year, representatives of the Commonwealth and State governments and the dairy industry meet to review current and emerging food safety risks.

These risks relate to actual food safety as well as trade risks where importing countries have different safety levels and require Australia to demonstrate how it manages these risks.

The **Dairy Manufacturing Resource Centre** on the Dairy Australia website provides a range of resources to support dairy companies, including materials relating to trade, learning materials, food safety programs, product testing, and webinar information.



Goal 5 in action

Secret to top quality milk is all-round approach

Despite facing challenging seasonal conditions, Chris Hibberson received a 2019 Dairy Australia Milk Quality Award.

The Northern Victorian dairy farmer entered the top 100 producers for milk quality nationwide by maintaining his focus on mastitis management and milk quality, resulting in better outcomes for his herd health and his bottom line.

Chris and his wife Nicole purchased their 97 hectare flood-irrigated dairy farm at Yarroweyah after previously share-farming on the property. A 50:50 split calving pattern is used for their 220-cow mixed herd.

For Chris, producing high quality milk comes down to three factors – maintaining excellent teat condition, early detection and treatment of mastitis, and herd testing.

“Really good teat condition is the best way to control mastitis,” Chris said.

Chris is often in the dairy and keeps a close eye on the herd and milkers.

Keeping the cows calm is important, as calm cows kick the cups off less often, have better milk let-down and move through the dairy more easily.

Machinery and rubberwear is also serviced regularly to harvest milk efficiently and maintain healthy teats.

Teats are kept clean and inspected for any abnormalities at every milking. Chris routinely uses a chlorhexidine teat spray in the dairy.

When a case of mastitis is identified, Chris uses an intermuscular antibiotic to treat all four quarters, rather than treating quarters individually.

Monthly herd testing allows Chris and Nicole to see which cows are more prone to mastitis and how they respond to treatments. This information informs decisions about their herd during a tight season.

Dairy Australia’s Countdown program considers a Bulk Milk Cell Count (BMCC) below 150,000 cells ML to be excellent. Most processors will pay a premium for a cell count below 200,000, but Chris aims for a yearly average around 60,000 cells per ML.





Goal 6

Dairy contributes to improved health outcomes for all Australians

Our performance

Goal 6	Dairy contributes to improved health outcomes for all Australians	Baseline	2019	2030 target	Progress
Target 6.1	Improve consumers' perception of the health and nutrition benefits of dairy foods				
	– 90% of consumers believe dairy foods such as milk, cheese and yoghurt play an important role in a healthy well-balanced diet ⁷¹	*67% (2019)	67%	90%	N/A
	– 90% of individuals agree “Dairy foods are essential for good health and wellbeing” ⁷²	72% (2018)	80%	90%	●
	– <20% of individuals agree “I’m concerned consuming dairy foods will increase my weight” ⁷³	32% (2018)	34%	<20%	●
Target 6.2	The National Health and Medical Research Council (NHMRC) <i>Australian Dietary Guidelines</i> continue to recommend milk, cheese and yoghurt as part of a healthy diet	Recognised	Recognised	Recognised	●
Target 6.3	Australians meet recommended daily serves for dairy	*TBC	*TBC	*TBC	N/A
Target 6.4	All dairy companies adopt a stated position on responsible consumption by 2020 and publicly report on progress by 2030	*TBC	*TBC	100%	N/A

71, 72, 73 Dairy Trust Tracker Survey, refer Appendix 6

Key

● Progress towards 2030 targets against baseline

● Result maintained or marginal change

● Regression

N/A = no data available or target metrics still to be finalised

* Reporting for the first time in 2019

** To be reported in 2020



Towards Goal 6

Poor diet is the leading preventable health risk factor globally, contributing to 7.3% of disease in Australia in 2015, according to the Australian Institute of Health and Welfare. Underpinning a sustainable dairy industry is consumer demand for a healthy, nutritious product. Milk, cheese and yoghurt contain a unique package of essential vitamins and minerals that support good health.

Target 6.1

Improve consumers' perception of the health and nutrition benefits of dairy foods

A new question was added to the Dairy Trust Tracker in 2019 to support measurement of performance against this target and will establish a baseline. Approximately 67% of consumers surveyed believe dairy foods such as milk, cheese and yoghurt play an important role in a healthy well-balanced diet.

- **Increase the % of individuals who agree "Dairy foods are essential for good health and wellbeing"**

According to the Dairy Trust Tracker 2019 survey, 80% of consumers surveyed agreed with the statement "Dairy foods are essential for good health and wellbeing". This is an increase from the baseline of 72% (2018 Dairy Trust Tracker).

- **Decrease the % of individuals who agree "I'm concerned consuming dairy foods will increase my weight"**

Approximately 34% of individuals agreed with the statement "I'm concerned consuming dairy foods will increase my weight", which is an increase from the 2018 baseline figure of 32%.

Target 6.2

National Health and Medical Research Council (NHMRC) *Australian Dietary Guidelines* continue to recommend milk, cheese and yoghurt as part of a healthy diet

Dairy continues to be recognised as an important part of a healthy diet under the *Australian Dietary Guidelines*. The dairy industry also welcomed updated advice from the Heart Foundation that says regular fat milk, yoghurt and cheese are now an **option for healthy Australians**. It removed its previous restrictions on these regular fat products. The organisation confirmed they do not increase or decrease the risk of heart disease or stroke and are a source of healthy nutrients like calcium.

Target 6.3

Australians meet recommended daily serves for dairy

An appropriate data source is being investigated and will be reported in the 2020 Sustainability Report.

Target 6.4

All dairy companies adopt a stated position on responsible consumption by 2020 and publicly report on progress by 2030

This target was introduced into the Framework in 2018. Indicators are still to be finalised but a Working Group is considering possible options.



Key initiatives supporting Goal 6

Dairy Matters is a consumer marketing and promotion campaign launched during the year to build trust through transparency by providing factual information about dairy products and industry practices.

Encouraging good nutrition – Dairy Australia has developed a communications strategy to address public concerns and expectations of the dairy industry and nutrition. It aims to provide objective and transparent information to help engaged members of the community and those who influence them, to make informed decisions about the health and nutrition of dairy and industry practices.

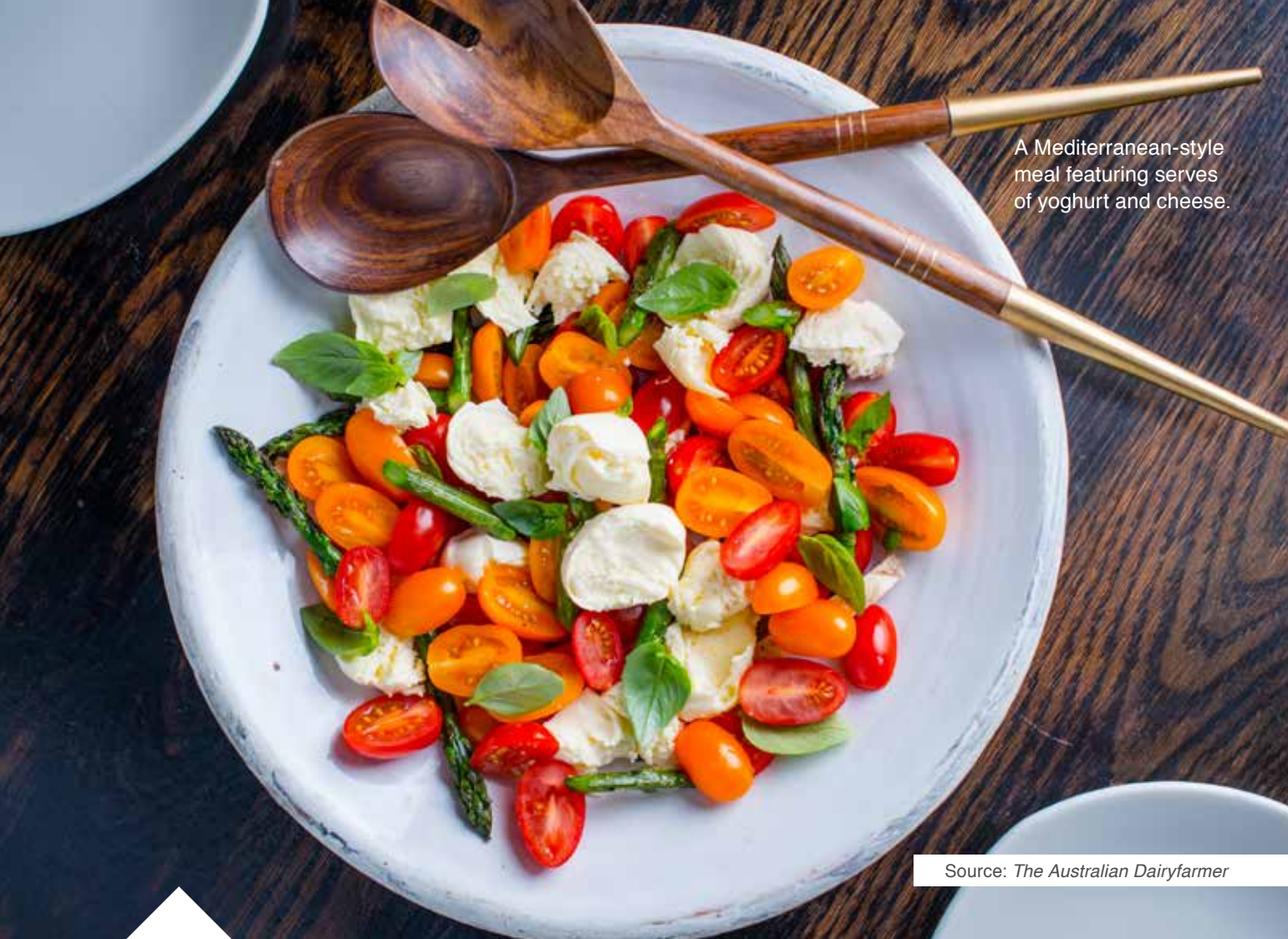
Dairy's place in low Greenhouse Gas (GHG) emissions diets – International and domestic debate has been focused on reducing GHG emissions of our food supply and diets. Low GHG diets are being developed, however, the nutritional adequacy of these diets for all population groups are often overlooked. The dairy industry commissioned CSIRO to investigate the place of dairy in higher quality/

lower GHG emission diets in Australia and it found milk, cheese and yoghurt have an important role in achieving adequate nutrient intakes in a healthy and lower GHG emissions dietary pattern in Australia.

Aged care fracture trial – A study funded by Dairy Australia and other international dairy organisations found that providing the recommended amount of dairy foods is likely to be a simple and cost-effective method of reducing the significant malnutrition risk in institutionalised elderly.

The annual **Healthy Bones Action Week** calls on Australians of all ages to take three actions to build and maintain healthy bones, including increasing daily serves of calcium through milk, cheese or yoghurt.

Obesity policies – Following a Deakin University report that ranked the nutrition policies of Australia's biggest food and beverage manufacturers, dairy companies are developing public statements of responsible consumption in line with *Australian Dietary Guidelines* and customised to each business.



A Mediterranean-style meal featuring serves of yoghurt and cheese.

Source: *The Australian Dairyfarmer*

Goal 6 in action

Dairy improves heart health⁷⁴

Recent research and revised dietary recommendations are good news for dairy.

Research investigated the impact on heart health of a Mediterranean diet that includes additional serves of dairy foods to meet Australian recommendations for dairy and calcium intake, and found the extra dairy foods improve heart health and lead to lower blood pressure.

While most Mediterranean diets are high in fruits and vegetables, olive oil and cereals, they do not meet recommended Australian dairy and calcium intakes (three to four daily serves as part of a healthy, balanced diet).

Lead researcher Dr Karen Murphy said it was a randomised, controlled trial conducted on participants aged 45 to 75 years who were at risk of cardiovascular disease.

“With the dairy-rich Mediterranean diet, we saw significantly lower blood pressure, lower heart rates, and beneficial changes in blood lipid profiles,” Dr Murphy said.

Despite participants consuming significantly more dairy foods — a mixture of regular fat and reduced-fat products — there were no detrimental changes to cholesterol levels.

The study has been published in the *American Journal of Clinical Nutrition*, a leading peer-reviewed journal in nutrition and dietetics that publishes the latest research in nutrition from across the globe.

⁷⁴ “Dairy improves heart and bone health”, p38, *The Australian Dairyfarmer* January-February 2019; “Dairy gets heart approval health”, p15, *Dairy News Australia* September 2019





3

Commitment Providing best care for animals

Striving for health, welfare and best care for all our animals throughout their lives

2030 goals

Goal 7

Provide best care for all animals for whole of life

3

Our challenges and opportunities

**The health and wellbeing
of animals is critical to the
Australian dairy industry.**





Appropriate care for our animals is essential not only to the success of every farming business, but our moral responsibility. It is an expectation of our customers and stakeholders.

The 2019 federal election campaign was a clear reminder that Australians are increasingly concerned about animal welfare standards in the agriculture sector. Both major parties **announced** animal welfare policies, bringing the issue front and centre in their pitches to voters.

These announcements closely followed the International Dairy Federation's **announcement** of their *Good Guide to Animal Welfare in Dairy Production*, which promotes the implementation of good animal welfare practices in dairy production at a global scale. The RSPCA also **called for** national leadership on animal welfare to be a priority for the next Australian Government, while PETA **called on** the Government to phase out dairy farms.

Investors are increasingly seeking assurances that companies are committed to good animal welfare practices, and investment decisions are being made based on how companies perform in this area amidst an increase in public scrutiny. Recent trends show that a growing number of businesses are joining the call and using benchmark studies like the ***Business Benchmark on Farm Animal Welfare*** to inform their decisions.

The Dairy Matters communications approach being implemented by Dairy Australia is highlighting the industry's values and standards and recognising public expectations and values. A key element of Dairy Matters is the *You Ask, We Answer* online functionality, which uses the latest research and expert opinions to answer questions about the issues consumers care about.

Already, a number of questions have been asked about animal welfare, including how farmers look after their cows, the use of artificial insemination in the dairy, and what happens to calves. More information can be accessed at: **dairymatters.com.au**

With Animal Health, Welfare and Fertility a core strategic program for Dairy Australia and with a dedicated Australian Dairy Farmers Animal Welfare Policy Advisory Group, the industry has a strong focus on animal welfare. There are many industry welfare practices and targets in place to manage the welfare of livestock, and performance is monitored through the dairy industry's three-yearly Genetics and Animal Husbandry Survey. We already have agreed industry policies that address a number of practices which may impact the wellbeing of animals. These include no tail docking, providing pain relief for disbudding horns and promoting positive stock handling practices. Industry has also agreed to phase out the routine use of calving induction by 2022.

Preventative health is important in the care of dairy cows, increasing their longevity and health and wellbeing. Examples of preventative health include installing cooling infrastructure, developing strategies for lameness, animal nutrition and fertility.

Care of calves is a high priority for the dairy industry, and it is important that calves are managed appropriately. Dairy is investing in RD&E to improve the welfare of calves that will not enter the dairy herd as adults. Calves sold for meat before the age of 30 days need to be managed carefully to ensure they are fit and robust to avoid welfare concerns during transport. The dairy sector requires that all calves are fed within six hours of transport and that they are a minimum of five days of age. The sustainable integration of bobby calves into the beef chain is being prioritised.

Biosecurity is vital for protecting individual farms, the dairy industry and Australian agriculture as a whole, against the spread of pests and diseases on and between farms, and from overseas. If not managed correctly, it can have serious economic and social consequences. The industry works to manage this risk directly and it is the responsibility of farmers to have an active biosecurity plan and communicate any requirements for staff and visitors coming onto their farms.

The responsible use of antibiotics (called antimicrobial stewardship) is required to prevent and contain the resistance of bacteria to antimicrobial treatments in humans and animals – known as antimicrobial resistance (AMR).

Why does this matter? Because resistance to antimicrobials could **force 24 million people into extreme poverty** by 2030, **kill more people than cancer** by 2050 and see the **world fall short of the global UN SDGs**.

The UN has recognised that its Sustainable Development Goals do not explicitly target antimicrobial resistance and is addressing this. Antimicrobial stewardship is necessary for protecting humanity's health and wellbeing (**SDG#3**), as well as looking after our animals.

Dairy farmers use antibiotics to fight bacterial infections and protect the health of their animals. The industry's position on antimicrobial stewardship is to use antibiotics 'as little as possible, as much as necessary'. New questions were added to the Genetics and Animal Husbandry Survey in 2019 to better understand the use of antibiotics and set baselines for indicators under this target. Data against these indicators is reported for the first time in this year.

The dairy industry participates in a cross-sectoral committee (including non-agricultural sectors such as zoos) to oversee implementation of the National Animal Welfare RD&E Strategy. This encourages greater national co-investment and collaboration to improve the efficient use of RD&E resources in the field of animal welfare.

Our challenge is to continue to improve our practices and report transparently on how we are progressing and where we need to do more to ensure we maintain and enhance community trust in how dairy products are made. The increasing promotion of non-dairy alternatives means dairy has to continue to improve to ensure highly nutritious dairy foods remain part of a nutritionally sustainable diet.





Goal 7

Provide best care for all animals for whole of life

Our performance

Goal 7	Provide best care for all animals for whole of life	Baseline	2019	2030 target	Progress
Target 7.1	100% ongoing compliance with legislated animal welfare standards				
	– % of farmers who have a copy of the <i>AHW Standards and Guidelines</i>	47%	77%	100%	●
	– % of farmers who agree complying with animal welfare standards is an important sustainability requirement ⁷⁵	95%	98%	100%	●
Target 7.2	All of industry adopting relevant recommended industry practices for animal care⁷⁶				
	– No tail docking	91%	96%	100%	●
	– No routine use of calving induction	90%	91%	100%	●
	– All calves managed appropriately				
	• sale calves sold at a minimum of 5 days old	78%	91%	100%	●
	• sale calves fed within 6 hours of transport	96%	99%	100%	●
	– All calves disbudded				
	• prior to two months of age	63%	72%	100%	●
	• with pain relief (for calves <2 months)	N/A	*76%	100%	N/A
– All farmers implementing a lameness strategy	95%	96%	100%	●	
– All farmers where relevant have infrastructure to keep cows cool	92%	96%	100%	●	
– All farmers have a documented biosecurity plan	*58% (2019)	58%	100%	N/A	
Target 7.3	90% of consumers believe dairy farmers do a good job caring for animals	58% (2018)	74%	90%	●
Target 7.4	Antimicrobial Stewardship (AMS) – The dairy industry uses antibiotics responsibly – as little as possible, as much as necessary – to protect the health and welfare of our animals⁷⁷				
	– All dairy farmers access antibiotics from a registered vet ⁷⁸	*100%	*100%	100%	N/A
	– All dairy farmers use antibiotics responsibly under veterinary direction ⁷⁹	*90%	*90%	100%	N/A
	– Antibiotics of high importance to human Antimicrobial Resistance (AMR) in Australia are only used to treat dairy livestock in exceptional circumstances where no other alternative exists	TBC	TBC	TBC	N/A

75 National Dairy Farmer Survey, refer Appendix 6

76 Genetics and Animal Husbandry Survey, refer Appendix 6

77 Dairy Trust Tracker Survey, refer Appendix 6

78, 79 Genetics and Animal Husbandry Survey, refer Appendix 6

Key

● Progress towards 2030 targets against baseline

● Result maintained or marginal change

● Regression

N/A = no data available or target metrics still to be finalised

* Reporting for the first time in 2019

** To be reported in 2020



Towards Goal 7

Animal health and wellbeing remains a key focus for the industry. The 2019 Genetics and Animal Husbandry Survey provides the latest data on farm practices, including practices that are no longer supported and being phased out by the industry. The survey indicates improved performance trends in animal welfare practices across the industry.

Target 7.1

100% ongoing compliance with legislated animal welfare standards

The *Animal Welfare Standards and Guidelines for Cattle* set out the minimum standards acceptable for all cattle sectors for animal welfare, with many states yet to legislate the standards into law. The Australian dairy industry have used the *Standards and Guidelines* as a baseline level of animal welfare, opting to reach for further improvements such as providing pain relief for disbudding. The 2019 Genetics and Animal Husbandry Survey indicated that an average of 77% of dairy farmers have a copy of the *Standards and Guidelines*, which is significantly higher than in 2016 when less than half (47%) reported having a copy. In Tasmania, 95% of respondents indicated they had a copy of the *Standards and Guidelines*. The National Dairy Farmer Survey asks participants if they agree complying with animal welfare standards is an important sustainability requirement. In 2016, 95% said yes, with 98% agreeing in 2019.

Target 7.2

All of industry adopting relevant recommended industry practices for animal care

- **No tail docking**

The proportion of dairy farmers who dock tails for management purposes continues to trend downwards and is a significant 5% lower than in 2016, taking it to 4% in 2019.⁸⁰ In particular, the practice is now significantly less widespread than three years ago among Tasmanian respondents – reducing from 26% to 8%.

- **No routine use of calving induction**

The use of calving induction for reproductive management continues to trend downwards, with the industry agreeing to a complete phase out of routine use of calving induction by 2022. The 2019 Genetics and Animal Husbandry Survey indicated that 91% of dairy farmers do not use induction at all.⁸¹ Among farms where induction is used (9%), approximately half (4%) do not use it every year. For those using induction, on average 5% or less of the herd is induced.

- **All calves managed appropriately**

There are a number of measures that can be used to indicate that calves are being managed appropriately. The two indicators currently reported in our score card are: sale calves transported at a minimum of five days old, and fed within six hours of transport. The 2019 Genetics and Animal Husbandry Survey showed 91% of sale calves are transported at a minimum of five days old (up from 78% in 2016). Mean age of transported calves: six days (same as 2016). Approximately 99% of calves are fed within six hours of transport (up from 96% in 2016) with the mean time being 2.3 hours (was 2.5 hours in 2016). Approximately 85% of farms had a system to communicate to calf transporters the time off feed for the calves available for pickup (up from 80% in 2016).

80, 81 Genetics and Animal Husbandry Survey 2019

Other calf management practices include:

Euthanasing calves: 16% use a captive bolt; 64% use a gun and 25% use a sharp blow to the head (compared with the 2016 figures of 11%, 65%, 25% and 4% for other means). Industry agreed policy for euthanasing calves is:

Euthanasia by blunt force trauma should not occur on Australian dairy farms except in emergency situations, which are defined by the Australian Animal Welfare Standards and Guidelines for Cattle as: the calf is under 24 hours old AND the calf is in severe pain or distress AND there is no other practical alternative.

Provide additional colostrum to calves: 61% always do this, 13% mostly, 12% rarely, 8% never with 5% having no specific colostrum plan and 2% leaving calves with their mother (compared to the 2016 figures of 61%, 20%, 7%, 7%, 1% and 4% respectively).

- **All calves disbudded with pain relief prior to two months of age**

More dairy farmers used polled genetics in 2019 (26%) compared to 2016 (10%), removing the need to disbud. Of those farmers needing to disbud, approximately 72% reported they disbudded all of their calves younger than two months of age, significantly more than three years ago (63%). Of these, 76% reported providing pain relief to calves undergoing disbudding. The vast majority of farms (95%) are using the preferred method for disbudding calves.⁸²

- **All farmers implementing a lameness strategy**

Almost all farms (96% in 2019, 95% in 2016) implement strategies to prevent lameness. Compared to 2016, a significantly higher proportion of respondents say they maintain laneways, use foot mats, ensure the herd is not walked too fast or standing on concrete too long and/or ensure cows are inspected or treated promptly by a vet.⁸³

- **All farmers where relevant have infrastructure to keep cows cool**

Approximately 96% of respondent farms have infrastructure to keep cows cool (up significantly from 92% in 2016). Compared to 2016, a significantly higher proportion of respondents say they have shade in the paddock, cooling at the dairy yard/shed and cooling on the feed pad.

- **All farmers have a documented biosecurity plan**

Approximately 58% of respondents have a written biosecurity plan for their farm. This result varies significantly by region, between 88% and 49%.⁸⁴

Target 7.3

90% of consumers believe dairy farmers do a good job caring for animals

The 2019 Dairy Trust Tracker Survey indicated that 74% of consumers believe that dairy farmers do a good job caring for animals. This figure reflects an upward trend – increasing 2% from 2018 and 16% from the 2016 baseline year where it was 58%.

Target 7.4

Antimicrobial Stewardship (AMS) – the dairy industry uses antibiotics responsibly – as little as possible, as much as necessary – to protect the health and welfare of our animals

New questions were added to the Genetics and Animal Husbandry Survey in 2019 to better understand dairy farmers' use of antibiotics and to set baselines for indicators under this target. The use of antibiotics to treat cows or young stock was reported by 94% of respondents. Antibiotics are typically sourced through a single vet (85%), however 15% of respondents acquire them through multiple vet clinics. All respondents administering antibiotics either always (81%) or mostly (9%) follow prescribed label directions.⁸⁵

82, 83, 84, 85 Genetics and Animal Husbandry Survey 2019



Key initiatives supporting Goal 7

Animal health and welfare policy – The ADF’s Animal Health and Welfare Policy Advisory Group (PAG) aims to maintain and improve Australia’s animal health and welfare system, as well as the industry’s emergency response capability, through cooperative programs aligned with other industries and governments.

Monitoring animal husbandry practices – The Genetics and Animal Husbandry Survey was conducted in 2019 and monitors dairy farmers’ animal health and welfare practices. The results highlight the many significant improvements being made on dairy farms related to the implementation of recommended industry practices, as well as identifying where further improvement is required.

The **Australian Animal Welfare Standards and Guidelines for Cattle** have been adopted by the dairy industry who advocate that they must be met by all dairy farmers. They cover the full range of on-farm management practices for cows and their welfare considerations.

Industry workshops are held on lameness, healthy calves, rearing newborn and young stock, fertility programs, low stress calving, humane euthanasia of livestock and many more areas.

All farms must have a biosecurity plan to meet the dairy sector’s commitment to Emergency Animal Disease Response Arrangements (EADRA).

Dairy Australia and Agriculture Victoria have developed a **Biosecurity Plan Tool** to assist producers develop dairy specific biosecurity plans.

Promoting responsible antimicrobial use – The year-long Countdown MQ (Milk Quality) course upskills all dairy advisors (veterinarians, dairy company and other field services officers and milk machine technicians) in milk quality investigations and on-farm communication to change practices on farm, including promoting responsible antimicrobial use.

The **Dry Cow Consult Tool** assists farmers and their veterinarians avoid blanket herd treatment by adopting selective treatment of cows with antibiotic therapy through the dry period.

Dairy Australia’s **Cool Cows program** contains practical information on how to reduce the impact of high temperatures on cow productivity with practical advice on providing cooler conditions.

DataGene developed a new Australian Breeding Value for heat tolerance, which allows farmers to breed animals with improved tolerance to hot, humid conditions – a characteristic that is likely to become increasingly important in warming climate and can also have benefits for animal welfare.

The **Mastitis Focus Report** enables dairy farmers, advisors and organisations to effectively keep track of udder health in the herd, assess key mastitis management areas and detect emerging problems.



Tasmanian dairy farmer and vet Grant Rogers has completed a Repro Right course to help him better advise clients.

Source: *The Australian Dairyfarmer*

Goal 7 in action

Repro Rights boosts skills for lifting herd reproduction⁸⁶

An initiative for upskilling dairy professionals to deliver higher quality reproduction services to farmers is helping to lift performance in Australia's dairy herds.

Repro Right is an intensive 10-month professional development program. The program improves the ability of vets, agronomists, herd managers, and extension field staff to provide intensive problem-solving and whole-herd reproductive management services to dairy farmers.

The program uses a mixture of online learning, multi-day group sessions, assignments and practical tasks on important elements of reproductive management in Australian dairy systems.

Tasmanian vet and dairy farmer Dr Grant Rogers participated in the program and said Repro Right gave a complete approach to understanding how reproduction fitted into a farming system with a particular focus on how to use Dairy Data software to assess performance.

"The course looks at reproduction from the perspective of the farm operation rather than at an individual, which is really helpful, especially for some of the younger vets on the course," he said.

Dr Rogers said Repro Right covered more than just insemination. The course looked holistically at everything that impacts on reproduction from nutrition and animal management to calf rearing and heifer growing.

A vet for 27 years based at Ouse, Dr Rogers provides advice and support to larger dairy farmers with an average of about 750 cows.

Consultant Andrew Perry runs the course for Dairy Australia and said the effect of reproduction performance on dairy business profitability can be obvious but also very subtle.

"Repro Right provides dairy information and advice so these experts can better investigate any problems, looking at past performance with a strong use of data, to make targeted decisions that translate to efficient and profitable dairy farming for the industry," Mr Perry said.

⁸⁶ "Repro Rights boosts skills", p42, *The Australian Dairyfarmer* September-October 2019.

Goal 7 in action

New online tool helps farmers manage biosecurity risks⁸⁷

A new online tool that enables dairy farmers to build their skills and adapt their management approach to biosecurity risks was launched in 2019.

Developed as part of an industry collaboration between Dairy Australia and Agriculture Victoria, the biosecurity tool enables dairy farmers to create a biosecurity plan tailored to their farm, based on Dairy Australia's Healthy Farms Biosecurity Framework.

Dairy Australia technical and innovation manager Dr John Penry said it is essential for all farms to have a biosecurity plan to manage disease risk.

"It's crucial for dairy farmers to maintain a biosecurity plan tailored to their herd and farming system," Dr Penry said.

"An outbreak of the diseases identified by the biosecurity tool could create significant and measurable losses in farm performance or the wider dairy industry.

"The biosecurity tool allows dairy farmers to manage their risks around 14 separate diseases such as salmonella and BVD."

For each disease, dairy farmers can identify control measures under the seven categories of stock movements, herd health, farm inputs, visitors, effluent and waste, neighbours and dead animals.

Agriculture Victoria development specialist Dr Sarah Chaplin said the new online tool would help farmers understand how to manage their own biosecurity risks.

"The control measures offered by the tool for each disease are evidence-based, based on the level of risk that you have chosen," Dr Chaplin said.

"Users decide what level of control they want to apply to different diseases with the tool's risk matrix.

"It's still subjective – it's up to the farmer to decide whether they consider the consequences minor, moderate or severe.

"Once the farm's specific animal health risks are identified, scientifically valid control measures are suggested."

Focused control measures have a better cost-benefit ratio than blanket application of all possible control measures.

⁸⁷ New online tool to manage biosecurity risks for dairy farmers







4

Commitment

Reducing environmental impact

Meeting the challenge of climate change and providing good stewardship of our natural resources

2030 goals

Goal 8

Improve land management

Goal 9

Increase water use efficiency

Goal 10

Reduce Greenhouse Gas (GHG) emissions intensity

Goal 11

Reduce waste

4

Our challenges and opportunities

Like other agricultural industries, dairy is dependent on natural resources. We are very mindful of our stewardship role and the need to look after our water, our biodiversity and our soil, as well as reduce our waste and emissions, while managing climate change.



Climate change remains a key material sustainability risk for the industry. Modeling suggests that climate change will increase the frequency of extreme weather events and also change climate zones across dairy regions. Impacts including water scarcity will affect milk supply and the viability of the industry in some regions. This will compound issues we've seen in recent times, where limited rainfall continues to place pressure on water supplies across the country, and farmers in Victoria's north and the Riverina region of NSW are being directly impacted. In addition, climate change related temperature increases can result in additional heat stress for animals. This can have a significant impact on animal welfare, and can affect feed intake and therefore milk production, milk composition and fertility. Other extreme weather events such as heavy frosts can impact dairy farmers, due to stalled pasture growth. Similarly water scarcity and increased temperatures have affected pasture supply in many regions.

In the year to June 2019, agriculture accounted for 12.7% of **Australia's national inventory** of GHG emissions. This was a 5.9% decrease on the previous year. Australia's livestock is the third largest source of greenhouse gas emissions after the energy and transport sectors. Livestock are the dominant source of methane (CH₄) and nitrous oxide (N₂O). The National Farmers Federation has set a goal for Australian agriculture to be trending towards carbon neutrality by 2030 and this is the target for the Australian beef industry – of which dairy is a part. In October 2019 Australia's agriculture Ministers agreed to a national plan for coordinating the sector's response for mitigating and adapting to climate change. The dairy industry is focused on both climate change adaptation (e.g. more heat tolerant pastures; strategies to keep cows cool through both genetics and infrastructure) and mitigation to reduce GHG

emissions (e.g. genetics to produce low methane emitting cows, feed additives, and strategic and effective fertiliser use).

For its part, the Australian dairy industry has set a target of a 30% reduction in GHG emissions intensity (from a 2015 baseline) by 2030. In 2019 the industry commissioned a Marginal Abatement Cost Curve (MACC) report to inform a strategy for achieving this target. The report, which provides 14 options for reducing GHGs, is now being reviewed. The strategy will be developed during 2020 and will provide flexibility to update targets as research progresses and further mitigation options become viable.

The dairy industry is considering adopting a goal to be carbon neutral by 2030. It is investigating what is needed to achieve this and the likely consequences. Many businesses and customers have decided to be carbon neutral by 2030. The community expects everyone to take responsibility to maintain global warming within 1.5 to 2 degrees. Recent adverse weather events around the world have heightened expectations. The dairy industry wants to be part of the solution to ensure we play our role in meeting the challenges of climate change.

Stakeholders expect the dairy industry to be accountable for food loss and food waste from farm to manufacturing, partly responsible for food waste post-manufacturing, and involved in efforts to reduce the amount of food wasted by consumers. In response, the industry has accepted it needs to be actively involved in work to halve food waste by 2030 – a goal set by the Australian Government and the National Farmers Federation – and has started detailed investigations into food loss and waste at key dairy manufacturing sites. This will build on current work being completed by the University of Melbourne as part of the **ARC Dairy Innovation Hub** which is evaluating the potential of biological treatment technologies to add value to dairy wastes.



Goal 8 Improve land management

Our performance

Goal 8	Improve land management	Baseline	2019	2030 target	Progress
Target 8.1	100% of stock excluded from waterways ⁸⁸	76% (2015)	N/A	100%	N/A
Target 8.2	100% of riparian zones actively managed and maintained	N/A	N/A	100%	N/A
Target 8.3	100% of farmers complete and implement a soil and nutrient management plan ⁸⁹	58% (2015)	N/A	100%	N/A
Target 8.4	100% of farmers have and implement a documented biodiversity action plan ⁹⁰	81% (2018)	N/A	100%	N/A
Target 8.5	Zero net deforestation by 2020	*N/A	N/A	0	N/A

88, 89, 90 Natural Resource Management Survey, refer Appendix 6

Key

- Progress towards 2030 targets against baseline
 - Result maintained or marginal change
 - Regression
- N/A = no data available or target metrics still to be finalised
 * Reporting for the first time in 2019
 ** To be reported in 2020



Towards Goal 8

Australian dairy farmers are committed to managing land and water responsibly. The NFF has set a 2030 target for the net benefit from ecosystem services (Environmental Stewardship) to be equal to 5% of farm revenue. This is an important issue, and one that the dairy industry will monitor, as land managed for agriculture includes assets important for biodiversity conservation. Typical biodiversity assets on dairy farms include remnant native vegetation (such as patches of forest, woodlands, shrublands and grasslands). Deforestation is also a key issue for the industry.

There is no new data available for this goal or its targets and indicators. A survey of dairy farmer natural resource management practices will be undertaken in 2020 and the outcomes reported in the 2020 Dairy Sustainability Report.

Target 8.1 100% of stock excluded from waterways

Updated figures will be provided from the 2020 NRM Survey. The baseline is from the 2015 NRM Survey (76%).

Target 8.2 100% of riparian zones actively managed and maintained

Updated figures will be provided from the 2020 NRM Survey.

Target 8.3 100% of farmers complete and implement a soil and nutrient management plan

Updated figures will be provided from the 2020 NRM Survey. The baseline is from the 2015 NRM Survey (58%). Farmers are supported to create plans through programs like DairySAT and Fert\$mart. A soil and nutrient management plan helps farmers understand their nutrient needs to avoid runoff, enhance soil structure and use fertilisers efficiently and cost effectively.

Target 8.4 100% of farmers have and implement a documented biodiversity action plan

Dairy production influences biodiversity through fertiliser use, nutrient excretion and habitat modification. A biodiversity action plan allows farmers to identify and map their farm's biodiversity assets and prioritise actions to enhance biodiversity on their farm and surrounding landscape. Biodiversity management is important because it provides both productivity benefits on farm and social and environmental outcomes for the wider community. Benefits include increased overall pasture and animal production, improved stock, corridors for native animals, habitat for native plants, birds and other wildlife, erosion control on waterways and slopes, salinity control and improved water quality. According to the 2018 National Dairy Farmer Survey, 81% of respondents have either planted vegetation and shelter belts (41%), fenced off waterways (39%) and/or controlled pests (64%). An estimated 38% of farmers had completed a biodiversity action plan. Recently, the Australian Government **announced** a pilot program to reward farmers for improving biodiversity, and the National Farmers Federation is advocating for environmental stewardship payments to reward farmers for looking after natural resources.

Target 8.5

Zero net deforestation by 2020

Ideally no land should be converted from forest to agricultural land. If some forest has to be destroyed, the loss should be offset. This includes ensuring responsibly sourced feedstuffs. The SAI Dairy Working Group Sustainable Dairy Partnership (SDP) has included 'No deforestation of high conservation areas' as part of the minimum requirements dairy processors must meet when supplying dairy products under the SDP. The key focus at present is on tier 1 suppliers – i.e. direct supply of feedstuffs. The focus will move further down the feed supply chain in future years.

This target is new in 2019 and we are still developing indicators for measuring progress, as well as establishing an appropriate baseline. This work will be undertaken in 2020. Industry is supportive of this target which is aligned to the SDGs.

Key initiatives supporting Goal 8

Dairying for Tomorrow provides a suite of resources for dairy farmers to use to increase their farm productivity while at the same time reducing their environmental footprint.

DairySat is an environmental self-assessment and action planning tool for Australian dairy farmers, covering ten key topics – soils, fertilisers, effluent management, irrigation, greenhouse gas emissions, biodiversity, energy and water in the dairy, pests and weeds, chemicals and farm waste.

Fert\$mart encompasses the Australian dairy industry's national nutrient management guidelines, developed to improve the efficiency and profitability of fertiliser use, and to improve soil health on Australian dairy farms.

Biodiversity action plan is available to dairy farmers to support the development of tailored plans to enhance biodiversity on their farm and surrounding landscape.

Goal 8 in action

Cutting-edge technology to improve water quality, help farmers⁹¹

A series of trials across Western Australia will assess the use of technology in reducing nutrient loss from farms.

The dairy industry's Regional Development Program, Western Dairy, is part of the Smart Farming Fertiliser project that will involve at least 36 fertiliser trials, using seven different treatments.

Cutting-edge technology, including near-infrared and x-ray fluorescence, will be used in conjunction with traditional techniques to measure productivity and nutrient status in soils and pastures.

Scientists from the Department of Primary Industries and Regional Development, Department of Water and Environmental Regulation and CSBP, Summit Fertilizers, Western Dairy, Landmark, Meat & Livestock Australia, independent agronomists, Murdoch University, and farmer representatives are on a technical reference group that has developed the design of the trials.

The project has received more than \$5.5 million in state and federal government funding.

"Phosphorus is important in farming but there is widespread concern that repeated fertiliser applications are causing phosphorus 'leakage' to the environment which can cause algal blooms in our waterways," said WA Water Minister Dave Kelly.

"These farm trials will see local farmers work with experts from government, universities and industry, to help improve water quality and save money through efficient use of fertiliser."

⁹¹ <https://www.mediastatements.wa.gov.au/Pages/McGowan/2019/06/Cutting-edge-technology-to-improve-water-quality-and-help-farmers.aspx>





Goal 9 Increase water use efficiency

Our performance

Goal 9	Increase water use efficiency	Baseline	2019	2030 target	Progress
Target 9.1	30% reduction in the consumptive water intensity of dairy companies (on 2010–11 levels) (ML water consumed per ML of milk processed) ⁹²	1.75	1.91	1.22	●
Target 9.2	Improve water use and water productivity to utilise 2.0 tonnes of dry matter per ML used	*N/A	*N/A	2	N/A
Target 9.3	100% of farmers recycling water from dairy sheds ⁹³	75% (2015)	N/A	100%	N/A
Target 9.4	100% of farmers monitoring water consumption	*N/A	N/A	100%	N/A
Target 9.5	100% of farmers have a water security risk management plan by 2020 and are implementing it by 2030	60%	*N/A	100%	N/A

⁹² Dairy Manufacturers Sustainability Council, refer Appendix 6

⁹³ Natural Resource Management Survey, refer Appendix 6

Key

- Progress towards 2030 targets against baseline
- Result maintained or marginal change
- Regression
- N/A = no data available or target metrics still to be finalised
- * Reporting for the first time in 2019
- ** To be reported in 2020



Towards Goal 9

Water is a critical resource for the industry in all farming systems, from pasture based, to irrigated systems and housed animal systems as well as for manufacturing, and we are seeking to increase, monitor and report on our water use efficiency in both the farm and manufacturing sector. In a year when water was in short supply for much of the industry, particularly in the eastern states, there was an increased focus on wise water use. Improving water efficiency is an ongoing challenge.

Target 9.1

Reduce the consumptive water intensity of dairy companies by 30% (on 2010/11 levels)

Water intensity increased from 1.86 ML per ML of milk processed in 2017-18 to 1.91 ML per ML of milk processed in 2018-19, representing an increase of 9.1% on the baseline year of 2010–11. The 2018-19 figure represents 76% of the milk volume processed nationally. Producing an increasingly large range of products, often in smaller batches, results in increased water consumption due to the additional cleaning required during product changeovers. Water intensity also increases when plants are not operating at full capacity which was the case in 2017–18 and 2018–19 due to reduced milk production resulting from dry conditions in the eastern states.

Target 9.2

Improve water use and water productivity to utilise 2.0 tonnes of dry matter per ML used

Baseline data for this target will be gathered in the 2020 National Dairy Farmer Survey and the 2020 NRM Survey.

Target 9.3

100% of farmers recycling water from dairy sheds

Baseline data from the 2015 NRM Survey showed 75% of dairy farmers were recycling water from dairy sheds. Further information will be gathered for this target in the 2020 NRM Survey.

Target 9.4

100% of farmers monitoring water consumption

Baseline data for this target will be gathered in the 2020 National Dairy Farmer Survey and the 2020 NRM Survey. In 2018, approximately 80% of dairy farms with irrigation had implemented some level of irrigation automation.

Target 9.5

100% of farmers have a water security risk management plan by 2020 and are implementing it by 2030

In the 2018 National Dairy Farmer Survey, 60% of farmers reported having a water security or water management plan to ensure they had sufficient water in drier seasons. Updated data will be gathered for this target in the 2020 survey.

Key initiatives supporting Goal 9

Dairy Manufacturers Sustainability Council – Member companies measure and submit their water consumption and wastewater data for inclusion in an annual 'scorecard' and use this to benchmark their performance. Dairy Australia has also recently developed a **technical report** which outlines a shortlist of key opportunities for reducing the intensity of water consumption in the Australian dairy processing sector.

'Smarter Irrigation for Profit' has demonstrated how major improvements in irrigation efficiency can be achieved with relatively minor tweaks. Overall, an estimated 20% to 40% increase in productivity can be achieved through a greater focus on optimising irrigation.

Goal 9 in action

Managing water requires thinking 'outside of the box'⁹⁴

Northern Victorian irrigated dairy farmers Rachele and Carl Moon manage their water portfolio in 'three thirds' to minimise the impact of water volatility on their business.

The Moons utilise the water market to manage water risk, where they own 90 ML of water, which accounts for one-third of their Numurkah farm's water usage. They lease one-third of their water supply and buy one-third from the temporary market.

"Water prices are having a huge impact on our business," Mrs Moon said. "We have milked through the wettest winter in history, and now we have drought conditions. The climate has kept us on our toes."

They milk 120 autumn-calving cows on 105 hectares. To increase certainty for their business, the Moons locked in an average water price on a three-year lease, which they will continue to review.

They also participated in the Plan-2Farm program, funded by the Victorian Government and delivered by the Goulburn Broken and North Central Catchment Management Authorities. This program saw a consultant visit their farm to help them to clarify their business goals, identify their options and develop a long-term plan, which will inform investment and management decisions.

By focusing on increasing the organic matter in their soils to boost water-holding capacity, Mrs Moon said this has allowed more rainwater to be captured.

⁹⁴ "Managing water volatility", p84-85, *The Australian Dairyfarmer*, July-August 2019.





Rachelle and Carl Moon with their children Heidi, Jonny and Harry at their Numurkah, Victoria, dairy farm.

Goal 9 in action

Bega Cheese – Multiple savings through condensate recovery

Bega Cheese installed a steam condensate return system at its Tatura site in 2018. The system was designed in-house by one of the company's own engineers.

The project was initiated to return the water arising from steam used in the Clean in Place Plant and other activities in the cheese plant, such as cream cheese pasteurisation, cream cheese separation, preheating and high fat pasteurisation. The project results in multiple environmental and cost benefits including:

- Decreased steam usage of 405,244 kg per year
- Decreased gas consumption by an average of 7,720 GJ per year
- Decreased trade waste discharge of an average of 18.7 ML per year
- Decreased water consumption of 26.7 ML per year
- Decreased chemical use and cleaner feed water, resulting in less scale and improved boiler efficiency.



Goal 10

Reduce greenhouse gas emissions intensity

Our performance

Goal 10	Reduce greenhouse gas emissions intensity	Baseline	2019	2030 target	Progress
Target 10.1	30% reduction in greenhouse gas (GHG) emissions intensity across the whole industry (from a baseline of 2015)				
	– Manufacturers (tonnes CO ₂ ~e/ML milk processed)	140	143.4	98	●
	– Farmers (kg CO ₂ ~e/kg FPCM)	1.0	N/A	0.72	N/A

95 Dairy Manufacturers Sustainability Council, refer Appendix 6

Key

- Progress towards 2030 targets against baseline
- Result maintained or marginal change
- Regression
- N/A = no data available or target metrics still to be finalised
- * Reporting for the first time in 2019
- ** To be reported in 2020



Towards Goal 10

In 2019, work focused on interrogating the proposed 2030 target to see if it is robust and how it might be achieved. Potential emissions reduction pathways for both farms and dairy manufacturing have been identified and are currently being assessed. The national mitigation potential and the marginal cost of abatement of each of those opportunities to 2030 was calculated, based on data available from various studies and industry information, and based on assumptions made on adoption through the dairy industry.

A marginal abatement cost curve (MACC) was used to classify these options based on their emission reduction potential across the industry and their relative cost per tonne of carbon abated. Opportunities were classified as 'no-cost/beneficial', 'low-cost' and 'medium-high cost'. Any proposed mitigation strategies need to be practically applicable and cost-effective to adopt.

At an organisational level, a number of manufacturers have implemented initiatives to reduce their emissions. The Dairy Manufacturers Sustainability Council (DMSC) is continuing to facilitate the monitoring of emissions reduction at the factory level, collective reporting and sharing knowledge on emissions reduction amongst members.

Target 10.1 30% reduction in greenhouse gas (GHG) emissions intensity across the whole industry

Measured from a baseline of 2015–16, GHG emissions intensity for dairy processors increased from 140 tonnes of carbon dioxide equivalent ($tCO_2\sim e$) per ML of milk processed to 143.4 ($tCO_2\sim e$) in 2018–19, representing a 2.4% decrease from the previous year. This can be attributed to plants not operating at full capacity during the year linked to reduced milk production due to dry conditions in the eastern states. The figure for 2018–19 represents 76% of milk processed.

At the farm level, a recent analysis of 1,149 Dairy Farm Monitor Project (DFMP) datasets helped to determine the 2015-16 Emissions Intensity (EI) baseline of on-farm milk production at 1.0 kg CO_2e/kg

kg Fat and Protein Corrected Milk (FPCM).

The EI was similar to the long-term average across all 1,149 farm datasets. Other than the very first year of data collection, there appears to have been little change in EI across the dataset over time. That said, to date there has been no direct impetus for farmers to reduce their GHG emissions, beyond improvement in farm efficiency and/or increased costs for inputs resulting in reducing wastage.

Carbon sequestration in tree plantings will play a critical role in offsetting on-farm GHG emissions to achieve the target of reducing EI by 30% by 2030 and potential net carbon neutrality. The most recent exporting of the DFMP data from DairyBase had some limitations in capturing tree plantings across all dairy farm participants, with plantation area and carbon sequestered only reported in 2017-18. Work is currently being undertaken to value the potential of tree plantings on dairy farms, as well as improving the measurement of data on the scale of tree plantings over time. Thus, accurate data collation at the farm will be essential in future years.

The results from this analysis of 13 years of data has illustrated that with some interannual variation, the EI of milk production for Australian dairy farms is within the vicinity of 1.0 kg CO_2e/kg FPCM. Achieving a 30% reduction in the EI of milk production, akin to an EI of 0.7 kg CO_2e/kg FPCM will be a huge undertaking for the Australian dairy industry. – but a challenge the industry is committed to tackling.

Goal 10 in action

Lighting upgrades for Bega Cheese and Lactalis

Lights at Lactalis' Lidcombe site in NSW used 1624 MWh per year, representing 9.5% of the total annual bill and costing \$230,000 per year. Following a site energy audit, a lighting upgrade was undertaken. The project reduced overall energy use by 660 MWh, saving \$105,000 per year in energy costs with a capital cost of \$268,000.

At Bega Cheese's Derrimut warehouse facility in Victoria, another lighting upgrade realised significant energy and financial savings. The warehouse operated

around the clock with 130 inefficient metal halide lights which were replaced with more efficient high bay LED lights. Along with a reduction in energy use, there were added benefits in less heat generation, less maintenance and higher-lux levels throughout the facility (meeting AS/NZS1680 lighting standards).

Savings of \$40,000 per year in operating costs were made - \$60,337 operating and \$4,534 maintenance pre-upgrade, and \$18,984 per year operating cost post-upgrade.

Key initiatives supporting Goal 10

The Australian dairy industry has created a number of farm resources to support its goal to reduce greenhouse gas emissions.

Land, water, carbon – Dairy Australia's strategic program supporting the industry goal to cut farm GHG emissions. Its scope is to build industry capability at the farm level to manage land, water and energy resources to minimise environmental impact while enhancing profit and improving industry capacity to mitigate climate risk.

Dairy Climate Toolkit helps farmers and service providers understand GHG emissions and measures they can take to reduce them while making money for their business.

Dairy Self-Assessment Tool or DairySAT is an environmental self-assessment and action planning tool for Australian dairy farmers.

Australian Dairy Carbon Calculator helps farmers identify potential GHG emissions reductions within their business— see <http://www.dairyclimatetoolkit.com.au/videos>

Energy and Climate Change Policy – ADF recognises that farmers have an important role in reducing GHG emissions and in supporting Australia's international commitments under the Kyoto Protocol and the Paris Agreement, and supports an emissions intensity target methodology for dairy farms.

Victorian dairy producer signs 10-year wind farm PPA – Victorian dairy producer Burra Foods will soon get a portion of its energy needs from cheap Australian wind energy, after signing a 10-year power purchase agreement to source electricity from the Ararat Wind Farm.

Organic waste from dairy processing to be converted into power – Organic waste from Bulla Dairy Foods, the Australian Lamb Company and AKD Softwoods in Colac will be converted into electricity, gas and water at Barwon Water's nearby treatment plant.

Assessing energy supply options for dairy manufacturing sites – Dairy Australia has supported the development of a techno-economic study into a variety of energy supply options for dairy manufacturing sites, which also includes consideration of GHG emissions reduction and a self-assessment tool to calculate approximate cost savings and GHG reductions based on options considered.

Opportunities for manufacturers to reduce GHG emissions – Dairy Australia has also recently developed a **technical report** which outlines a shortlist of key opportunities for reducing the GHG emissions intensity of the Australian dairy processing sector.

Prof John Williams, School of Animal and Veterinary Sciences.



Source: The University of Adelaide

Goal 10 in action

Scientists show we can breed cattle that produce less methane⁹⁶

In a boon for mitigating climate change, researchers have found that the genetics of a cow strongly influence the composition of their gut and how much methane they produce.

“Previously we knew it was possible to reduce methane emissions by changing the diet,” says Professor John Williams, from the Davies Research Centre at the University of Adelaide.

“But changing the genetics is much more significant – in this way we can select for cows that permanently produce less methane.”

The international team of scientists studied microorganisms in the cow’s rumen, the first stomach in its digestive system.

“What we showed is that the level and type of methane-producing microbes in the cow is to a large extent controlled by the cow’s genetic makeup,” Prof Williams said.

“That means we could select for cattle which are less likely to have high levels of methane-producing bacteria in their rumen.”

Prof Williams noted that cattle and other ruminant animals such as sheep, are significant producers of the greenhouse gas methane – contributing 37% of the methane emissions resulting from human activity. A single cow on average produces between 70kg and 120kg of methane per year and, worldwide, there are about 1.5 billion cattle.

Published in the journal *Science Advances*, the researchers analysed the microbiomes from ruminal fluid samples of 1,000 cows, along with measuring the cows’ feed intake, milk production, methane production and other biochemical characteristics. Although this study was carried out on dairy cows, the heritability of the types of microbes in the rumen should also apply to beef cattle.

Prof Williams says breeding for low-methane cattle will, however, depend on selection priorities and how much it compromises selection for other desired characteristics such as meat quality, milk production or disease resistance.

⁹⁶ “Moove over methane...”, p84-85, [The University of Adelaide](#), July 5, 2019



Goal 11 Reduce waste

Our performance

Goal 11	Reduce waste	Baseline	2019	2030 target	Progress
Target 11.1	100% diversion rate from landfill (for dairy companies) (tonnes of waste per ML milk processed) ⁹⁷	2.69 (2011)	1.5	0	●
Target 11.2	100% of silage wrap recycled (for farm) ⁹⁸	28% (2015)	*N/A	100%	N/A
Target 11.3	All dairy companies participate in the Australian Packaging Covenant (APCO) or equivalent scheme	9	10	All dairy companies	●
Target 11.4	100% of Australian dairy packaging to be recyclable, compostable or reusable by 2025 or earlier	*N/A	*N/A	100%	N/A
Target 11.5	Halve food waste by 2030 (placeholder – tonnes of dairy products per ML of milk processed)	*630,000 (2017)	*N/A	TBC 50% of baseline when confirmed	N/A

⁹⁷ Dairy Manufacturers Sustainability Council, refer Appendix 6

⁹⁸ Natural Resource Management Survey, refer Appendix 6

Key

● Progress towards 2030 targets against baseline

● Result maintained or marginal change

● Regression

N/A = no data available or target metrics still to be finalised

* Reporting for the first time in 2019

** To be reported in 2020

Towards Goal 11

The Australian Government's commitment to all packaging being recyclable, compostable or reusable by 2025 has increased the urgency of addressing this issue. Dairy processors typically produce a variety of waste types including packaging waste such as cardboard, paper, cartons and plastic, organic wastes such as sludge and reject product, as well as office waste. On farm, silage wrap is a key issue due to a lack of available options for recycling in regional areas.

Target 11.1

100% diversion rate from landfill (for dairy companies)

At the manufacturing level, waste intensity increased in 2018–19 to 1.5 tonnes of waste sent to landfill per ML of milk processed – up from 1.35 tonnes in the previous year. This represents an increase of 11.5% but there has been an overall reduction of 44% compared with the baseline in 2010–11. This figure is representative of 65% of the milk volume processed nationally.

Individual dairy manufacturers have already published their own waste reduction targets while others can report 100% waste diversion from specific operating sites. For some waste streams, there are no viable options for diversion as yet.

Target 11.2

100% of silage wrap recycled (for farm)

Currently very little silage wrap is recycled. The 2015 NRM Survey showed that silage wrap was used on 77% of dairy farms but only 35% recycled any of the wrapping material. This group recycled 82% of its wrap, but this only represented 28% of all wrap. More information is being investigated particularly in light of the Plasback program stopping.

Investigations to date estimate usage figures in Australia are:

- 4,000 to 6,000 tonnes per annum of stretch film
- 1,000 to 2,000 tonnes per annum of silage covers
- 5,000 to 8,000 tonnes per annum were associated with dairying operations

There are a number of processing sites that are either currently taking silage film/covers or have plans to upgrade their facilities to do so, however collection and cleaning of materials remains an issue limiting the availability of services for recycling. These include Plastic Forests, Envorinex and Polymer Processes. Currently, the re-processing facilities in Australia are not able to produce a recycled resin that can be re-used for silage wraps/covers in a circular way. The recycled product, however, is being used to manufacture other plastic

products – where increased demand is needed to continue to enable the re-processing to be economic should all silage plastic be able to be delivered to the re-processing facilities. One of the key requirements for closed loop recycling is to ensure the wraps/covers are as clean as possible. The logistics of collection and transport costs of delivery of used wraps is one of the key barriers.

Some wrap/cover providers are considering product stewardship initiatives similar to the container deposit scheme or DrumMUSTER, to enable greater recycling rates. This could be a positive that, combined with the investment being flagged by the government into recycling/re-processing infrastructure, should help drive better recycling outcomes for silage wrap. The dairy industry will continue to investigate opportunities.

Target 11.3

All dairy companies participate in the Australian Packaging Covenant (APCO) or equivalent scheme

The Australian Packaging Covenant (APCO) partners with government and industry to reduce the harmful impact of packaging on the Australian environment. Member organisations agree to shared commitments and joint responsibilities to work collaboratively to achieve sustainable packaging outcomes. Currently ten dairy companies are participating in the Australian Packaging Covenant - Bega, Brancourt Dairies, Brownes, Bulla, Chobani, Fonterra, Lactalis, Lion, Nestlé and Saputo.

Target 11.4

100% of Australian dairy packaging to be recyclable, compostable or reusable by 2025 or earlier

An industry working group has been established to drive industry-wide progress towards meeting the 2025 National Packaging Targets and support the development of circular economies for dairy product packaging. Working closely with APCO and others across the packaging and waste management chains, the working group is building on the public commitments of individual companies to provide more sustainable packaging, and actively collecting

packaging data from members to support development of a packaging baseline. Companies have shared packaging knowledge, highlighted recent innovations and discussed strategies to optimise closed loop packaging design. This working group has focused on a number of issues during the year including opportunities to improve industry performance with respect to soft/flexible packaging, industry harmonisation as to the use of Australasian Recycling Labels (ARLs) on packaging to better communicate correct disposal routes, and pathways to support reuse of food-grade recycled resin in packaging.

Dairy Australia participates in APCO's National Implementation Working Group, which aims to support and provide consultation on implementation plans for the national packaging targets.

Target 11.5 Halve food waste

Arcadis was commissioned by the Australian Government to develop a baseline for food waste produced in Australia. The National Food Waste Baseline Final Assessment Report was released in March 2019. While the figures are questionable in some cases due to certain assumptions made by the researchers, it is the best overview available in Australia. The estimates provided in the National Report for Australian dairy are:

- 4% of total farm milk production is wasted (e.g. poor quality milk, residues/contaminants etc) Much of this milk waste is recovered and used for stock feed.
- 5% of raw milk intake by dairy companies ends up as waste but can, in many cases, be recovered by dairy companies for beneficial reuse applications e.g. transported offsite for stock feed or sent to commercial composting operations. According to the National Food Waste Report, Australia generated 7.3 million tonnes of food waste across the food supply and consumption chain in 2016-17 – i.e. 298kg food waste per person in Australia. In the report, food waste is defined as any food material that does not end up as human food. The report

does not cover food waste going to composting, rendering or energy generation – mechanisms used by many companies to reuse food waste. The breakdown is: 34% of food waste generated by households, 31% generated by primary producers and agri-industries; and 25% generated by manufacturing with approximately 10% unassigned. In 2016-17, the National Food Waste Baseline Report attributed approximately 630,000 tonnes of dairy food waste to dairy manufacturing – the majority of which was associated with whey disposal from small to medium sized dairy processors. While this figure is subject to many assumptions, it is the best available figure and will be used as the baseline until we have better information available.

Milk includes fat, protein, lactose, lactic acid and trace elements such as sodium, potassium, calcium and chloride which require treatment prior to discharge to the environment. Dairy processing effluents include milk or milk products lost during processing, by-products of processing such as lactose-rich sweet and acid whey, wastewater from the washing of milk trucks, tanks, cans, equipment, bottles and floors, waste chemicals used in 'clean in place' processes and starter cultures used in the manufacture of cheese and yoghurt.

Dairy processing wastewater can contain high concentrations of organics, nutrients, fats, oils and grease and dissolved solids. Wastewater is also subject to significant environmental regulation by state government agencies and water authorities which determine the criteria for the end use that may be discharged to sewer, reused on or off the site, discharged to surface water or used for irrigation.

Wastewater intensity increased in 2018–19 to 1.88 ML per ML of milk processed. The volume of wastewater produced by dairy manufacturing often mimics water consumption, which in turn is being required for more cleaning between batches of products as smaller lines are run.

Key initiatives supporting Goal 11

Industry working group to tackle packaging waste is examining how dairy companies can achieve 100% recyclability of packaging, incorporate more recycled content and reduce post-consumer packaging going to landfill.

Behaviour change programs within dairy companies have also had an impact, particularly at site level where waste is arguably more visible than energy and water consumption.

Research to map the composition of dairy manufacturing waste streams and add value is currently being completed by Queensland University of Technology as a result of Dairy Australia's involvement in the Meat & Livestock Australia-led **Wastes to Profit** project, as well as by the University of Melbourne as part of the **ARC Dairy Innovation Hub**, which is evaluating the potential of biological treatment technologies to add value to dairy wastes.

Brownes Dairy switched to sugarcane-based renewable milk cartons during 2019.



Source: Brownes.

Goal 11 in action

Brownes better packaging

Dairy company switches to renewable cartons in a more sustainable moo-ve.

A dairy company launched Australia's first renewable cartons when it ditched the fossil-fuel derived plastic lining in its milk cartons for sugarcane during 2019.

In October Western Australia manufacturer Brownes Dairy started using waste-reducing renewable milk cartons made entirely from wood fibres and sugarcane – both renewable resources.

“There is a lot of emphasis on the importance of recycling, but less of a focus on how we can make products more sustainable from the beginning,” said Brownes Dairy CEO Tony Girgis.

Whilst carton packaging already has strong environmental credentials, the Tetra Rex Bio-based board cartons used by Brownes Dairy offer a more sustainable alternative to standard milk cartons, which contain fossil-fuel derived polyethylene plastic in the lining.

Brownes Dairy switched 25 of its milk carton products – about 17.8 million milk cartons per year – to the packaging in 2019, with more products to

follow in 2020. It is the first company in Australia to use the renewable cartons across its entire milk, flavoured milk and juice carton ranges.

“We wanted to improve the sustainability of our packaging across the entire lifecycle of our products,” said Mr Girgis.

“We have tested the bio-based board repeatedly to ensure our product quality, product freshness and food safety are fully maintained.”

“Making the switch to sugarcane is not only better for the environment, but now our consumers can trust the package is made from raw, plant-based materials.”

Tetra Rex® Bio-based is the world's first beverage carton to be made entirely from renewable materials. Tetra Pak has delivered more than half a billion packs of Tetra Rex® Bio-based since the bio-based board was first introduced in dairy by Finnish brand Valio in 2015.

“Brownes is proud to be the first company in Australia to embrace this new environmentally-friendly packaging, with innovation top of mind in everything we do,” Mr Girgis said.

Appendix 1. Governance

The Australian Dairy Industry Council (ADIC), comprised of the dairy industry’s two peak policy bodies Australian Dairy Farmers (ADF) and Australian Dairy Products Federation (ADPF), has overall responsibility for the Framework. It sets the Framework targets and performance measures, and reports progress against these.

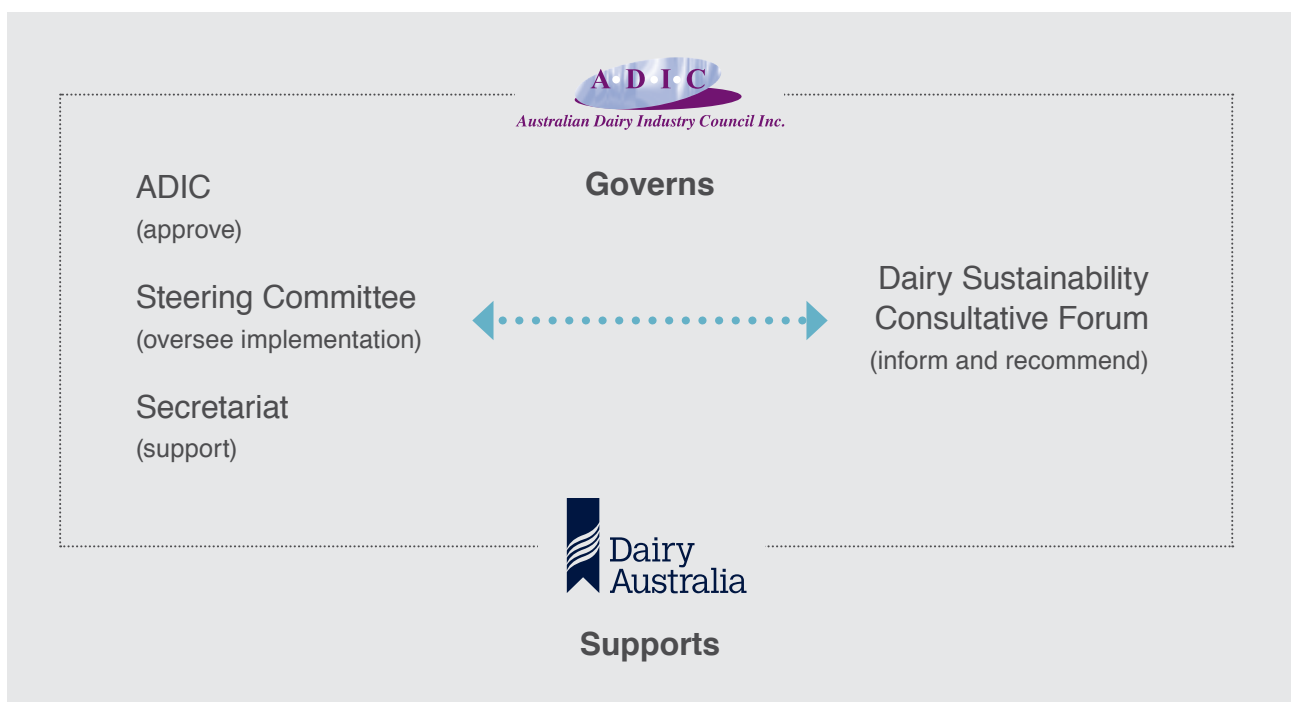
Dairy Australia, the industry-owned national service body, facilitates and supports the ADIC in developing and implementing the Framework. A Steering Committee was established in 2012 to drive the ongoing development and implementation of the Framework. The Steering Committee meets approximately quarterly and includes representatives from farmer organisations as well as dairy companies. The Steering Committee seeks endorsement from the ADIC on any major recommendations. Representation and members of the Steering Committee are listed in Appendix 3.

The Dairy Sustainability Consultative Forum was established in 2013. Consisting of industry and non-industry stakeholders, the Consultative Forum provides feedback on our progress and facilitates two-way discussion on emerging issues both nationally and internationally.

The Consultative Forum has two face-to-face meetings per year, with meetings held on 9 May and 17 October during 2019.

The Board members of the governing bodies serve on multiple bodies. For full list see:

- ADIC australiandairyfarmers.com.au/adic-board
- ADF australiandairyfarmers.com.au/adf-council
- ADPF adpf.org.au/members.asp
- Dairy Australia dairyaustralia.com.au/about-dairyaustralia/about-the-organisation/who-we-are/board



Appendix 2. Framework principles and guidance

The development of the Framework was informed by international guidelines and standards, including the United Nations Global Compact and the Global Reporting Initiative (GRI) G4.

A set of agreed principles was developed to help identify and prioritise issues and guide ongoing action and decision-making. These principles include an appreciation of stakeholder interests which ensures that stakeholders from across the dairy value chain are engaged directly in the ongoing development of the Framework.

Principles

- Ethical behaviour
- Transparency and accountability
- Appreciation of stakeholder interest
- Competitive neutrality ‘not providing competitive advantage’
- Collective action that delivers mutual benefit
- Inclusivity

The approach to developing and implementing the Framework has also been influenced by the United Nations Sustainable Development Goals (UN SDGs). There are 17 UN SDGs, designed to achieve a better and more sustainable future for all. They cover areas including poverty reduction, food security and energy and will directly influence national policy settings.

The Framework is also informed by the Global Dairy Sustainability Framework of which Dairy Australia is a Governor and Aggregating Member, and ADPF is an affiliate member; and by Dairy Australia’s membership of the Sustainable Agriculture Initiative (SAI) Platform’s Dairy Working Group.

Appendix 3. Stakeholder engagement

The Australian dairy industry operates in a dynamic environment, and community and consumers expectations are continually rising.

Engagement with our stakeholders within and outside of the dairy industry has been essential to the development and implementation of the Framework and is crucial to ensuring it remains robust and relevant.

The stakeholders we consult with include dairy farmers, dairy manufacturers, customers, retailers, buyers, suppliers, government representatives, non-government groups, special interest groups and others.

Our approach to engagement is based on the International Association of Public Participation (IAP2) spectrum. This best-practice approach describes five levels of engagement: inform, consult, involve, collaborate and empower. Stakeholders are classified in these categories depending on their interest and influence.

We use criteria from the AA1000 Stakeholder Engagement Standard (AA1000SES) to identify relevant organisations and individuals to engage with. The criteria are:

- **Dependency** – groups or individuals who are directly or indirectly dependent on the industry's activities, products or services and associated performance, or on whom the industry is dependent in order to operate
- **Responsibility** – groups of individuals to whom the industry has, or in the future may have, legal, commercial, operational or ethical/moral responsibilities
- **Tension** – groups or individuals who need immediate attention from the industry with regard to financial, wider economic, social or environmental issues
- **Influence** – groups or individuals who can have an impact on the industry or a stakeholder's strategic or operational decision-making
- **Diverse perspectives** – group or individuals whose different views can lead to a new understanding of the situation and the identification of opportunities for action that may not otherwise occur

Engagement takes place through the formal mechanisms of the Sustainability Steering Committee (Steering Committee) and the Consultative Forum, as well as consultation with industry representative bodies and other stakeholders on specific issues, or as required.

Steering Committee

The Steering Committee met five times in 2019. As well as discussing emerging issues for the Australian dairy industry, the Steering Committee concentrated on the materiality study for the Framework during 2019. The Steering Committee also reviews this report. A list of members is shown below.

Consultative Forum

The Consultative Forum serves as an invaluable reference group for the Framework. It includes dairy farmers, manufacturers, dairy organisations, customers, retailers, buyers, suppliers, government representatives, non-government groups, special interest groups, agricultural industry groups, and others.

The Consultative Forum meets twice a year. Meetings were held in May and October during 2019 – with the October meeting being the fourteenth time the Forum has met from its inception in 2013. The workshop held on 9 May 2019 concentrated on what the dairy industry must do to be competitive, how the industry should manage key issues, and what farmers are doing to address key sustainability challenges.

Attendees at the 17 October 2019 workshop discussed material sustainability risks to the dairy industry; and outcomes and industry actions to address the issues raised at the previous workshop. Dairy farmers and manufacturers shared information on what they are doing to be part of a sustainable food sector in 2030.

Additional activities

This year, stakeholders were engaged on industry issues for the materiality review, via six face-to-face interviews and an online survey which had 94 respondents, as well as the Consultative Forum session.

Throughout the year we also engage with our stakeholders via our monthly Dairy Sustainability eNews, which features updates on our progress, and links to relevant articles and events. It is distributed to a targeted list of more than 300 recipients. The average 'Open' rate of 43.3% and 'click through' rate of 7.4% remain high when compared with industry average for other agriculture and food service e-newsletters (average 23.31% and 2.94% respectively - data dates back to October and may vary from current benchmarking data provided within the Mailchimp application).⁹⁹ Information on the open and click through rates helps the dairy industry obtain insights into what our stakeholders want to hear about and enables the industry to understand the importance of the actions being undertaken to meet our sustainability goals and targets.

⁹⁹ Mailchimp.com <https://mailchimp.com/resources/email-marketing-benchmarks/>

During the year, we presented to Rabobank's Tasmanian community of interest groups and the Stockfeed Manufacturers' Association. Representatives also attended the global Dairy Sustainability Framework Members Workshop and the International Dairy Federation's meetings and World Dairy Summit, all held in Istanbul, Turkey in September 2019. These meetings provided an opportunity to hear what other groups are doing in sustainability and present where the Australian dairy industry is with respect to implementing our Sustainability Framework.

Dairy Australia is also a member of the SAI's Dairy Working Group (DWG) and participated in the group's Business to Business (B2B) pilot to develop a way to reduce the burden from buyers of sustainability assessments on dairy processors and producers. This work has resulted in the development of the Sustainable Dairy Partnership.

We also participated in the SAI Platform Australia to exchange knowledge and share dairy industry progress on sustainability. Dairy also participated in the ongoing development of the Beef Industry's Sustainability Framework.

Steering Committee Chair, Chris Griffin, travelled to Argentina to meet with dairy farmer suppliers Mastellone Hermanos, and shared with them what Australia is doing to progress dairy sustainability.

Steering Committee members in 2019

Name	Organisation
Rob Adin	Dairy Australia
Melissa Balas	Bega/Tatura
Jeremy Bayard	ACE Farms
Patten Bridge	Bridge Logic
Jason Briffa	Lion Dairy & Drinks
Mark Callow	Norco
Melissa Cameron	Dairy Australia
Allan Cameron	GippsDairy (Dairy Australia)
Stewart Carson	Burra Foods
Bruce Donnison	Australian Dairy Farmers
Helen Dornom	Dairy Australia
Chris Griffin	Australian Dairy Industry Council
Jack Holden	Fonterra
David Inall	Australian Dairy Farmers/ Australian Dairy Industry Council
Alison Kelly	Dairy Australia
Mark Linton	Lactalis

Name	Organisation
Ian Olmstead	Dairy Australia
Catherine Phelps	Dairy Australia
Rose Philipzen	Moxey Farms
Ian Porter	Lactalis
Neil Rosier	Saputo
Maree Sarkis	Saputo
Peter Stahle	Australian Dairy Products Federation
Louise Sundermann	Dairy Australia
Antonietta Timms	Bega/Tatura
Susannah Tymms	Dairy Australia
Adriaan van Dijk	Lion Dairy & Drinks
Janine Waller	Australian Dairy Products Federation
Support	
Robyn Leeson	STR Consulting
Mark Paterson	Currie
Gabrielle Sheehan	Currie

Consultative Forum members in 2019

Name	Organisation
Rob Adin	Dairy Australia
Kate Andrews	NRM Regional Australia
Renee Ashmore	Bega Cheese
Briannon Avery	Ridley
Holly Baillieu	Woolworths
Melissa Balas	Bega Cheese
Pip Band	MLA
Mariyam Banilohi	Saputo Dairy Australia
Terry Batey	DEDJTR
Jeremy Bayard	ACE Farms
Amber Beaumont	Dairy Australia
James Bentley	NAB
Rene Borggreve	Dairy Australia
Patten Bridge	Bridge Logic
Jason Briffa	Lion Dairy & Drinks
Mark Callow	Norco
Allan Cameron	GippsDairy (Dairy Australia)
Melissa Cameron	Dairy Australia
Stewart Carson	Burra Foods
Wendy Cohen	Farmers for Climate Change
Barry Cosier	AFGC
Eli Court	Climate Works
Susanne Craig	McDonalds
Anthony Cuthbert	DAWR
Fiona Davis	Farmers for Climate Change
Bruce Donnison	Australian Dairy Farmers
Helen Dornom	Dairy Australia
Carlene Dowie	Fairfax Media
Lindsay Ferguson	WestVic Dairy (Dairy Australia)
Guy Fitzhardinge	Beef farmer
Andrew Fletcher	NZ
Talulah Gaunt	RSPCA
Corrie Goodwin	Australian Dairy Industry Council/Freedom Foods

Name	Organisation
Chris Griffin	Chair, Consultative Forum
Ashlee Hammond	Victorian Farmers Federation/United Dairy Farmers of Victoria
Tess Herbert	Beef Sustainability Framework
Megan Hill	Dairy Australia
Amanda Hill	Dairy Food Safety Victoria
Jack Holden	Fonterra
David Inall	Australian Dairy Farmers/Australian Dairy Industry Council
Ben James	Warakirri Dairies Pty Ltd
Sandra Jefford	Dairy farmer
Peter Johnson	Dairy Australia
Annabel Johnson	NSW Farmers
Simone Jolliffe	Australian Dairy Farmers/Australian Dairy Industry Council
Alison Kelly	Dairy Australia
Jessica Kirby	Choice
Alexander Kury	Dairy Australia
Ruth Kydd	Dairy farmer
Belinda Lee	David Jones
Tania Luckin	Dairy Australia Board
Lauren Mackenzie	Coles
Ian McConnel	WWF
Charles McElhone	Dairy Australia
Lisa Menhenett	Murray Dairy (Dairy Australia)
Mark Miers	Ingleby Farms
Lachlan Monsborough	Rabobank
Verity Morgan-Schmidt	Farmers for Climate Action
Matthew Morrow	Lactalis
David Nation	Dairy Australia
Georgia Nicholls	Dairy Australia

Name	Organisation
Graeme Nicoll	Dairy Australia Board
Marc Oostdijk	Rabobank
Ben Pearson	World Animal Protection
John Penry	Dairy Australia
Rose Philipzen	Moxey Farms
Anna Playfair-Hannay	Woolworths
Ian Porter	Lactalis
Verity Price	Australian Lot Feeders Association
Guy Pritchard	Sustainability Victoria
Warwick Ragg	National Farmers Federation
Terry Richardson	Australian Dairy Farmers/Australian Dairy Industry Council
Brad Ridoutt	CSIRO
D'arcy Ryder	Cattle Council
Andrew Rouse	WWF
Adrienne Ryan	National Farmers' Federation
Maree Sarkis	Saputo Dairy Australia
Peter Stahle	Australian Dairy Products Federation
Louise Sundermann	Dairy Australia
Melina Tensen	RSPCA
Rebecca Thornberry	Murray-Darling Basin Authority
Antonietta Timms	Bega Cheese
Mark Trigg	Bungaree Farm
Susannah Tymms	Dairy Australia
John Versteden	Australian Dairy Farmers Board
Amanda Wallace	Lactalis
Janine Waller	Australian Dairy Products Federation
Jody White	Woolworths
Paul Wood	Dairy Australia Board

Name	Organisation
Dedee Woodside	CCSI Consultants
Philip Wright	Ethics Centre
Susanne Wright	Alltech
Support	
Robyn Leeson	STR Consulting
Mark Paterson	Currie
Gabrielle Sheehan	Currie

Appendix 4. Progress against 2020 goals and targets

The original goals and targets for the Australian Dairy Industry Sustainability Framework were set in 2013, with a time horizon of 2020. We publicly reported progress against these in 2014, 2015, 2016 and 2018. In response to a changing world, and following a

thorough review and consultation process, the goals and targets have been updated with a time horizon of 2030 and these are the focus of this report. As we transition to the new goals, we report below for the final time on the 2020 goals.

2020 goal			Baseline	2014	2015	2016	2018	2019	2020 Target	Progress against baseline	Source		
Enhancing livelihoods	1	Increase the future competitiveness and profitability of the Australian dairy industry	1.1 X% increase in the number of profitable dairy farms	55%	51%	47%	50%	52%	–	–	●	ABARES (2019)	
			1.2 X% increase in the market preference for buying Australian dairy products, compared with our top 3 international competitors (NZ, EU and US)	N/A	–	–	–	–	–	–	–	N/A	
			1.3 Ensuring sustainability criteria (e.g. carbon, animal welfare, environmental impact) do not impede market access	N/A	–	–	–	–	–	–	–	N/A	
			1.4 Increase adoption of new technologies and innovative practices within the dairy industry – measured by % of farmers planning capital investment	40%	51%	52%	49%	79%	–	–	–	●	NDFS 2018, question changed for 2018
			1.5 Provide consumers with greater choice and access to a variety of dairy products and/or ingredients to meet their specific needs	N/A	–	–	–	85%	–	–	–	N/A	
	2	Increase the resilience and prosperity of dairy communities	2.1 Understand the contribution the dairy industry makes to supporting the economy of dairy regions	N/A	–	–	–	–	–	–	–	N/A	
			2.2 The contribution of dairy is recognised in relevant local and state government strategies (especially growth and investment strategies)	N/A	–	–	–	–	–	–	–	N/A	
			2.3 Community recognition										
			Dairy industry is an essential part of the community	71%	70%	68%	67%	88%	84%	78%	–	●	Dairy Trust Tracker 2019
			People in my region appreciate the role that dairy farmers like myself play in our community	76%	76%	79%	78%	67%	68%	87%	–	●	NDFS 2019
	3	Provide a safe work environment for all dairy workers	3.1 OHS training										
			100% on-farm workers completed OH&S training	46%	46%	–	–	38%	–	100%	–	●	P0P Survey 2017
			100% dairy manufacturing workers completed OH&S training	100%	100%	100%	100%	100%	–	100%	–	●	
			3.2 30% reduction in Lost Time Injury Frequency Rate (LTIFR) by 2020										
			Dairy farming	5.8	8.9	6.7	14.3	13.7	9.3	3.6	–	●	Safe Work Australia
			Dairy manufacturing	8.2	8.6	13	12.1	5.6	6.4	6.1	–	●	Safe Work Australia
3.3 Zero workplace fatalities													
Dairy farming	2	1	3	6	2	0	0	–	●	Safe Work Australia			
Dairy manufacturing	0	0	0	0	0	0	0	–	●	Safe Work Australia			
4	Attract, develop and retain a skilled and motivated workforce	4.1 30% increase in the number of suitable applicants for dairy industry jobs. Measured by % dairy farmers who expect to recruit new staff	20%	22%	–	–	16%	–	30%	–	●	P0P Survey 2017	
		4.2 Increase participation in development activities – extension	20%	39%	–	–	57%	–	100%	–	●	P0P Survey 2017	
		4.3 Retain an experienced and motivated dairy workforce - 20% increase in the number of experienced employees retained	75%	75%	–	–	71%	–	90%	–	●	P0P Survey 2017	
		4.4 50% of dairy farmers have a well-developed business transition plan	8%	8%	–	–	21%	–	50%	–	●	P0P Survey 2017	

Key

- Progress towards target against baseline
- Result maintained or marginal change
- Regression
- No data collected this year

2020 goal				Baseline	2014	2015	2016	2018	2019	2020 Target	Progress against baseline	Source		
Improving wellbeing	5	All dairy products and ingredients sold are safe	5.1	Zero non-compliant chemical residues found during the AMRA Survey	0	0	0	0	0	0	●	AMRA Survey 2018–19		
			5.2	Zero product recalls due to food contamination	7	8	9	7	8	11	0	●	Product Safety Recalls Australia	
			5.3	15% increase in the number of consumers who agree Australia produces safe, high quality dairy products by 2020										
			The dairy industry produces safe products	67%	69%	67%	68%	81%	82%	77%	●	Dairy Trust Tracker 2019		
			The dairy industry produces high quality products	77%	74%	75%	74%	83%	86%	88%	●	Dairy Trust Tracker 2019		
	6	Dairy contributes to improved health outcomes for Australian communities	6.1a	Improve recognition that dairy (milk, cheese and yoghurt) is a key element of a healthy diet										
				Measured against "increase the % of individuals who agree dairy foods are essential for good health and wellbeing"	72%	68%	69%	71%	78%	80%	85%	●	Dairy Trust Tracker 2019	
Measured by decrease in the % of individuals who agree "I'm concerned consuming dairy foods will increase my weight" to 20% by 2020				32%	30%	31%	32%	31%	41%	20%	●	Dairy Trust Tracker 2019		
6.1b			NHMRC <i>Australian Dietary Guidelines</i> continue to recommend milk, cheese and yoghurt as part of a healthy diet	Recognised	Recognised	Recognised	Recognised	Recognised	Recognised	Ongoing recognition	●	NHMRC		
Providing best care for all our animals	7	Provide best care for all animals	7.1	All of industry complying with legislated animal welfare standards										
				Awareness of new <i>Animal Welfare Standards</i>	56%	56%		47%	–	77%	100%	●	2019 GAH Survey	
			7.2	All of industry adopting relevant recommended industry practices for animal care										
				Reduce use of routine calving induction	80%	80%	88%	90%	95%	91%	100%	●	2019 GAH Survey	
				Don't dock tails	80%	85%	–	91%	–	96%	100%	●	2019 GAH Survey	
				Disbud prior to 2 months of age	57%	63%	–	63%	–	71%	100%	●	2019 GAH Survey	
				Have a lameness strategy	87%	95%	–	95%	–	96%	100%	●	2019 GAH Survey	
				Have cool infrastructure	94%	98%	–	92%	–	96%	100%	●	2019 GAH Survey	
				Bobby calves fed within 6 hours prior to transport	97%	97%	–	96%	–	99%	100%	●	2019 GAH Survey	
			7.3	25% increase in the number of consumers who believe dairy farmers do a good job caring for animals	60%	62%	59%	58%	72%	74%	75%	●	Dairy Trust Tracker 2019, different question 2018	

Key

- Progress towards target against baseline
- Result maintained or marginal change
- Regression
- No data collected this year

2020 goal				Baseline	2014	2015	2016	2018	2019	2020 Target	Progress against baseline	Source		
Reducing environmental impact	8	Improve nutrient, land and water management	8.1	90% of stock excluded from waterways	73%	–	76%	–	–	–	90%	N/A	NRM Survey	
			8.2	80% of farmers implement nutrient management plans by 2020	30%	–	58%	–	–	–	80%	N/A	NRM Survey	
			8.3	80% of dairy farms with irrigation have implemented some level of irrigation automation by 2020	47%	–	54%	–	–	–	80%	N/A	NRM Survey	
			8.4	80% of dairy farms managing some land for conservation and biodiversity by 2020	47%	–	45%	–	81%	–	80%	●	NDFS 2018	
			8.5	Where relevant, all dairy farmers actively managing noxious weeds by 2020										
				Noxious weeds identified as major land issue	37%	–	29%	–	–	–	–	N/A	NRM Survey	
				Actively managing noxious weeds where a problem	28%	–	28%	–	–	–	100%	N/A	NRM Survey	
	8.6	100% of farmers have practices to recycle water on farm by 2020	50%	–	75%	–	–	–	100%	N/A	NRM Survey			
	9	Reduce consumptive water intensity of dairy companies by 20%	9.1	Reduce the consumptive water use intensity of dairy manufacturers by 20% by 2020 (on 2010-11 levels) (litres/litre of milk processed)	1.75	1.56	1.58	1.62	1.85	1.86	1.4	●	DMSC 2016-17 Scorecard Report	
	10	30% Reduction in GHG emissions intensity by 2020 on 2010/2011 levels measured by a direct measurement of manufacturers emissions	10.1	30% reduction in greenhouse gas (GHG) emissions intensity across the whole industry (from a baseline of 2015)	178.7	153.6	152.5	140	159.6	147	125.8	●	DMSC 2016-17 Scorecard Report	
			10.2	Farm emissions abatement actions	N/A	–	–	–	–	–	–	–	N/A	
	11	Reduce waste to landfill by 40%	11.1a	40% reduction in manufacturer waste to landfill by 2020 on 2010/11 levels	2.69	1.63	1.45	1.39	1.32	1.35	1.61	●	DMSC 2016-17 Scorecard Report	
11.1b			Manufacturers: Signatories to Australian Packaging Covenant (APC)	9	9	8	8	>15	10	All manufacturers	●	APC		
11.2			Farm level waste reduction	N/A	–	–	–	–	–	–	–	N/A		

Appendix 5. Applying the materiality principle

A materiality assessment was undertaken in 2019 to determine the priority issues for both the ongoing development of the Framework and related performance reporting. This work refreshed previous materiality reviews undertaken in 2011-12 and 2016. The assessment was informed by various standards and guidance including the Global Reporting Initiative (GRI) Standards, Sustainability Accounting Standards Board (SASB), the UN Sustainable Development Goals (SDGs) as well as the Dairy Sustainability Framework (DSF) and the SAI Dairy Working Group's Declaration of Trust to support B2B (Sustainable Dairy Partnership) responsible sourcing. A GRI Content Index is available in Appendix 7.

Materiality was defined according to two dimensions:

- Significance of the industry's economic, environmental and social impacts
- Significance to, and influence on, stakeholder assessments and decisions

The following steps were performed to identify the material topics for the industry:

1. Identified 'topic universe' through a desktop analysis of five key sources of documentation including: industry sustainability reports, previous stakeholder consultation documentation, peer's sustainability disclosures, dairy industry media articles, and existing standards, frameworks, and regulations.

2. Prioritised the topics based on the industry's impacts, and their importance to industry and stakeholders. This was implemented through stakeholder engagement activities including workshops with the Steering Committee and Consultative Forum, face-to-face interviews with key industry stakeholders and an online stakeholder survey which was distributed widely to obtain detailed perspectives.
3. Mapped and validated the most material topics to inform the ongoing development of the Framework and related performance reporting in the future. The topics were mapped using a materiality matrix, in order to identify the highest priority/most material topics for the industry and its stakeholders. This materiality assessment applied a scoring method that incorporates the 'significance of impact and influence on stakeholder decisions'.
4. Reviewed these material topics in consultation with key industry stakeholders. The draft materiality results were presented to Steering Committee members at a workshop on 7 November 2019, to review and validate the results.

Figure 2 provides a visual summary of the overall materiality methodology.

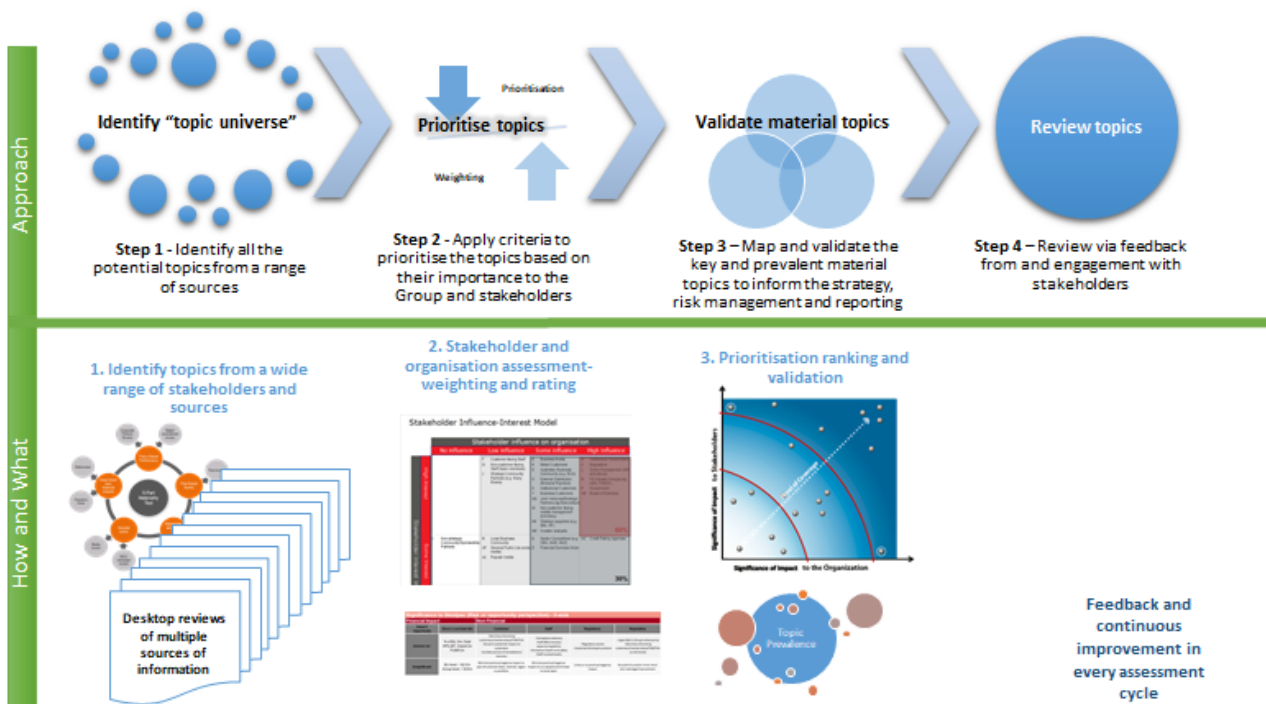


FIGURE 2. MATERIALITY METHODOLOGY

The results were then plotted on the x- and y-axes of the resulting materiality matrix (Figure 3). For this engagement, two thresholds for materiality were set, to differentiate topics across three levels from 'Important', 'Material' and 'Highly Material', and this is represented by the curves on the matrix. These thresholds are set as a guide to help the industry consider relative priorities in its strategic responses to those topics, and nature of disclosures in sustainability reporting. The most material topics emerging from the assessment were:

- Product safety and quality
- Water availability and efficiency
- Animal care
- Physical climate risk
- Farm biosecurity
- Antimicrobial stewardship
- Calves, including bobby calves
- Animal husbandry
- Greenhouse gas (GHG) emissions
- Community resilience

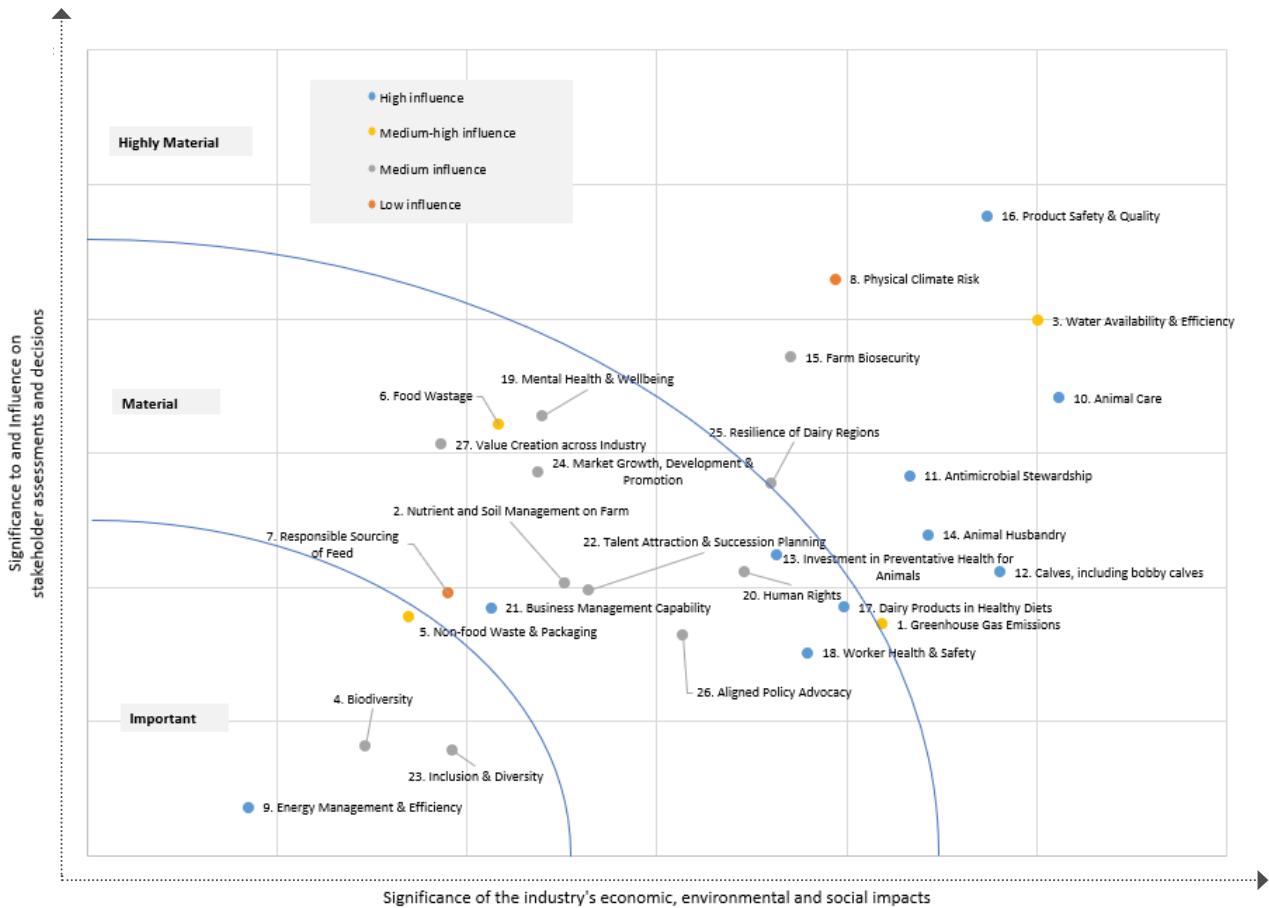


FIGURE 3. AUSTRALIAN DAIRY MATERIALITY MATRIX

A full list of the issues and their scope is detailed below. This provides the list of significant topics for the industry, with their descriptions and the level of influence the industry has in managing these topics. The assessment of influence was based on industry knowledge and stakeholder feedback.

Topic list with descriptions and industry’s level of influence over the topic

No.	Topic	Topic description	Relevant dairy sustainability commitment	Influence of industry
1	Greenhouse gas emissions	This topic relates to GHG emissions across the full value chain being quantified and reduced through all economically viable mechanisms. In recent years, there has been increasing consumer pressure to reduce emissions from food and beverage products, as the sector is both a significant driver of global climate change, and among those most adversely impacted by climate change. This is hurting companies’ bottom lines – and more importantly, hurting small-scale farmers and communities at the other end of the value chain, who bear the brunt of the physical impacts associated with extremes in weather.	Reducing environmental impact	Medium-high. Dairy farmers and processors have a medium-high degree of operational control over emissions reductions at their sites. At farms GHG reductions can be achieved through various measures, including increasing milk yield per cow, whereas at factories, processors have operational control over energy consuming equipment and processes.
2	Nutrient and soil management on farm	This topic focuses on the management of nutrient application at farms to minimise impacts on water, i.e. nutrient runoff into streams and waterways, while maintaining and enhancing soil quality. This can be achieved through the development of nutrient management plans and excluding stock from waterways. In addition, soil should be managed so as to protect it from the problems of compaction, erosion, poor drainage, soil acidity and nutrient deficiencies.	Reducing environmental impact	Medium. Dairy farmers have operational control over manure and fertiliser management on farms.
3	Water availability and efficiency	Water availability is managed responsibly and efficiently throughout the dairy value chain. This is becoming increasingly important, as the ever-increasing challenges and physical impacts of climate change on Australian agriculture is linked to more water scarcity and drought conditions. The efficient use of water across the supply chain will help to increase resilience of the industry and maintain productivity.	Reducing environmental impact	Medium-high. Dairy farmers have limited influence over water use in feed production, however they have a large degree of control over water on-farm. Processors also have a high degree of operational control over water use at manufacturing sites.
4	Biodiversity	Land managed for agriculture includes assets important for biodiversity conservation. Typical biodiversity assets on dairy farms include remnant native vegetation (such as patches of forest, woodlands, shrublands and grasslands). It is important that direct and indirect biodiversity risks and opportunities are understood and strategies to maintain and enhance it are established. On-farm revegetation represents additional benefits to the industry (on top of biodiversity services) in terms of shade and shelter for stock, shelter for crop and pasture production, improvement of amenity and land value, as well as potential generation of carbon offsets that would have marketable biodiversity characteristics.	Reducing environmental impact	Medium-high. Farmers have a large degree of control over managing their sites for biodiversity conservation. However, improving the industry’s performance on this topic is very much linked to farmers realising the co-benefits associated with it.

No.	Topic	Topic description	Relevant dairy sustainability commitment	Influence of industry
5	Non-food waste and packaging	This topic relates to non-food waste and packaging across the industry. It is important to manage and cut out these waste streams along the value chain and minimise waste to landfill. Packaging should be recyclable, compostable or reusable when possible. This allows the industry to make more efficient use of resources and reduce its environmental impact.	Reducing environmental impact	Medium-high. Dairy farms and processors generally have a high degree of operational control over the waste that their operations generate. They have some influence on how their waste is treated, but the ability to recycle or repurpose certain waste streams depends on the availability of local programs or markets, and waste management infrastructure.
6	Food wastage	Food waste includes waste produced across the dairy value chain (according to the 2018 Australian Dairy Industry Sustainability Reports, up to \$129 million of milk is either lost or wasted annually) and also that produced by consumers, which includes the deliberate discarding of uneaten food. This issue could pose an opportunity across the supply chain to improve efficiency, resource use and industry competitiveness. Successfully reducing food waste could also have benefits for people facing food insecurity across Australia.	Reducing environmental impact	Medium-high. As for #5.
7	Responsible sourcing of feed	Unsustainably sourced feeds such as soy and palm oil meals should not be used as a feed source in the industry. The Australia grain industries import both soybean meal (mainly from Latin America) and palm kernel meal (from South-east Asia) for use as livestock feeds. There is a risk that these feeds may have significant deforestation impacts associated with their production.	Reducing environmental impact	Low. Dairy farmers have limited influence over biodiversity impacts related to feed production in the supply chain. However, as a whole the industry could work with the grains industries to understand and address the importation of unsustainably sourced feeds into Australia.
8	Physical climate risk	Climate change impacts including water scarcity can affect milk supply and the viability of the industry in some regions. In recent times, as limited rainfall continues to place pressure on water supplies across the country, farmers in Victoria's north and the Riverina region of NSW are being directly impacted. In addition, climate change related temperature increase can result in additional heat stress for animals. This can have a significant impact on animal welfare, and can affect feed intake and therefore milk production, milk composition and fertility. Other extreme weather events such as heavy frosts can impact dairy farmers, due to stalled pasture growth.	Reducing environmental impact	Low. The industry has limited influence over climate change impacts as this is largely due to factors outside of the industry's operational control. However, adaptation is critical. Failure to adapt will have major impacts on economic and social aspects.

No.	Topic	Topic description	Relevant dairy sustainability commitment	Influence of industry
9	Energy management and efficiency	Purchased electricity/other fuels is a significant operating cost for dairy companies. Efficient energy usage is essential to maintain a competitive advantage in this industry, as purchased fuels and electricity account for a significant portion of total production costs. Decisions regarding the use of alternative fuels, renewable energy, and on-site generation of electricity versus purchasing from the grid can play an important role in influencing both the costs and reliability of the energy supply.	Reducing environmental impact	High. Dairy farmers and processors have a high degree of operational control over energy use at their sites.
10	Animal care	It is important that dairy animals are treated with care based on the five freedoms that describe society's expectations for the conditions animals will experience when under human control, namely: <ul style="list-style-type: none"> • Freedom from hunger or thirst by ready access to fresh water and a diet to maintain full health and vigour • Freedom from discomfort by providing an appropriate environment including shelter and a comfortable resting area • Freedom from pain, injury or disease by prevention or rapid diagnosis and treatment • Freedom to express (most) normal behaviour by providing sufficient space, proper facilities and company of the animal's own kind • Freedom from fear and distress by ensuring conditions and treatment which avoid mental suffering. 	Providing best care for all our animals	High. Dairy farm owners, managers, and employees directly impact the quality of care their animals receive. It is farmers responsibility to establish the farm's policies for cow care and work with veterinarians to ensure proper health and nutrition.
11	Antimicrobial stewardship	Antibiotics are used by dairy farmers to protect the health and welfare of dairy herds. This topic relates to the increasing concern of the use of antibiotics in livestock production due to the potential impacts on public health. Antibiotics used in livestock production that are of critical importance to humans may promote the development of antibiotic-resistant strains of bacteria. It is important that the industry promotes the responsible use of antibiotics i.e. as little as possible, as much as necessary – for effective animal health treatments.	Providing best care for all our animals	High. Dairy farmers have a high degree of operational control over animal health management practices that impact antibiotic use.
12	Calves, including bobby calves	For cows to produce milk, they have to give birth to a calf. 'Bobby Calves' are newborn calves that are less than 30 days old and not kept with their mothers and sold for meat or reared for dairy-beef. Around 400,000 of these calves are processed each year in Australia, supporting local jobs and providing a valuable protein resource. Care of these calves is a high priority for the dairy industry, and therefore it is important that calves are managed appropriately. To this end the dairy industry is investing in research, development and extension to improve the welfare of calves which will not enter the dairy herd as adults, no matter their fate. The sustainable integration of bobby calves into the beef chain is being prioritised.	Providing best care for all our animals	High. As for #10.

No.	Topic	Topic description	Relevant dairy sustainability commitment	Influence of industry
13	Investment in preventative health for animals	When dairy farmers invest in preventative health for dairy animals, it helps to ensure the outcome of increased cow longevity and health, thus contributing to the enhanced sustainability of the industry. Examples of preventative health include installing cooling infrastructure, developing strategies for lameness, animal nutrition and fertility.	Providing best care for all our animals	High. As for #10.
14	Animal husbandry	The welfare of cows is important to the Australian dairy industry, as they must be in peak condition to deliver safe, quality dairy products, and ensure the future sustainability of the industry. It is therefore important that producers move to end husbandry practices that may cause unacceptable levels of pain, distress or deleterious health consequences. The industry has many welfare practices/targets in place to manage the welfare of livestock, including for example no calving induction by 2022, no tail docking, providing pain relief for disbudding horns, and promoting positive stock handling practices.	Providing best care for all our animals	High. As for #10.
15	Farm biosecurity	Biosecurity is vital for protecting individual farms, the dairy industry and Australian agriculture as a whole, against the spread of pests and diseases on and between farms, and from overseas. If not managed correctly, it can have serious economic and social consequences. The industry works to manage this risk directly, as it is the responsibility of farmers to have an active biosecurity plan and communicate any requirements for staff and visitors coming onto their farms. At a sovereign level, the industry is protected from biosecurity issues as a result of strict biosecurity controls at Australia's borders.	Providing best care for all our animals	Medium. Farmers have a high degree of control over the management of biosecurity at a site level. However, biosecurity also requires management at the sovereign level and the industry has less influence over this.
16	Product safety and quality	This topic is about maintaining the safety and quality of dairy products throughout the supply chain, in a transparent manner. This acts to ensure all dairy products and ingredients sold are safe.	Improving well-being of people	High. Dairy farmers and processors have a high degree of operational control over management and production practices that impact food safety.
17	Dairy products in healthy diets	In recent years, there has been an intensified consumer focus on diet and healthy lifestyles, and this has prompted product transformations and new innovations centred on natural, wholesome and organic ingredients. This topic focuses on how healthy and organic foods have emerged as major growth categories and will remain in the spotlight for food manufacturers as consumer awareness regarding social and environmental impacts of food products continues to grow. As part of this healthy eating mega trend, there is an increasing demand for plant-based beverages such as soy and almond. In this area, it is important that the dairy industry promotes the role of dairy in a nutritionally sustainable diet.	Improving well-being of people	High. The industry can exert a high degree of influence over raising awareness of what constitutes a healthy diet and dairy's role in this.

No.	Topic	Topic description	Relevant dairy sustainability commitment	Influence of industry
18	Worker health and safety	This topic focuses on safe working environments and workers' rights to health and no harm across the dairy value chain. By developing a strong safety culture and reducing dairy industry employees' exposure to potentially harmful situations, companies can proactively guard against accidents and improve workforce health and safety.	Enhancing economic wellbeing and livelihoods (Part A – Industry)	High. Dairy farmers and processors have a high degree of operational control over the conditions of their workplaces and policies/practices that promote safety.
19	Mental health and wellbeing	Isolation, drought and economic hardship can take their toll on dairy workers' mental health. In addition, stress and anxiety significantly impact job performance, worker satisfaction and retention and ultimately affect the achievement of the industry's objectives to deliver greater profitability across the supply chain. Building personal and family resilience is a process that can help dairy workers manage difficult times and get the most out of dairy life. It is important to link rural communities, families and individuals with the most appropriate services and information.	Enhancing economic wellbeing and livelihoods (Part A – Industry)	Medium. Although dairy farmers and processors can work to create workplaces that do not contribute to poor mental health and well-being, their overall control over individual's mental health is more limited than with their workers' physical health.
20	Human rights	Respecting the rights of individuals working across the industry and those whose rights are potentially impacted in relation to the industry's business activities. For workers, this is recognised in the International Labour Organisation's core conventions, the Ethical Trading Initiative base code, and SA8000 standards on social accountability in the workplace. Respecting human rights also includes the provision of reasonable remedy where the industry causes, contributes or is linked to human rights breaches or violations. This includes and is not limited to child labour, forced/bonded labour, safe and hygienic work environment, harsh or inhumane treatment of workers.	Enhancing economic wellbeing and livelihoods (Part A – Industry)	Medium. The industry has a moderate level of influence in ensuring that dairy farmers and processors do not contribute to human rights breaches.
21	Business management capability	Supporting dairy industry workers' capability and business performance is important to manage business volatility. There is great volatility across the whole industry, and dairy workers at both farms and processing facilities need more business management skills and tools to manage this. For example, many farmers do not have key business documents such as budgets and business plans in place. It could be beneficial for the industry if both farmers and workers at processing facilities, were provided with opportunities for more education and training in business management. Providing this support could also help to improve dairy workers' mental health in relation to the stressors associated with successfully managing a business.	Enhancing economic wellbeing and livelihoods (Part A – Industry)	High. Dairy farmers and processors have a high degree of operational control over the training that they provide their workers. In addition, industry organisations such as Dairy Australia can develop training materials and resources for the industry as a whole.

No.	Topic	Topic description	Relevant dairy sustainability commitment	Influence of industry
22	Talent attraction and succession planning	In order for the industry to attract and retain workers on farms and in factories, the right conditions need to be provided, including the promotion of proactive succession planning. This helps to maximise knowledge transfer across the industry and engages a new generation of dairy industry workers. Ultimately, this will lead to dairy businesses being empowered to better plan for the future, manage risk better and increase long-term profitability.	Enhancing economic wellbeing and livelihoods (Part A – Industry)	Medium. Although dairy farmers and processors have a high degree of operational control over the training that they can provide their workers, there are external factors outside of the industry's control that may mean industry workers leave the industry.
23	Inclusion and diversity	Providing equal opportunities, combating discrimination and promoting inclusion and diversity. Effective diversity management can lead to productivity improvements and helps foster more accountable practices and industry innovation through diversity of thought. This is relevant within industry and its members, as well as in dealings with stakeholders across the value chain.	Enhancing economic wellbeing and livelihoods (Part A – Industry)	Medium. Although dairy farmers and processors have a high degree of operational control over the workers they hire, there are external factors, such as a lack of diverse workers seeking employment in the industry, that reduce the level of influence.
24	Market growth, development and promotion	This topic considers both domestic and export markets. Market growth and development would be supported by increased investment e.g. in agricultural transport infrastructure, which in turn drives down the cost of reaching key markets and supports greater profitability across the supply chain. Market growth and development could also be supported by increased R&D and innovation in commercial tools, products, and services that give the dairy industry a competitive edge. Increased industry marketing and promotion will also help market growth and development.	Enhancing economic wellbeing and livelihoods (Part B – Viability and innovation)	Medium. The industry has a moderate level of influence when driving market growth and development through supporting the correct R&D programs and promoting the industry domestically and abroad.
25	Resilience of dairy regions	The dairy sector contributes to the resilience and economic viability of farmers and rural communities, including regional job creation, now and into the future, ensuring the industry remains competitive and profitable. It is important to understand the contribution the dairy industry makes to supporting the economies of dairy regions, and to promote the contribution of dairy so that it is recognised in relevant local and state government strategies (especially growth and investment strategies). This topic has linkages with #27 as it has valuable social and economic benefits.	Enhancing economic wellbeing and livelihoods (Part B – Viability and Innovation)	Medium. Increasing / maintaining the resilience of dairy regions relies on a number of factors within the industry's control i.e. improving business management capability, but also multiple factors that lie outside it i.e. climate change impacts such as drought.

No.	Topic	Topic description	Relevant dairy sustainability commitment	Influence of industry
26	Aligned policy advocacy	Favourable government policy settings are critical to the long-term success of the Australian dairy industry as a whole. The advocacy landscape is changing – it is increasingly important to demonstrate that the industry has broad community support to get any traction with government. In addition, unity is important – fragmented industries are increasingly the target for activists, agitators and splinter groups. Therefore, it is important that the industry comes together to work on policy issues and advocates for policy change using one united voice. Historically, that has sometimes been a challenge, but in order to achieve the most favourable policy outcomes for the industry in the future, the establishment of ever stronger partnerships and networks will be required.	Enhancing economic wellbeing and livelihoods (Part B – Viability and innovation)	Medium. Although the industry has a high degree of control over how it chooses to advocate for policy change, external factors, reduce the industry's overall influence.
27	Value creation and profitability across industry	It is important that the dairy industry is profitable at both the farm and processor level to ensure the long-term viability of the industry. This topic relates to maintaining profitability and the generation of greater value throughout the supply chain, which works to increase external confidence in the industry and allows for calculated risks, leading to increased innovation and greater resilience. In addition, it considers the sharing of this profitability throughout the supply chain, in a balanced and equitable manner. It is also about building greater transparency through the supply chain in ways that help to restore trust, in particular between farmers and processors, rather than regulating price or supply. It is important that the whole industry continues to advocate for the value of dairy and to promote the generation of greater value to be maintained and shared across all of industry.	Enhancing economic wellbeing and livelihoods (Part B – Profitability, Viability and innovation)	Medium. As for #25.

Appendix 6. References, data sources and abbreviations

Internal references and surveys

Dairying for Tomorrow (DfT) NRM Survey –

A survey conducted every six years (2006 and 2012), with 800 dairy farmers nationally to determine key issues facing farmers in accessing and managing natural resources. It covers aspects such as irrigation water access, fertiliser and effluent management, waterways and native vegetation. As such it provides indicators of on-farm practice change over time. The survey is funded by Dairy Australia, but conducted by an independent organisation.

The Sustainability Framework NRM Survey of 600 dairy farmers was conducted in 2015 specifically to provide data on practices being undertaken on dairy farms to minimise impacts on land, soil and water due to farming practices. Although this was the first Sustainability Framework NRM Survey conducted, several metrics had been measured in past Dairying for Tomorrow NRM surveys and where possible, trend data was included in the survey report. The next NRM Survey will be conducted in 2020.

Visit: <https://www.dairyingfortomorrow.com.au/wp-content/uploads/Australian-Dairy-Sustainability-Framework-NRM-Survey-2015.pdf>

DairyBase – This is a web-based tool developed by Dairy Australia that allows dairy farmers and their advisors to assess farm business performance using a consistent industry agreed methodology. DairyBase contains additional verified and validated datasets from farm business consultants and service providers. It also contains information from the Dairy Farm Monitor Project (DFMP) that gathers financial and production data from a selection of dairy farms across Victoria and the Queensland Dairy Accounting Scheme (QDAS).

Visit: www.dairybase.com.au/

Dairy Manufacturers Sustainability Council –

The Dairy Manufacturers Sustainability Council (DMSC) is a nationally-recognised community of practice comprised primarily of environmental and sustainability group managers from Australian dairy manufacturing companies. Established in 1995, the DMSC has an industry-wide focus that assists company members to improve environmental compliance and the sustainability of their operations. It now produces an Environmental Sustainability Scorecard each year, reporting on manufacturers' progress against the environmental sustainability goals and targets in the Australia Dairy Industry Sustainability Framework.

Visit: <http://manufacturing.dairyaustralia.com.au/resource-library/sustainability-reports/manufacturing-sustainability-reports>

Dairy Trust Tracker – This national survey of 1300 members of the public is undertaken by Dairy Australia and conducted annually online. The data generated enables Dairy Australia to monitor levels of trust, identify emerging issues, and track the public's perceptions of dairy foods and the industry in general.

Dairy Situation and Outlook – This regular report from Dairy Australia is undertaken three times per year to update and appraise farmers and industry stakeholders about the current situation affecting the outlook for the Australian dairy industry.

Visit: www.dairyaustralia.com.au/industry/dairy-situation-and-outlook/situation-and-outlook

Genetics and Animal Husbandry Survey –

Conducted every two years from 2008 to 2016.

It is now undertaken every three years with the most recent survey undertaken in November 2019. It is a national survey of Australian dairy farmers designed to monitor performance in key priority areas. While self-reported, survey results are validated through independent mechanisms (e.g. focus groups).

Funded by Dairy Australia, over 400 dairy farmers are surveyed nationally. The most recent survey was conducted in October/November 2019.

Visit: <https://www.dairyaustralia.com.au/dairyaustralia/farm/animal-management/animal-welfare?keyword=Genetics%20and%20Animal%20Husbandry%20Survey%20Brochure>

In Focus – An annual publication highlighting key stats from across the supply chain, acting as a reference document with easily accessible information used by stakeholders inside and outside the dairy industry. The report provides one source of truth in relation to the dairy industry's key characteristics and has been produced for more than two decades. In Focus 2019 is based on statistics for the 2018–19 year.

Visit: www.dairyaustralia.com.au/industry/farm-facts/in-focus

The Power of People on Australian Dairy Farms (POP) Survey –

This independent survey of around 400 dairy farmers was conducted in 2014 and 2017, with the next one due to be undertaken in 2020. Commissioned by Dairy Australia, it is used to identify the need for support, training and development and seeks to understand farmer attitudes, behaviours and needs on topics such as farm safety, employee capabilities and employee attraction, retention and transition.

Visit: www.thepeopleindairy.org.au/projects/pop

National Dairy Farmer Survey (NDFS) – A bi-annual survey conducted with dairy farmers nationally (in 2019, n=800 for main survey and n=200 for supplementary survey) to understand their current views of the industry, the challenges they are facing and the impact of these on their businesses. It also provides information on production, herd sizes and future intentions. The main survey is conducted in February each year and a smaller supplementary survey takes place in August each year amongst a portion of respondents interviewed in the main survey. The survey is funded by Dairy Australia but conducted by an independent organisation.

Visit: <https://www.dairyingfortomorrow.com.au/wp-content/uploads/Australian-Dairy-Sustainability-Framework-NRM-Survey-2015.pdf>

External references and surveys

Australian Animal Welfare Standards and Guidelines for Cattle – The development of the *Australian Animal Welfare Standards and Guidelines for Cattle* is an important project under the Australian Animal Welfare Strategy (AAWS) – a previous Australian Government initiative that guides the development of new, nationally consistent policies to enhance animal welfare arrangements in all Australian states and territories. The development process began in 2009 and has been supported and funded by all governments, Australian Dairy Farmers, Australian Lot Feeders Association and Cattle Council of Australia. In mid-January 2016, all state and territory governments agreed to the *Standards and Guidelines* and they will now be progressively implemented by each state and territory.

Visit: www.animalwelfarestandards.net.au/cattle

Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) – ABARES is the science and economics research bureau within the Australian Government Department of Agriculture and Water Resources. ABARES research products take a variety of forms, including publications, data, data tools, workshops, briefings and presentations and much of the research is made publicly available. The Progress Report draws on ABARES data to determine and track performance measures for farm profitability.

Visit: www.agriculture.gov.au/abares

Australian Dietary Guidelines – The Australian Dietary Guidelines are developed by the National Health and Medical Research Council (NHMRC). The guidelines use the best available scientific evidence to provide information on the types and amounts of foods, food groups and dietary patterns that aim to promote health and wellbeing, reduce the risk of diet-related conditions, and reduce the risk of chronic disease. The Guidelines are for use by health professionals, policy makers, educators, food manufacturers, food retailers and researchers.

Visit: www.eatforhealth.gov.au/guidelines

Australian Milk Residue Analysis (AMRA) Survey – The Australian Milk Residue Analysis (AMRA) Survey provides a national, independent chemical residue monitoring program of Australian bovine milk. The AMRA Survey has a key role in promoting the dairy industry's reputation and facilitating ongoing market access by monitoring on-farm chemical use. Throughout each year around 1000 samples of raw milk are collected from farms across all dairying regions of Australia. These samples are used to conduct around 13,000 analyses for nearly 70 different compounds covering antimicrobials, animal parasite control chemicals, feed contaminants and environmental contaminants.

Visit: www.agriculture.gov.au/export/controlled-goods/dairy/links/australian-milk-residue-survey

Australian Packaging Covenant Organisation (APCO) is a co-regulatory, not-for-profit organisation that partners with government and industry to reduce the harmful impact of packaging on the Australian environment.

Visit: <https://www.packagingcovenant.org.au/>

Dairy Sustainability Framework – The global Dairy Sustainability Framework (DSF) provides a holistic approach to global dairy sustainability activity, generating a common sustainability commitment. The Dairy Sustainability Framework has been developed to provide overarching goals and align the sector's actions globally on the path to sustainability. The DSF enables the dairy sector to take a holistic approach to sustainability through a common language, alignment of international sustainability activity and through this generate a common sustainability commitment that can be expressed at a global level, but also regional, national and organisational levels.

Visit: <https://dairysustainabilityframework.org/>

Product Safety Recalls Australia – The Australian Competition and Consumer Commission (ACCC) manages a national internet database, the Recalls Australia website, for all product safety recalls directed at consumers.

Visit: www.productsafety.gov.au/recalls

Queensland Dairy Accounting Scheme (QDAS) is a service of the Queensland Department of Agriculture, Fisheries and Forestry, and was established to improve the understanding of business principles among advisors and dairy farmers by providing farm management accounting and analysis. QDAS has evolved to now examine the business traits of profitability, solvency and efficiency and continues to help dairy farmers make informed decisions based on business information.

The QDAS reports provide a summary of physical and financial data from various dairy production systems in Queensland. Farmer participation in QDAS is voluntary and free. Information from the QDAS is incorporated into DairyBase.

Visit: <http://dairyinfo.biz/technical-information/farm-business-management/qdas/>

Dairy Farm Monitor Project – The project provides a comprehensive physical and financial analysis for farms across Australia. Reports are used by industry and government to inform policy and service delivery to generate economic growth. Farmers can compare their performance and identify areas for improvement. The data collected through the Dairy Farm Monitor Project is now stored in DairyBase.

Visit: www.dairyaustralia.com.au/farm/farm-business-management/dairy-farm-monitor-project

Regional Wellbeing Survey – The University of Canberra Regional Wellbeing Survey (RWS) is an annual survey of residents living in Australia's rural and regional areas. First conducted in 2013, it examines the wellbeing of people in rural and regional communities, and how this wellbeing is influenced by the many social, economic and environmental changes occurring in these communities. The results of the RWS enable the provision of insights that support the development of strategies to build wellbeing, resilience and adaptive capacity in rural and regional Australia.

Visit: <https://www.canberra.edu.au/research/institutes/health-research-institute/regional-wellbeing-survey/survey-results>

Safe Work Australia is an independent statutory agency responsible for improving occupational health and safety and workers' compensation arrangements across Australia.

Visit: www.safeworkaustralia.gov.au/

Appendix 7. GRI content table

The Australian Dairy Industry Sustainability Report 2019 references Disclosures from GRI 101: Foundation 2016, GRI 102 General Disclosures 2016, GRI 305-4 Emissions 2016 and GRI 416-2 Customer Health and Safety 2016.

GRI Standard Disclosure ¹⁰⁰	Location	Omissions
GRI 101: Foundation 2016		
GRI 102: General Disclosures 2016		
102-1 Name of the organization.	About this report	
102-2 A description of the organization's activities.	The Australian dairy industry Appendix 1: Governance	
102-3 Location of the organization's headquarters.	Back cover	
102-4 Number of countries where the organization operates, and the names of countries where it has significant operations and/or that are relevant to the topics covered in the report.		Australia
102-5 Nature of ownership and legal form.	Appendix 1: Governance	
102-6 Markets served, including: geographic locations where products and services are offered; sectors served; types of customers and beneficiaries.	The Australian dairy industry	
102-7 Scale of the organization, including: total number of employees; total number of operations; net sales; total capitalization broken down in terms of debt and equity; quantity of products or services provided.	The Australian dairy industry	Total capitalization not available sector-wide
102-8 Total number of employees by employment contract (permanent and temporary), by gender.	The Australian dairy industry	Information by gender, region and tenure is not available sector-wide.
102-9 A description of the organization's supply chain, including its main elements as they relate to the organization's activities, primary brands, products, and services.	Impact along the value chain	Information broken down by brands is not available sector-wide but remains with individual companies.
102-10 Significant changes to the organization's size, structure, ownership, or supply chain.	Message from the Chairs The Australian dairy industry	
102-11 Whether and how the organization applies the Precautionary Principle or approach.		Refer to Dairy Australia's Audit and Risk Committee Charter https://www.dairyaustralia.com.au/about-dairy-australia/about-the-organisation/who-we-are/corporate-governance
102-12 A list of externally-developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes, or which it endorses.	Appendix 2: Framework principles and guidance	
102-13 A list of the main memberships of industry or other associations, and national or international advocacy organizations.	Appendix 2: Framework principles and guidance and Appendix 1: Governance	
102-14 A statement from the most senior decision-maker of the organization about the relevance of sustainability to the organization and its strategy for addressing sustainability.	Message from the Chairs	
102-15 A description of key impacts, risks, and opportunities.	Material issues – managing what matters Appendix 5: Applying the materiality principle	

¹⁰⁰ Disclosure descriptions have been summarised. For detailed descriptions refer to the GRI Standards <https://www.globalreporting.org/standards>

GRI Standard Disclosure ¹⁰¹	Location	Omissions
GRI 101: Foundation 2016		
GRI 102: General Disclosures 2016		
102-16 A description of the organization's values, principles, standards, and norms of behaviour.	Appendix 2: Framework principles and guidance	
102-18 Governance structure of the organization.	Appendix 1: Governance	
102-40 A list of stakeholder groups engaged by the organization.	Appendix 3: Stakeholder engagement	
102-41 Percentage of total employees covered by collective bargaining agreements.		Information unavailable sector-wide.
102-42 The basis for identifying and selecting stakeholders with whom to engage.	Appendix 3: Stakeholder engagement	
102-43 The organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	Appendix 3: Stakeholder engagement	
102-44 Key topics and concerns that have been raised through stakeholder engagement.	Material issues – managing what matters Appendix 3: Stakeholder engagement Appendix 5: Applying the materiality principle	
102-45 A list of all entities included in the organization's consolidated financial statements or equivalent documents.		Not applicable to a sector-wide report.
102-46 An explanation of the process for defining the report content and the topic Boundaries. An explanation of how the organization has implemented the Reporting Principles for defining report content.	Material issues – managing what matters Appendix 5: Applying the materiality principle	
102-47 A list of the material topics identified in the process for defining report content.	Material issues – managing what matters Appendix 5: Applying the materiality principle	
102-48 The effect of any restatements of information given in previous reports, and the reasons for such restatements.	Re-statements are noted in the text.	
102-49 Significant changes from previous reporting periods in the list of material topics and topic Boundaries.	Material issues – managing what matters	
102-50 Reporting period for the information provided.	About this report	
102-51 If applicable, the date of the most recent previous report.	About this report	
102-52 Reporting cycle.	About this report	
102-53 The contact point for questions regarding the report or its contents.	Back cover	
102-54 The claim made by the organization, if it has prepared a report in accordance with the GRI Standards.	About this report	
102-55 The GRI content index, which specifies each of the GRI Standards used and lists all disclosures included in the report.	Appendix 7: GRI content table	
102-56 A description of the organization's policy and current practice with regard to seeking external assurance for the report.	About this report	

¹⁰¹ Disclosure descriptions have been summarised. For detailed descriptions refer to the GRI Standards <https://www.globalreporting.org/standards>

GRI Standard	Disclosure ¹⁰²	Location	Omissions
GRI 400 Social Standard Series			
Customer Health and Safety			
GRI 103: Management Approach 2016	103-1 Explanation of why the topic is material and the Boundary for the material topic.	Goal 5: All dairy products and ingredients sold are safe	
	103-2 Explanation of how the organization manages the topic.	Goal 5: All dairy products and ingredients sold are safe	
	103-3 Explanation of how the organization evaluates the management approach.	Goal 5: All dairy products and ingredients sold are safe	
GRI 416-2	Incidents of non-compliance concerning the health and safety impacts of products and services.	Goal 5: All dairy products and ingredients sold are safe	
GRI 300 Environment Standard Series			
Emissions			
GRI 103: Management Approach 2016	103-1 Explanation of why the topic is material and the Boundary for the material topic.	Goal 10: Reduce Greenhouse Gas (GHG) emissions intensity	
	103-2 Explanation of how the organization manages the topic.	Goal 10: Reduce Greenhouse Gas (GHG) emissions intensity	
	103-3 Explanation of how the organization evaluates the management approach.	Goal 10: Reduce Greenhouse Gas (GHG) emissions intensity	
GRI 305-4	GHG emissions intensity.	Goal 10: Reduce Greenhouse Gas (GHG) emissions intensity	

¹⁰² Disclosure descriptions have been summarised. For detailed descriptions refer to the GRI Standards <https://www.globalreporting.org/standards>



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