Inquiry into food security

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Contact

Craig Hough — Director Policy and Strategy, Australian Dairy Farmers Ltd

03 8621 4206 I chough@australiandairyfarmers.com.au

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Executive Summary

It is an important time to consider food security in Australia and abroad. Recent floods, COVID-19 pandemic and other supply chain issues and rising inflation have created concern that Australia may not be on the right trajectory to feed itself and the rest of the world adequately now and into the future. This is a concern for many countries including the United Nations. Feeding a world population of over 9 billion people in 2050 will require raising overall food production by some 70 per cent between 2005 and 2050. Providing a pathway to help Australian agriculture grow sustainably to meet this challenge is an important initiative.

The Australian Dairy Farmers Ltd (ADF), the peak body representing the dairy farmers in Australia, has been concerned about the growth trajectory of its industry for some time. Its sector has experienced declining milk volumes since deregulation in 2000. This is due to a range of factors including but not limited to rising input costs consistently eroding profitability, lack of productivity growth, decline in export market share, social licence challenges, change in consumer preferences and production systems and climate change. The *Australian Dairy Plan* and its supporting programs and initiatives is the industry's commitment to address these challenges and make dairy more profitable and sustainable into the future. This is important because food security, as defined by the United Nations, is about access to safe and nutritious food. Based on the *Australian Dietary Guidelines*, this includes consumption of at least 2 to 3 serves of dairy foods per person every day. Unfortunately, Australia and the rest of the world are well under this amount. This gap is contributing to rising adverse health conditions like Osteoporosis.

To fill the dairy consumption gap in Australia and the rest of the world, action is required by the Australian Government to support industry growth. Substantial effort needs to be made in the following areas:

1. Increase Australia's consumption of dairy foods
    - Ensure dairy is included in the mandatory dietary standards for aged care
    - Implement the Inquiry into definition of meat and other animal products' recommendations
2. Ensure domestic trade is free and fair
    - Strengthen the Competition and Consumer Act 2010 (CCA)

3. Reduce international trade barriers
    - Make reduction in NTBs a priority at G20
4. Reduce food waste in the dairy industry
    - Co-fund implementation of the Dairy Sector Food Waste Action Plan
5. Increase dairy farm productivity
    - Request the Productivity Commission to analyse drivers and barriers to dairy productivity
    - Narrow the focus of the Drought Resilience Adoption and Innovation Hubs
6. Increase mitigation and adaptation to climate change
    - Accelerate commercialisation and adoption of emission reduction technologies
    - Provide a 2nd round Energy Efficient Communities Program – Dairy Farming Business Grants
    - Make farmers eligible for the R&D tax incentive for provision of farm data to RDCs
    - Increase the cap and shift to a needs-based model for the Special Disaster Grants
    - Develop a whole of government climate adaptation strategy
7. Improve water security and efficiency
    - Achieve the MDB Plan through apportion of innovation and efficiency in delivering environmental outcomes
    - Prioritise development of dairy production in the National Water Grid
8. Reduce the risk and impact of pest plants, animals and diseases
    - Transform the biosecurity system
9. Increase the availability of people to work in dairy
    - Ensure the Jobs White paper includes key Agriculture Workforce Strategy recommendations
    - Ensure new funding for Visa processing prioritises dairy
    - Pass the Social Services Legislation Amendment (Enhancing Pensioner and Veteran Workforce Participation) Bill 2022

All of these priorities will help Australia meet its global dairy food security challenge while helping stop the growing number of dairy farmers and processors exiting the industry.

Introduction

The Australian dairy industry welcomes the House of Representatives Standing Committee on Agriculture's *Inquiry into opportunities to strengthen and safeguard food security in Australia*. A rapidly increasing global population running alongside declining global sustainability, increasing cost of living and barriers or limitations being placed on agriculture production makes global food security a significant challenge. This submission provides comprehensive analysis and actions how the Australian Government and Parliament can help Australian dairy make its contribution to resolving this global problem. It is structured consistent with committee's Terms of Reference to make it easier for the committee to navigate.

The ADF, the body making this submission, is the peak body representing the Australian dairy farmers. It has consulted with its industry partner organisations, the Australian Dairy Products Federation (ADPF), the peak body representing dairy processors, and Dairy Australia (DA), the industry owned Research Development Corporation (RDC) responsible for delivering Research, Development and Extension (RD&E) and marketing services, on content development. There is general alignment with the analysis and policy positions proposed.

Figure 1: Agency structure of the Australian dairy industry

Source: Dairy Australia (2022) Australian Dairy In Focus

Food security – context and definition

On 15 November 2022 the world reached a major milestone. For the first time in history the number of people inhabiting the planet reached 8 billion (United Nations 2022). While around one third of people continue to live in the world's two most populous countries, China (18.5 per cent) and India (17.7%), more people are living in third world countries in Asia, Africa and Oceania primarily due to higher fertility rates. This trend is growing at pace in terms of volume, but the percentage rate of growth is slowing. In 1960 the world had 3 billion people. Since then, it has added one billion roughly every 12 years. This compares to two billion people in 1930 and one billion in 1804. When translated to growth rate, the world is currently operating at 0.84% per year. This is down from the peak in the late 1960s, when it was at around 2%. At this rate the global population is forecast to hit its next one billion target, nine billion, just before 2050 (United Nations 2022).

The challenge with these population rises is servicing increased demand for food. In the past land clearing has enabled the world to meet this challenge. This has come at a cost to forests, grasslands and biodiversity. The world now produces more food than ever before and three times as much meat as it did 50 years ago (Ritchie 2022). Since 2000 global agriculture has met the challenge in a more sustainable manner. Productivity improvement and shift towards more intensive farming has increased food production with less arable land. Today the world uses 4.8 billion hectares, a decline of 0.1 billion hectares from its peak of almost 4.9 billion hectares in 2000. This trend provides greater certainty that increases in food production can occur at the same time as increases in sustainability i.e., as less arable land is required for production this can be used for habitat restoration.

Projections show that feeding a world population of over 9 billion people in 2050 would require raising overall food production by some 70 per cent between 2005 and 2050 (Food and Agriculture Organization 2009). Demand for cereals (for food and animal feed) is estimated to reach around three billion tonnes by 2050, an increase from around 2.1 billion tonnes today. Meanwhile demand for other food products which are more responsive to higher incomes in the developing countries, for example dairy, is expected to increase at a greater rate than cereals.

Food security is not only about the availability of food, but also access to nutritious food. The United Nations Committee on World Food Security says that a 'food secure' person is someone who has the physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. They say urgent action is required to address global food insecurity. This is why the United Nations Sustainable Development Goal (SDG) 2 sets targets to end hunger, achieve food security, improve nutrition, and promote sustainable agriculture by 2030. International cooperation and policy reform are required to obtain these targets.

According to estimates by the United Nations Food and Agriculture Organization, COVID-19 has led to a sharp increase in undernourishment. Between 720 and 811 million people in the world were facing hunger in 2020, which is 118 million more people than in 2019. Different growth rates in food availability between regions is expected to result in consumers from middle-income countries increasing their food intake more while diets in low-income countries will remain largely unchanged.

Australia is a food secure nation (ABARES 2020). It exports around 70% of agricultural production, imports around 11% of its food and provides its citizens with access to sufficient, safe and nutritious food. This is consistent with the definition of food security. However, a global rather than national perspective should be adopted when assessing food security. This means Australia's role in providing food for not just its own citizens, but the rest of the world. The more Australia can do to reduce the gap in malnourishment and hunger the better the world will be.

This is why the *Australian Dairy Sustainability Framework*, which celebrates 10 years of existence is aligned with the United Nations SDGs. A report by Dairy Australia (2022) acknowledging key achievements over this period includes the following relating to the food security challenge:

1. Dairy companies generated $15.7 billion in sales and provided 70,000 FTE jobs in 2020-21
2. 88% of general practitioners feel confident to recommend dairy as a part of a balanced diet
3. Dairy has proven to reduce fractures in aged care residents by 33%
4. 94% of dairy farmers are implementing measures to reduce emissions on farm
5. 23.5% reduction in dairy manufacturers emissions intensity since 2010-11.

This context validates Australian dairy as an important part to growing food security in Australia and abroad.

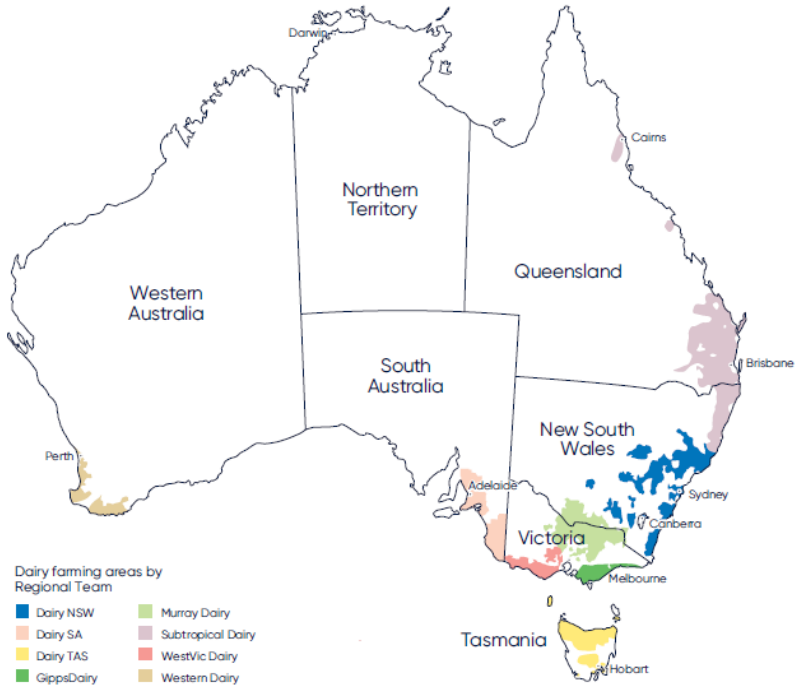
National production, consumption and export of dairy foods

Production

The Australian dairy industry comprises of 34,700 people working in 4,420 farms and 200 processing companies. Over 8.5 billion litres of raw milk are produced from 1.34 million cows per annum. Raw milk is manufactured into various cheeses, milks, yoghurts, ice creams and other products that include milk as an ingredient.

All Australian states produce milk and dairy products. Most of it occurs in Victoria, which accounts for around 60% of Australia's national milk production. The remaining milk production comprises 12% in New South Wales, 10% in Tasmania, 6% in South Australia, 4% in Western Australia and 4% in Queensland.

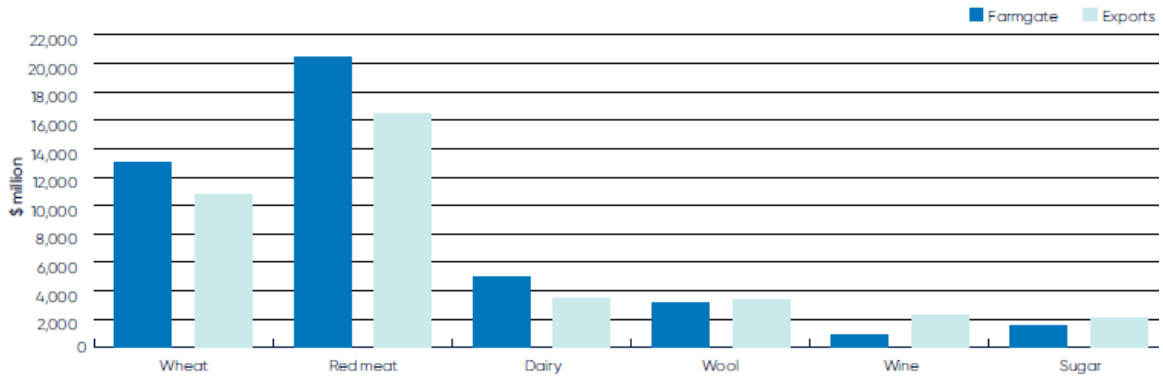
Figure 2: Dairy farming regions in Australia



Dairy Australia (2022) *Australian Dairy In Focus*

When measured by value, dairy is Australia's third largest agriculture sector. This is based on its 2021-22 farmgate production and export value.

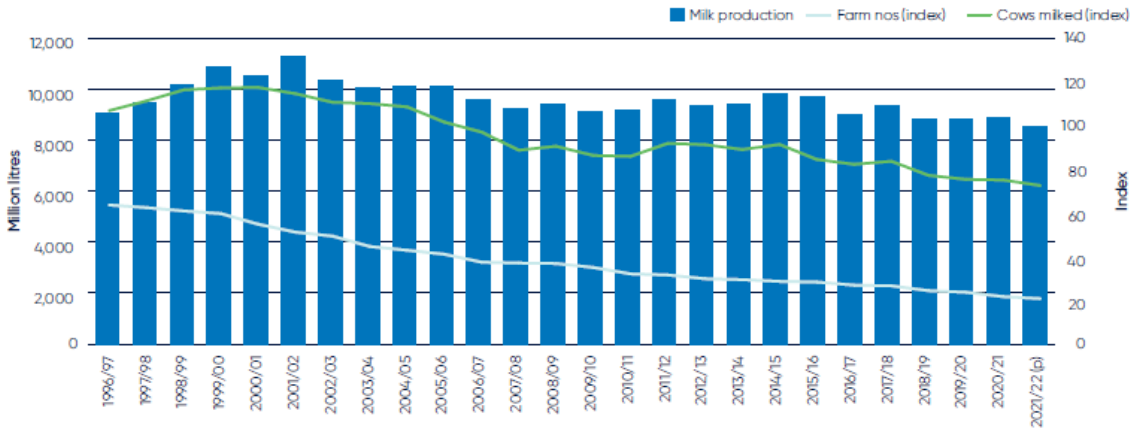
Figure 3: Farmgate value and export value by commodity 2021-22



Source: Dairy Australia (2022) *Australian Dairy In Focus*

From a production volume or output standpoint the dairy industry has been experiencing a long-term decline since the industry was deregulated in 2000. The 8.5 billion litres of raw milk produced in 2021-22 is the industry's lowest since at least 1996-97.

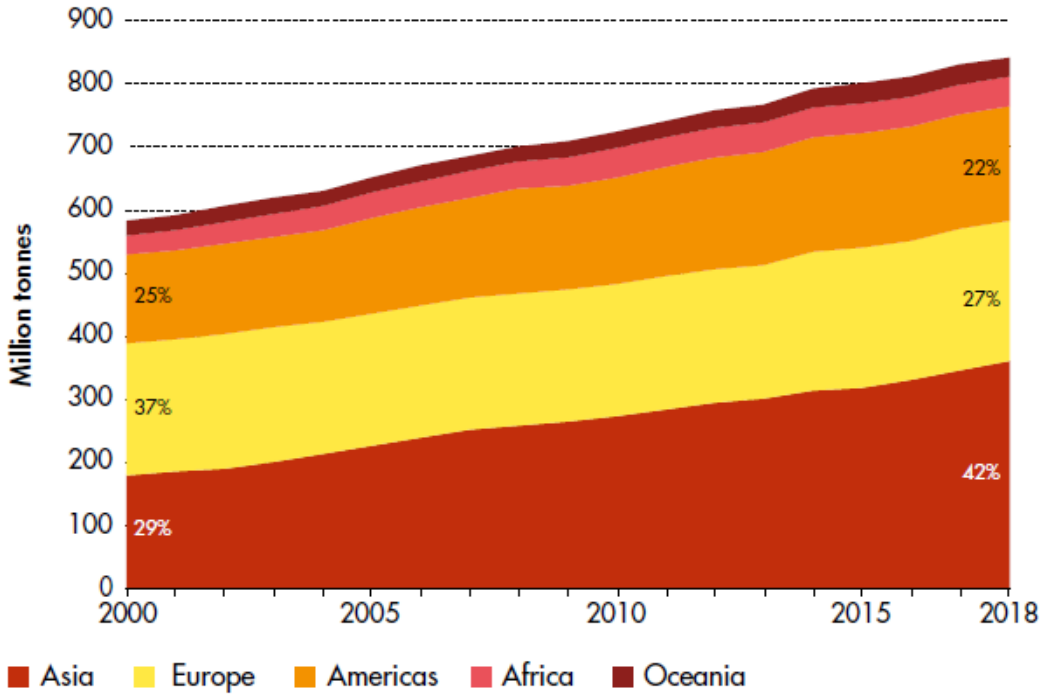
Figure 4: Australian milk production versus indices of farms and cows milked



Source: Dairy Australia (2022) *Australian Dairy In Focus*

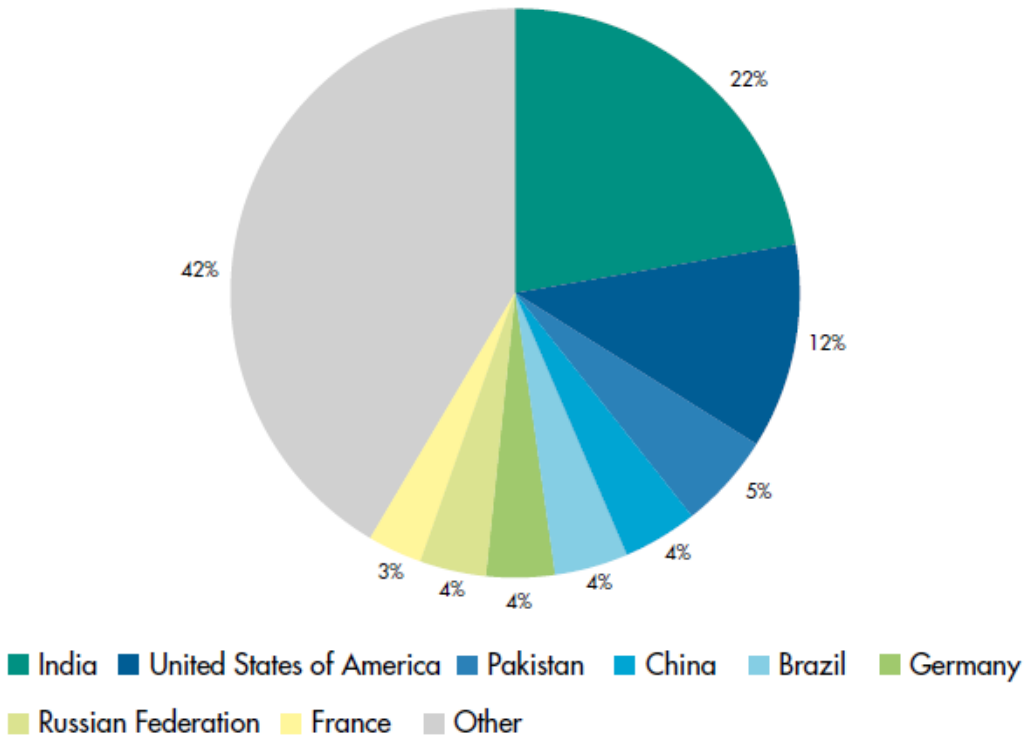
The downward trend in Australian dairy milk production is opposite to the rest of the world. Global milk production rose by 45% to 843 million tonnes in 2018, an increase of 264 million tonnes compared with 2000. Asia was the largest milk-producing region in 2018 with a 42% share of the total, ahead of Europe (27%), the Americas (22%), Africa (6%) and Oceania (4%).

Figure 5: World milk production by region



Source: FAOSTAT

Figure 6: World production of milk by main producers 2018

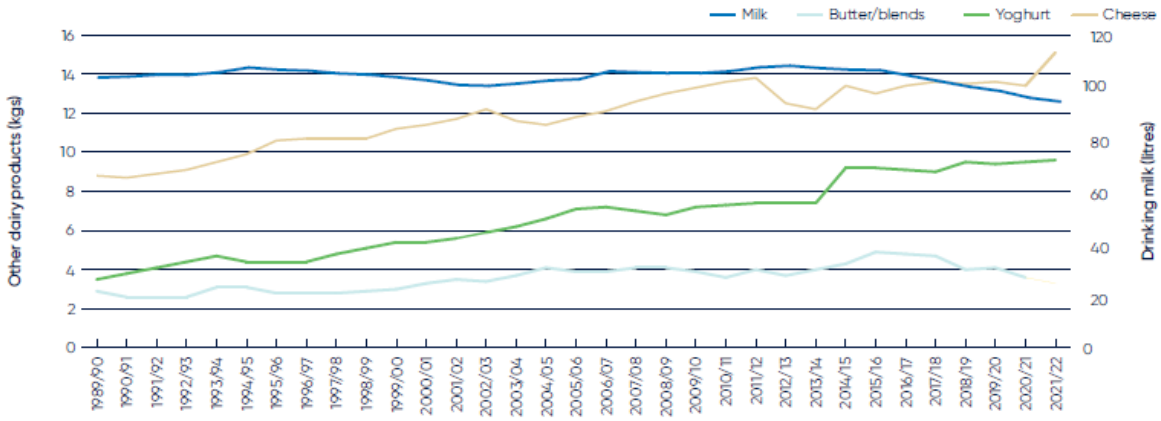


Source: FAOSTAT

Consumption

Over the past two decades, per capita consumption trends have varied quite significantly by individual dairy product. These trends reflect changes in consumer tastes in response to multicultural influences on food trends, health perceptions surrounding dairy products, and flavour and packaging innovations. Currently, consumption of drinking milk per capita is in Australia estimated at 93 litres. This is a marginal decline over recent years but still one of the highest among developed countries.

Figure 7: Per capita consumption of dairy products



Source: Dairy Australia (2022) Australian Dairy In Focus

One of the key drivers of per capita decline is consumers shifting to plant-based alternatives. In 2013 the average consumption volume of alternative milks per capita in Australia was 4.3 litres. This has increased to 9.3 today (Statista 2022).

Exports

Australia accounts for less than 2% of the world's estimated milk production but remains a significant exporter of dairy products. In 2021-22 Australia exported $3.7 billion of dairy products. This places the country fourth in terms of world dairy trade with a 4.8$ share behind New Zealand, the European Union and the United States. Product is exported to over 100 countries, with the largest markets being China (37%), Japan (11%), Indonesia (8%) and Malaysia (6%).

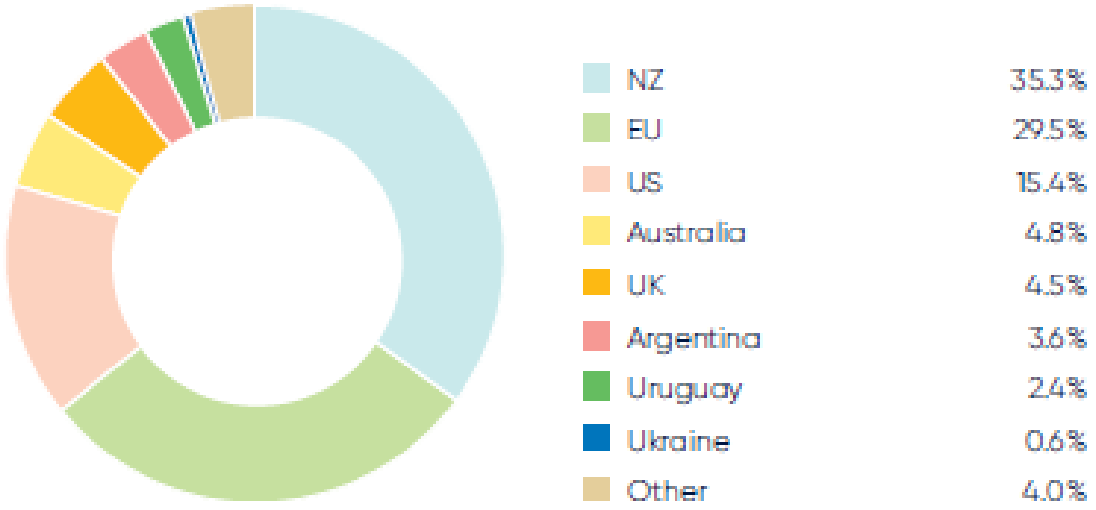
Figure 8: Australian dairy exports by product by region 2021-22 ($A million)

	SE Asia	Other Asia	Europe	Middle East	Africa	Americas	Other	Total
Butter/AMF	63	77	1	13	3	16	2	176
Cheese	245	596	1	32	14	50	39	977
Milk	126	217	0	0	0	0	23	366
SMP	325	404	0	67	1	0	10	807
WMP*	184	328	0	28	3	8	7	558
Other	235	443	73	37	4	24	83	900
Total	**1,178**	**2,065**	**75**	**177**	**26**	**98**	**164**	**3,784**

*Also includes infant powder.
Other includes buttermilk powder, casein, condensed milk, ice cream, lactose, whey powder, yoghurt and mixtures.

Source: Dairy Australia (2022) Australian Dairy In Focus

Figure 9: Exporters share of world dairy trade in 2021 (milk equivalents)



Source: Dairy Australia (2022) Australian Dairy In Focus

One of the key reasons for Australia's decline in dairy production since 2000 is its shift from an exporter of bulk commodity dairy products e.g., milk powders to high value/quality (differentiated) dairy products e.g., cheese. While the latter typically generates a higher price or revenue, it is lower on output.

Access to key inputs and their impact on production costs

The Australian dairy industry has experienced rising production input costs over a long period of time. Like most Australian businesses high inflation, war in Ukraine, labour market shortage, and COVID-19 lockdowns / supply chain disruptions, particularly in China, have been key drivers in recent times. However, Australian dairy's input costs have also been driven by longer term factors, in particular a shift to a flatter production curve and climate change, which is seeing more farmers relying on higher cost crop production and bought-in feeds. This has made dairy production (farming and processing) more expensive which puts downward pressure on profitability, competitiveness, and food security.

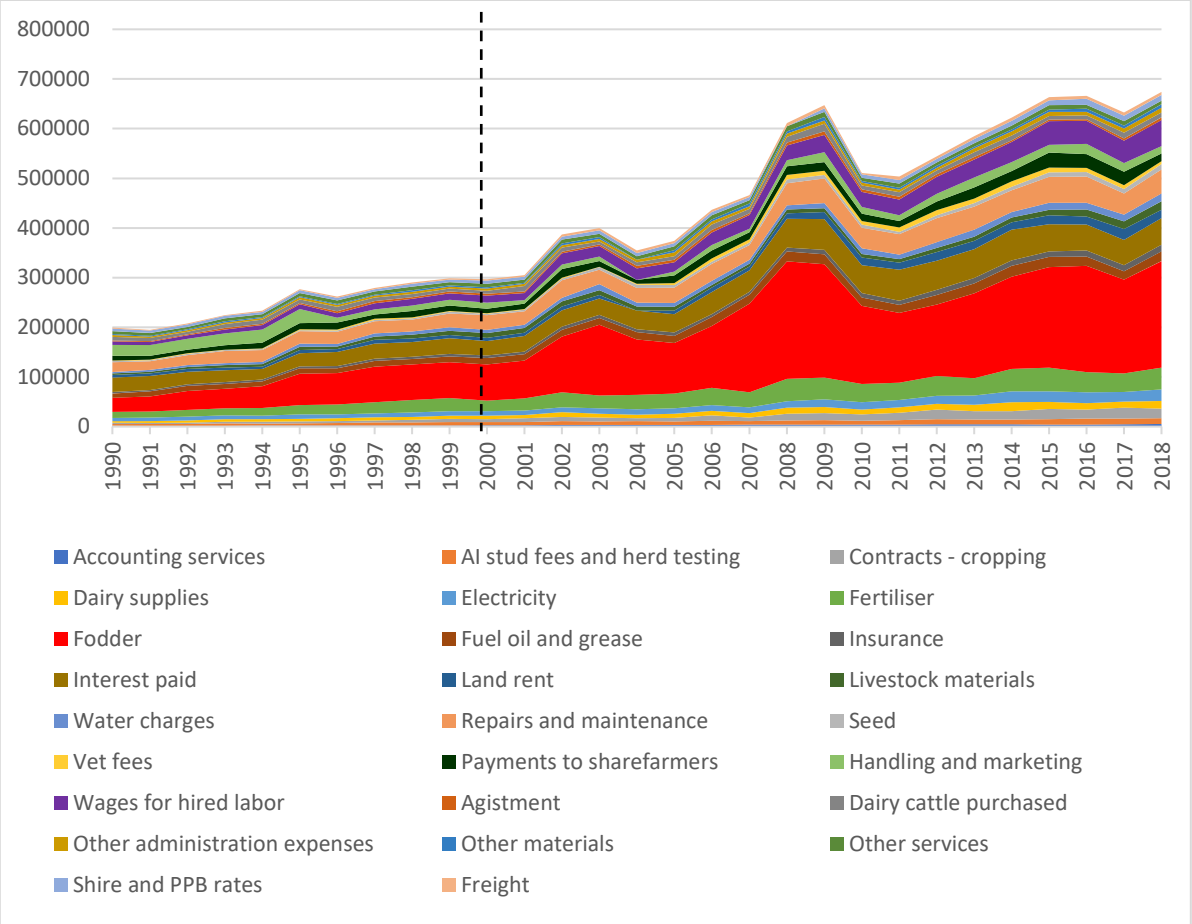
Figure 10: Average farm working expenses by state ($/kg MS)

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
NSW	5.72	5.75	6.25	7.04	7.69	6.79	7.43
Vic	4.70	4.15	4.51	5.39	5.34	4.94	5.65
Qld	6.27	6.18	6.63	7.49	8.33	7.45	n.a
SA	5.31	5.09	4.89	5.32	5.93	5.41	n.a
WA	5.46	5.33	5.73	6.14	6.35	6.21	6.94
Tas	4.70	4.19	4.36	4.65	4.83	4.92	n.a

Source: Dairy Farm Monitor Project and Queensland Dairy Accounting Scheme

Fodder is by far the largest and growing expense for a farm business. This is due to pasture consumption decreasing across the mainland. For example, Victoria's pasture consumption now represents about 50% of a cows' diet. This compares to 78% and 72% in New Zealand and Tasmania respectively (Beca 2018).

Figure 11: Average dairy farm operating costs above $5k p/a (2018-19 $)



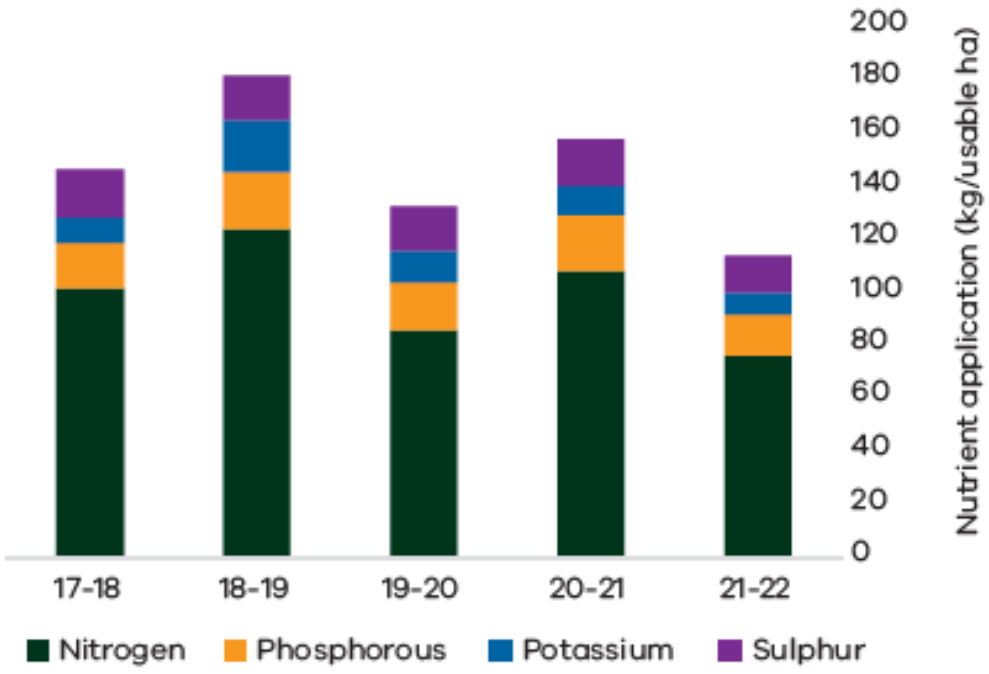
Source: Department of Agriculture and Water Resources (2022) *Dairy AgSurf data*

In 2022 widespread flooding across Victoria, NSW and Tasmania has downgraded both the quality and quantity of new season hay and grain crops. With many crops in the region on the cusp of being cut for hay, the timing of these flooding events has significantly impacted both pasture growth during the spring peak and the ability to produce new season fodder. This will keep demand high as both growers and farmers battle against water damaged crops, biosecurity risks in flooded homegrown feed and an inability to sow summer forage crops.

In regard to fertiliser, global urea prices are 160% higher than two years ago, while diammonium phosphate (DAP) and muriate of potash (MOP) values are above last year, up 8% and 155% respectively. Despite some optimism around European production re-starting amidst plummeting natural gas values, a material impact on prices is unlikely.

The substantial increase in fertiliser prices alongside adverse wet seasonal conditions has seen dairy farmers applying near record low quantities of fertiliser on their paddocks over the past 12-18 months.

Figure 12: Nutrient application on Victorian dairy farms



Source: Agriculture Victoria (2022) *Dairy farm monitor project 2021-22*, October.

Figure 13: Purchased Input Price Index price change comparison

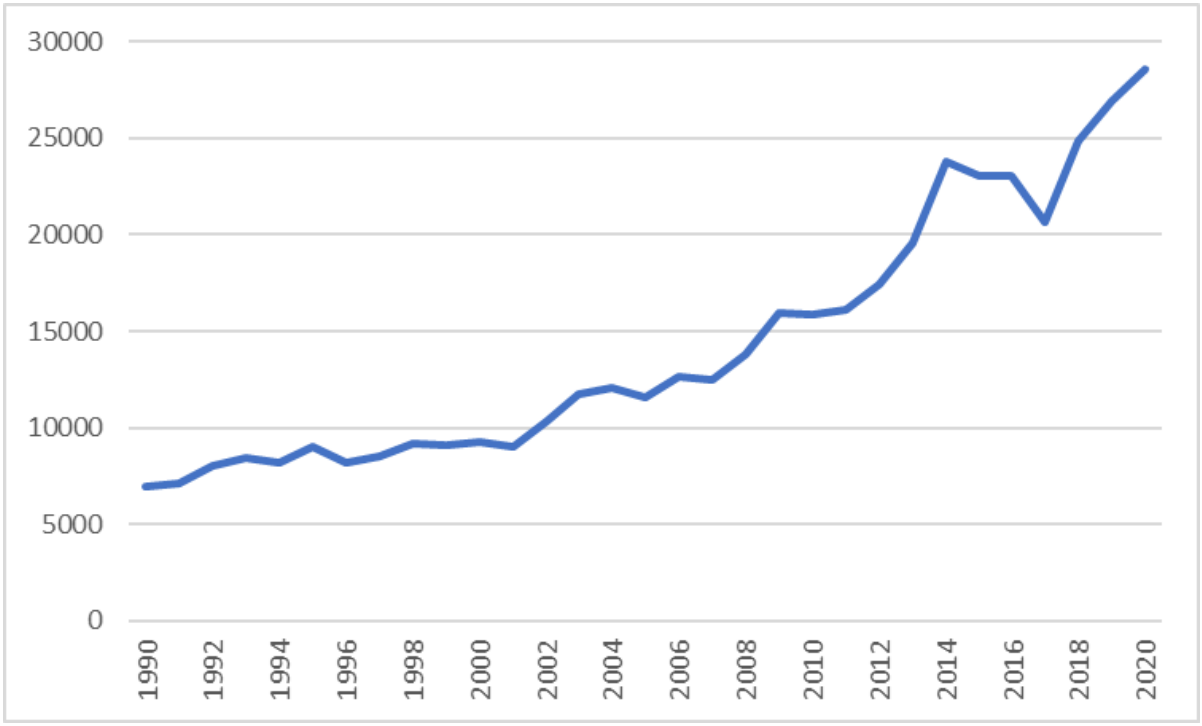
PIPI inputs price change	Oct-22	Oct-21	Oct-17
Cereal hay ($/t)	195	↑3%	↑95%
Protein hay ($/t)	405	↓0.5%	↑65%
Cereal grain ($/t)	396	↑14%	↑53%
Protein concentrate ($/t)	550	↑13%	↑39%
Fertiliser ($/t)	1,000	↑6%	↑209%
Fuel (c/L)	220	↑49%	↑90%

Source: Dairy Australia (2022) *Production Inputs Monitor*, Issue 201, October.

Across the Murray Darling Basin, where approximately 25% of dairy farms are located, temporary water prices have been falling to near record lows as consistent rainfall in 2022 curbed demand for the high volume of water available on the market. In October 2022 alone prices decreased 11% across northern Victoria and 45% in the New South Wales Murray region. This coincided with a respective 25% and 54% drop in the volume of water traded, providing a clear indication that there has been minimal use of allocations so far this season. Water prices are forecast to maintain at low levels based on full storages and a wet outlook into 2023 keeping demand for water to a minimum. This is positive news for dairy farmers in the Basin who are heavily reliant on the temporary water market. Approximately 60% of water used by dairy is being sourced from the temporary trade market annually.

From the period 2017 to 2020 expenditure on electricity at a dairy farm increased at a record rate of 38% to reach a record level of over $28k per annum. This offset the temporary downward trend from the period 2014 to 2017 to run consistent with the long-term upward trend. These figures do not account for the more recent dramatic increases in electricity prices in 2021 and 2022.

Figure 14: Average electricity expenditure for a dairy farm ($)



Source: Department of Agriculture and Water Resources (2022) *Dairy AgSurf data*

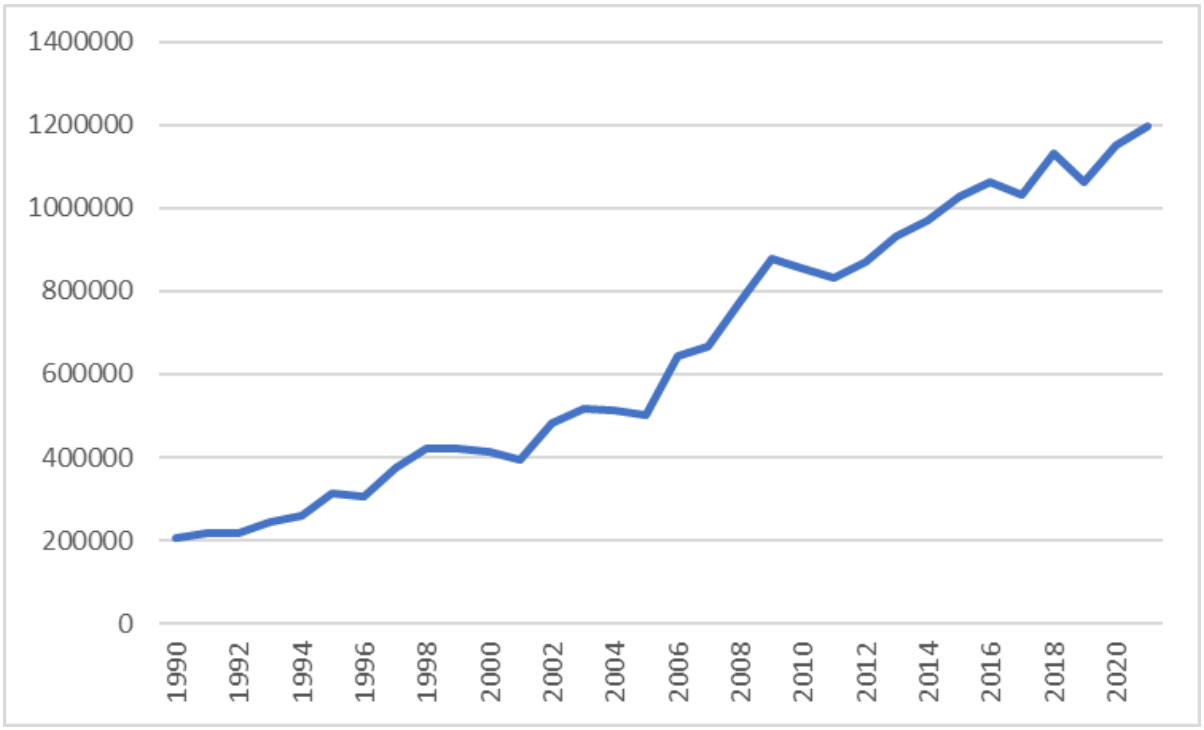
There is a well-documented shortage of access to skilled labour at all levels in the dairy supply chain from entry level roles to managers on farms and in processing plants. Specific challenges include an ageing workforce, high levels of attrition, and the fact that competition for dairy skills (particularly middle and managerial skills) is international and also comes from other sectors and industries (e.g. banking and finance). Industry has tried to offset this by paying above award rates and offering incentives like accommodation. This has had limited impact given one in four dairy farmers are currently unable to find labour or access the skills they need (Dairy Australia 2022). It is estimated the dairy industry is losing $60-$200 million in staff recruitment costs per annum (Nettle et al. 2011) as a consequence.

Over the past six months the Reserve Bank of Australia (RBA) has dramatically increased the official cash rate (the interest rate on unsecured overnight loans between banks). This rise - the largest since 1995 - has caught many by surprise, particularly given the RBA's forecast of continued near record low interest rates this time last year.

Figure 15: RBA cash rate

The dairy industry understands that the RBA have made these dramatic changes in an attempt to curb rapidly rising inflation, but the impact of these decisions has had a detrimental cost impact on the industry. Total farm debt per Australian dairy farm is now at a record high of almost $1.2 million. This is consistent with the long-term upward trend that accelerated in 2019 when record low interest rates incentivised borrowings and reversing a temporary downward trend. The consequence of high debt and high interest rates is high loan repayment cost for farmers. Interest paid per dairy farm per annum is now around $50k (Department of Agriculture and Water Resources 2022).

Figure 16: Average farm business debt at 30 June ($)

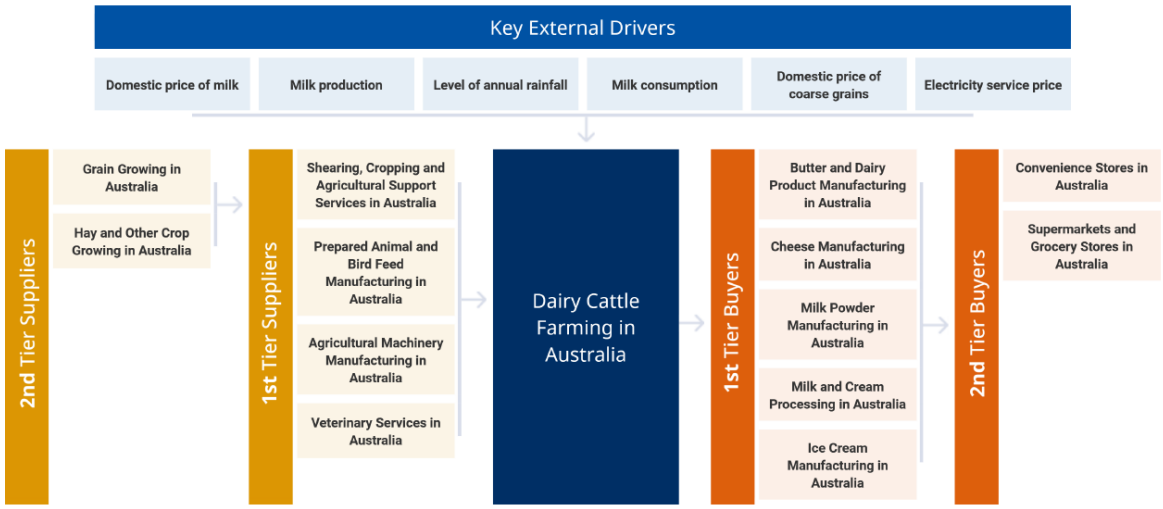


Source: Department of Agriculture and Water Resources (2022) *Dairy AgSurf data*

Impact of supply chain distribution on the cost and availability of food

The dairy farm supply chain is different to other perishable product supply chains. It is similar to other livestock industries with procurement of products and services dealing with animal needs e.g., veterinary services and export and sale of live cattle (which comprises around 14% of farm revenue). The main difference is the sale of raw milk. This is sold to processors for manufacturing of drinking milk (around 25% of industry revenue) or other dairy products (around 61% of industry revenue). Raw milk produced by dairy farmers in Victoria, Tasmania and South Australia mainly sell to the manufacturing of other dairy products that are sold to domestic retailers and export markets. This differs to dairy farmers in Queensland and Western Australia where most of their raw milk is sold to manufacture and sale as domestic drinking milk. These regions do not produce enough excess raw milk for it to be used in dairy product manufacturing. New South Wales is a combination of the two supply chains. The common feature across all regions is a set of external factors influencing the cost and availability of their dairy foods.

Figure 17: Dairy farm supply chain



Source: Barry, M. (2019) *Dairy Cattle Farming in Australia*, AU Industry Report A0160, IBISWorld, December.

Each section of the dairy supply chain is becoming more consolidated and rationalised. Generally, the number of businesses is reducing but the size of those businesses is increasing. This trend is not unique to dairy but for most perishable products across the western world.

Figure 18: Number of dairy farms in Australia by year

	NSW	Vic	Qld	SA	WA	Tas	Aust
2006/07	924	5,346	734	354	222	475	**8,055**
2007/08	886	5,422	664	332	186	463	**7,953**
2008/09	860	5,462	648	320	183	451	**7,924**
2009/10	820	5,159	621	306	165	440	**7,511**
2010/11	807	4,588	595	286	170	437	**6,883**
2011/12	778	4,556	555	275	162	444	**6,770**
2012/13	731	4,284	518	268	160	437	**6,398**
2013/14	710	4,268	475	264	156	435	**6,308**
2014/15	704	4,127	448	252	157	440	**6,128**
2015/16	690	4,141	421	246	151	430	**6,079**
2016/17	661	3,889	406	240	148	427	**5,771**
2017/18	626	3,881	393	228	159	412	**5,699**
2018/19	575	3,516	356	212	150	404	**5,213**
2019/20	534	3,462	327	206	135	391	**5,055**
2020/21	523	3,080	307	198	132	378	**4,618**
2021/22 (p)	494	2,984	280	181	116	365	**4,420**

Source: Dairy Australia (2022) Australian Dairy In Focus

A wide range of companies operate in the Australian dairy industry including national and multinational companies, both privately owned and publicly listed. Some large multinational companies have operated in the Australian dairy industry for many years, including Fonterra (New Zealand), Lactalis (France) and Saputo (Canada). These companies produce many commonly known household brands like Western Star and Big M.

Many companies seek to achieve economies of scale and leverage brand awareness to increase market share. Mergers and acquisitions are helping to achieve this outcome. Some of the most publicised were Lactalis taking over Harvey Fresh, Saputo taking Australia's largest dairy manufacturer and farmer co-operative Murray Goulbourn and more recently Bega acquiring Lion. Such moves have resulted in a relatively small number of multinational dairy processing companies comprising around 50% market share. The remaining 50% comprise many small to medium sized processors that are mostly Australian owned.

The supermarkets and grocery store industry is highly concentrated. There are four major players in the industry – Coles, Woolworths, Aldi and Metcash that account for over 80% of retail industry revenue. However, Coles and Woolworths alone account for 65%, making this industry one of the most concentrated in Australia (Youl 2020). Around 60% of milk is sold through through these supermarkets in Australia. This makes them a major channel to consumers. For a decade now the retailers have leveraged milk as a high-volume staple product for most people to win market share. They have been doing this via everyday low-price strategies centred around their private label products.

The Australian farmgate milk price is set by the dairy processors based primarily on the global milk price. With the exception of Canada where there is significant government intervention, price trends of Australian farmers have generally mirrored the European Union, United States of America and New Zealand when compared in US$ terms. The key issue for Australian dairy farmers is that their price is slightly lower than these competitors with the exception of New Zealand (Productivity Commission 2014). Traditionally this has been largely due to the low cost of raw milk production in Victoria and Tasmania and the absence of price support mechanisms.

The dairy processors adjust their farmgate milk prices according to local conditions. Key factors include cost of farm and processor production and competition. The processor's profit margin is also considered although often in the broader context of the total raw milk to be procured nationally. Generally, the prices paid are higher in states with a higher cost of production.

Dairy farmers across all states have been receiving consistent increases in the farmgate price since 2000. Over recent years these have risen to the highest they have ever been. This has largely been driven by a domestic supply shortage of raw milk. The problem with the price increases is they have struggled to kept pace with the rising costs of production.

Since the introduction of $1 litre milk in 2010-11 ADF has consistently argued that using fresh milk as a discount marketing agent by the major supermarkets to increase sales of their own private label brands is unsustainable for the dairy industry. Retailers and ACCC have consistently emphasised the domestic retail price have minimal impact on farm gate price or exits. This is disputed by ADF on the grounds that having fresh milk set at an extremely low (near cost) price and fixed for almost a decade, significantly limits capacity for price increases back up the dairy supply chain. While retailers and a lesser extent, processors, bear the greatest profitability impact, they are able to offset these losses via margin gain on other products. Dairy farmers have no options. They are price-takers and only have a single perishable product to sell.

Over time processors have pushed farmers towards all year-round production to supply more of their domestic than international markets. This has increased farmers' production costs at a time when they are already confronted with increasing costs arising from climate change, drought and other drivers.

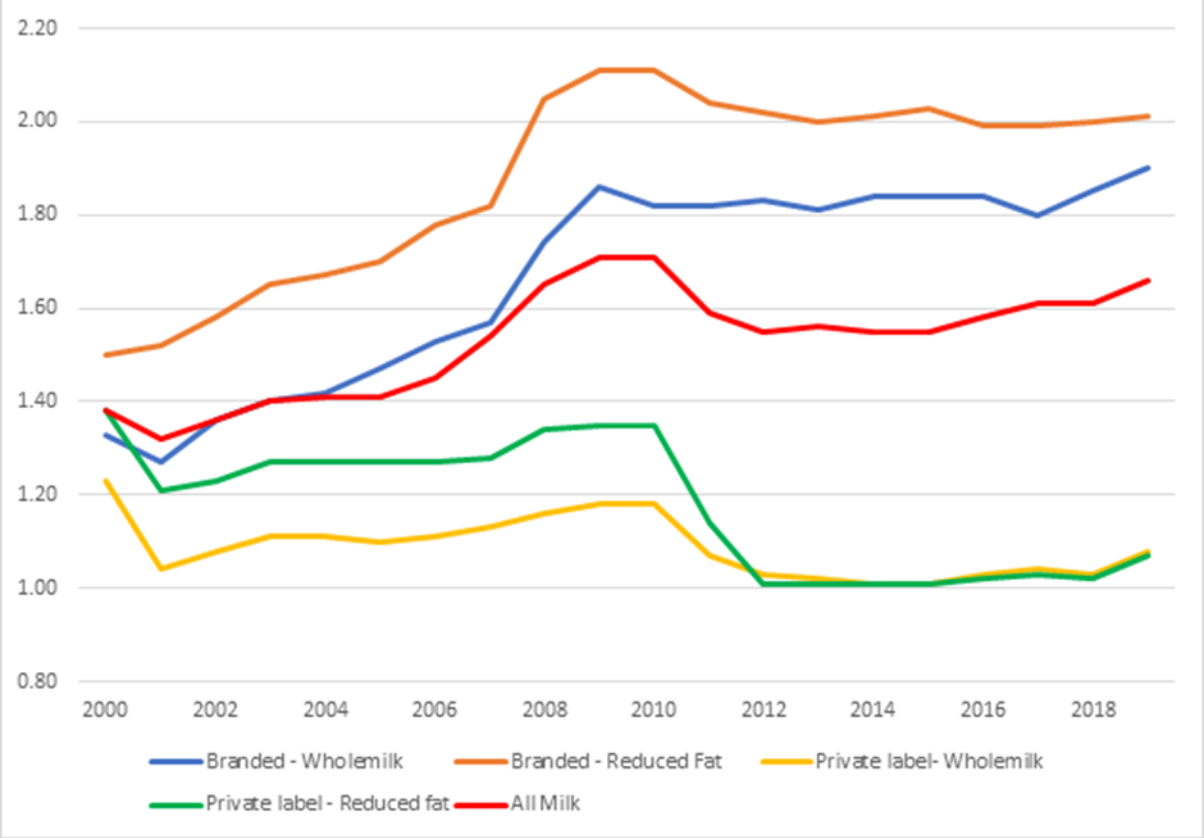
This situation places undue hardship on dairy farmers and processors. In 2010-11 when discounted fresh milk came into effect the retailers dropped their retail prices, particularly on their private label products, to near cost price across the country. Despite rises in inflation they have retained low prices as part of their low-cost strategies. For quite some time now Australian fresh milk prices have been low by international standards.

Figure 19: Supermarket milk sales – branded versus private label

	MAT 18 Jul 2021			MAT 17 Jul 2022		
	Volume	Value	Price/Litre	Volume	Value	Price/Litre
	'000 litres	'000 dollars		'000 litres	'000 dollars	
Total branded milk	613,688	$1,343,887	$2.19	601,559	1,356,577	$2.26
Total private label milk	810,760	1,051,197	$1.30	825,572	1,120,011	$1.36
Total milk	**1,424,449**	**2,395,084**	**$1.68**	**1,427,131**	**2,476,588**	**$1.74**

Source: Dairy Australia (2022) Australian Dairy In Focus

Figure 20: Supermarket milk prices ($ per litre)



Source: Dairy Australia (various editions) *Australian Dairy In Focus*

Other dairy products sold by the retailers are somewhat different to fresh milk. Generally, there has been a price shift upwards that is more consistent with the country's inflation rate. This has made staple items like butter or margarine more expensive and for people with limited discretionary income, more unattainable.

Figure 21: Supermarket dairy spreads sales by type

	MAT 18 Jul 2021			MAT 17 Jul 2022		
	Volume	Value	Price/Litre	Volume	Value	Price/Litre
	Tonnes	'000 dollars		Tonnes	'000 dollars	
Butter	29,781	332,824	$11.18	29,878	345,086	$11.55
Margarine	64,610	497,468	$7.70	63,809	524,777	$8.22
Total dairy spreads	**94,391**	**830,293**	**$8.80**	**93,687**	**869,863**	**$9.28**

Source: Dairy Australia (2022) Australian Dairy In Focus

Opportunities and threats of climate change to dairy food production

Climate change is a key sustainability risk for dairy. Dairy farmers in Australia have experienced increased variability and shifts in pasture growth patterns, heat impacts on milk production and increased incidence of extreme events, such as floods, droughts and bushfires. Social, biophysical and economic modelling has already found that climate change has negatively impacted dairy productivity by 0.6–0.9% per year since 2000 (Dairy Businesses for Future Climates 2016) and is a major cause of productivity gains being zero in the past decade (Australian Dairy Plan 2020). Further increases in temperature fuelling increases in the frequency of extreme weather events and changing climate zones across dairy regions will further reduce productivity and negatively impact dairy competitiveness and profitability.

Figure 22: Climate change impacts on dairy regions

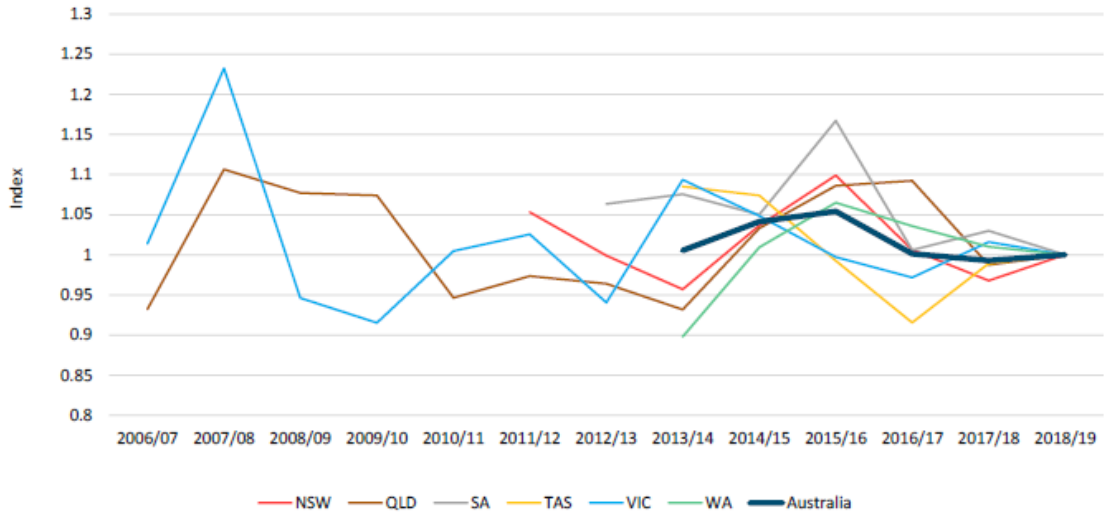
	Gippsland	Murray Dairy	WestVic	DairyTas	DairySA	Dairy NSW	Subtropical Dairy	Western Dairy
Temperature increase	1–1.7°	1.2–1.8°	1–1.6°	0.5–1.5°	1–1.6°	1.2–2°	1–2°	1–1.7°
Season of greatest warming	Summer	Summer	Summer	Summer/ autumn	Summer	Summer	Spring	Summer
% decrease in rainfall (range)	-3 (-10 to +5)	-3 (-10 to +5)	-5 (-15 to +3)	-5 (-15 to +0)	-5 (-17 to +3)	0	-5	-15 (-22 to -7)
Variability of rainfall	Winter, spring decrease	Winter, spring decrease	Autumn, winter, spring decrease	Spring, summer decrease	Winter, spring decrease	Little change	All seasons decrease (south)	All seasons decrease (esp spring)
% time in drought (historical)	45 (33)	46 (33)	55 (38)	53 (33)	50 (40)	38 (35)	43 (35)	62 (45)
% soil moisture decline	-8 to -2	-7 to -1	-5 to -1	-6 to -1	-5 - 0	-7 to 2	-5 to -1	-7 to 0

Source: Dairy Australia (2020) *Climate change strategy 2020-2025*, Southbank

Terms of trade and productivity

The terms of trade represent the relationship between output prices received and input prices paid. Over the long run, other things equal, a positive terms of trade contributes to profitability and can help offset the effects of weakening productivity. The terms of trade position of the Australian dairy industry in 2018-19 was much the same as it was at 2013-14 (the start of the Australian data series).

Figure 23: Terms of trade across Australia (2018/19 = 1 for all states)

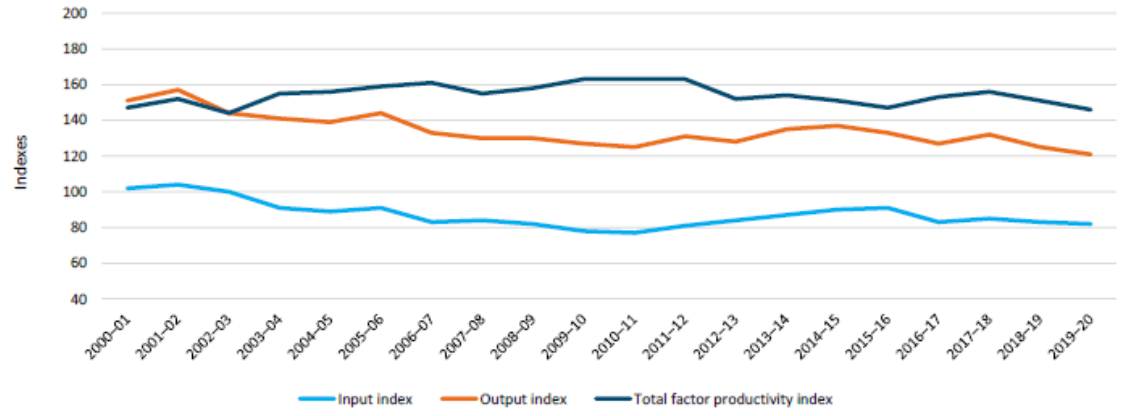


Source: Marsden Jacob Associates (2021) *Dairy Productivity*

Productivity measures the relationship between physical inputs and physical outputs. Understanding how productivity performance has changed over time is important toward understanding the dairy industry's future competitive position. Over time, weak productivity performance can (other things equal) translate into a weaker competitive position. Often weak productivity is offset by other competitive factors such as prices received for products and price paid for inputs.

Dairy productivity has flatlined over most of the last two decades. While a large number of farmers are highly efficient there have been no discernible gains from technological change. Productivity is being mostly maintained by altering input mixes.

Figure 24: Australian dairy total factor productivity

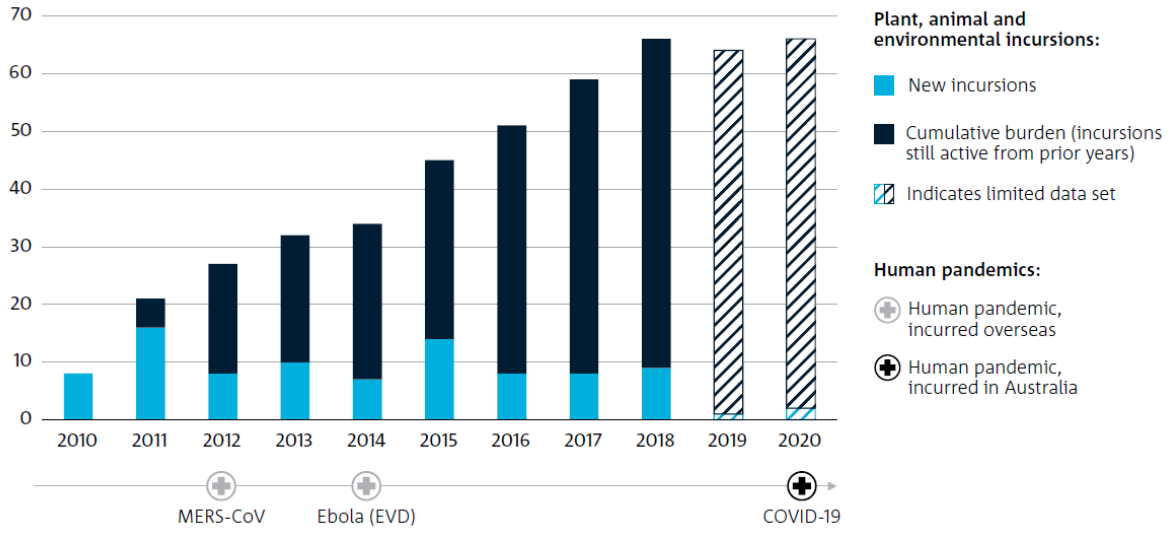


Source: ABARES (2020) *Australian Agricultural Productivity*, 2019–20 data dashboard

Biosecurity

Australia's biosecurity risk has been increasing on a regular basis. Year on year the number of interceptions (detections and incursions) have been increasing. Between 2012 and 2017 alone annual interceptions of materials that present a biosecurity risk to Australia increased by almost 50% to just over 37,000 (CSIRO 2020).

Figure 25: Indicative biosecurity incursions and cumulative burden on Australia

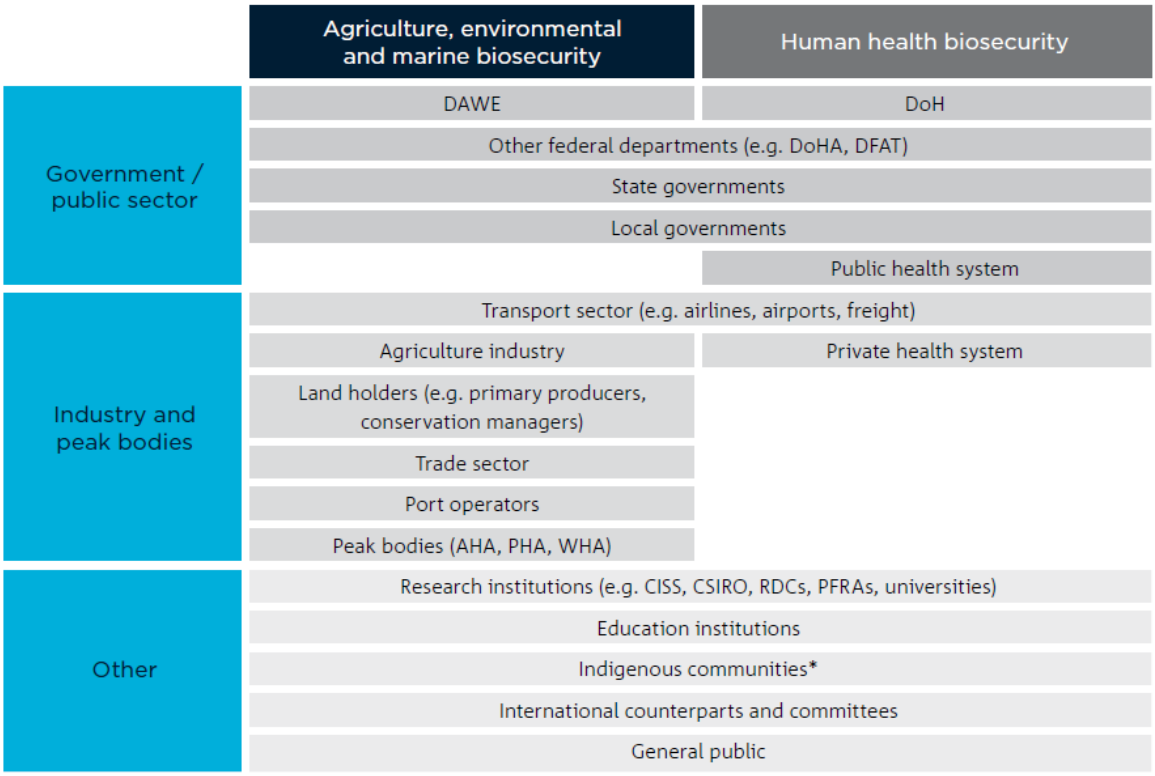


Source: CSIRO (2020) *Australia's Biosecurity Future*, Canberra.

Several reasons, including climate change, is causing the upward trend. An increase in global trade and travel means more people and cargo can transmit viruses and pests. Rising antimicrobial resistance is reducing the impact of medicine and helping create superbugs. Biodiversity loss is reducing resilience in the natural environment. Urbanisation spreads disease at a greater rate due to closer proximity between people and animals. Finally, climate change allows pests and diseases to occupy areas previously uninhabitable due to regional weather changes.

When pests or diseases enter the country, it has a detrimental impact on agriculture and the economy more broadly. For example, a large-scale Foot and Mouth Disease (FMD) outbreak is estimated by ABARES to have a $80 billion economic impact over a ten-year period. Avoiding or minimising detriment requires ongoing collaboration, partnership and investment between industry, government and community. The degree of effort from these stakeholders must be adjusted based on the risk profile.

Figure 26: Australia's biosecurity system: key stakeholder groups



Source: CSIRO (2020) *Australia's Biosecurity Future*, Canberra.

Natural disasters

Following the extreme bushfire season of 2019-2020, which adversely impacted the dairy industry like many other sectors and communities, the former Australian Government established a Royal Commission to conduct an investigation into Australia's natural disaster arrangements. This (Binskin et. al. 2020) found that:

1. Climate change has already increased the frequency and intensity of extreme weather and climate systems that influence natural hazards.
2. Further global warming over the next two decades is inevitable. As a result, sea-levels are projected to continue to rise. Tropical cyclones are projected to decrease in number but increase in intensity. Floods and bushfires are expected to become more frequent and intense.

3. We can also expect more concurrent and consecutive hazard events. For example, in the last 12 months there was drought, heatwaves and bushfires, followed by severe storms, flooding and a pandemic. Concurrent and consecutive hazard events increase the pressure on exposed and vulnerable communities. Each subsequent hazard event can add to the scale of the damage caused by a previous hazard event. There are likely to be natural disasters that are national in scale and consequence.

The dairy industry has been hit hard by these adverse weather events over recent years:

1. In 2022 dairy businesses in northern Victoria, Tasmania, NSW and southern Queensland have been severely impacted by floods. In northern Victoria alone 235,600 hectares of farm area has been affected, 8,917 livestock are dead or missing, 8,608 kilometres of fencing damaged, 93,053 tonnes of hay or silage destroyed, 1,737 tonnes of stored grain lost, and 165,839 hectares of pasture and field crops lost.
2. The extreme bushfire season of 2019-2020 saw almost 100 dairy farms directly affected across South Australia, Victoria and New South Wales. There was minimal loss to the milking stock but significant loss of young dairy stock, including pregnant heifers who slipped their calves as a result of stress. Most dairy farms were able to restore milking within 48 hours by having generator power in the absence of mains' access.
3. Between 2017 and 2019 drought occurred in the dairy regions of East Gippsland, northern Victoria and parts of New South Wales and Queensland. This dramatically increased feed and water prices, due to high demand and limited availability, which affects all farmers across the country. ABARES annual surveys of dairy farms confirmed that average farm financial performance in South-Eastern Australia worsened significantly in 2018-19 relative to the previous year, but not to the levels experienced during the 2002-03 and 2006-07 droughts. The impacts of the drought on farm financial performance varied due to regional differences in the severity of rainfall deficiencies.

Going forward the dairy industry must work with government to build resilience to climate change and its adverse impacts. Investment in mitigation and adaptation initiatives that are productivity enhancing or market access protecting is paramount to future success.

Actions to strengthen and safeguard food security in Australia

The Australian dairy industry is undertaking various demand and supply side initiatives to increase profitability and sustainability. In most cases, success in delivering these initiatives will improve food security in Australia and abroad. For example, the Dairy Matters campaign, which promotes dairy product nutrition and careers and lifestyle in the industry, contributes to product sales and attracting staff and investment into the industry. As many of these initiatives have a public good or form of market failure e.g., negative externality in biosecurity; it is appropriate for the Australian Government to support industry's efforts to grow and prosper in the future.

Increase Australia's consumption of dairy foods

Milk, cheese and yoghurt have various health benefits and are a good source of many nutrients, including calcium, protein, iodine, vitamin A, vitamin D, riboflavin, vitamin B12 and zinc. These foods provide calcium in a readily absorbable and convenient form. That is why the *Australian Dietary Guidelines* recommends consuming at least two and a half serves of milk, cheese, yoghurt and/or alternatives, mostly reduced fat, for Australian adults and proportionate age discounted serves for children and adolescents. Unfortunately, 8 out of 10 Australian adults need to significantly increase their intake of dairy foods to achieve the recommended nutritional levels. The problem with the shift to plant-based alternatives is that only soy milk contains comparable nutrients to dairy. Therefore if per capita consumption of dairy continues more people will develop cardiovascular disease, type 2 diabetes, cancer and reduced bone mineral density leading to increased fractures and broken bones (Department of Health and Ageing 2013).

Ensure dairy is included in the mandatory dietary standards for aged care

In response to the findings of the Royal Commission into Aged Care Safety and Quality (March 2021) the Australian Government committed to implementing mandatory dietary standards for the aged care sector. The government provided $5 million over three years from 2022–23 to the Maggie Beer Foundation in the October 2022 Federal Budget to advance this commitment.

A study published by researchers at the University of Melbourne explored how the food served at aged care facilities impacts the health of residents (Luliano et al. 2021). It specifically investigated how increasing intake of milk, cheese and yoghurt impacted on a variety of health outcomes including fractures and falls. This world first randomised controlled trial found that increasing dairy intake from 2 to 3.5 serves per day improved calcium and protein intakes and significantly reduced the risk of falls, all fractures and hip fractures (by 11, 33 and 46% respectively). There has never been such a large, well-designed trial specifically investigating dairy intake and fracture rates.

The Australian dairy industry is currently undertaking a Healthy Ageing with Dairy project to take the outcomes from the dairy and factures trial to implement change across government and in aged care facilities. Stakeholder groups, including aged care peak bodies and the Maggie Beer Foundation, have been identified for consultation and partnership. The role the Australian Parliament can do in supporting this project would be to ensure the dairy servings validated by the trial are included in the legislation mandating the aged care dietary standards.

Implement the *Inquiry into definition of meat and other animal products'* recommendations

Australian food standards are governed by the *Australia New Zealand Food Standards Code*, which are legislative instruments under the *Legislation Act 2003*. The key issue with the code is it does not align with *Codex General Standard for Use of Dairy Terms* (CXS 206-1999) (GSUDT). Consequently, it does not deliver product labelling that is accurate or science-based and does not provide transparent nutrition information to enable consumers to make informed, balanced and mindful product choices that support positive public health outcomes. For example, Clause 1.1.1-13(4) states that 'if a food name is used in connection with the sale of a food (for example in the labelling), the sale is taken to be a sale of the food as the named food unless the context makes it clear that this is not the intention'. The clause uses 'milk' as an example by saying 'the context within which foods such as soy milk or soy ice cream are sold is indicated by use of the name soy; indicating that the product is not a dairy product to which a dairy standard applies.' This is inconsistent with Codex and a key driver why consumers are being misled.

In February 2022 the Senate's Rural and Regional Affairs Committee released its report of *Inquiry into the definitions of meat and other animal products*. The committee made a series of recommendations to address the misuse of dairy terms and deliver more accurate and truthful product labelling for consumers. Due the federal election and change of government in May 2022 a government response to the inquiry has not been tabled in the parliament. One of the Australian Government's election commitments is 'to improve existing regulations to deliver accurate and clear food labelling for products so that consumers have informed choice'. Implementing the recommendations from the inquiry, in particular aligning the *Australia New Zealand Food Standards Code* to the *Codex General Standard for Use of Dairy Terms*, would implement this election policy.

Ensure domestic trade is free and fair

In April 2018 the ACCC's *Dairy Inquiry report* was released with a series of recommendations that included adoption of a mandatory code of practice for farmers and processors. The ACCC said that despite industry making significant inroads at self-regulation via its voluntary code, a mandatory code is required to ensure all farmers are protected from unfair contract terms and information shortfalls. Since this report was released the dairy industry and Australian Government have undertaken significant reforms to resolve these issues and make trading and contracting fairer and more professional. Initiatives include implementation of a mandatory code of practice, standard form contract template, milk price portal, milk trading platform and increased regulatory oversight by the ACCC.

Despite these advancements there are deficiencies at the retailer level. The *Food and Grocery Code Review* (Samuel 2018) found retailers misuse their market power over their suppliers. Statements supporting this position include:

1. 'The Review received consistent complaints from suppliers in relation to the retailers' process for negotiating an increase in the price of goods.'
2. 'The retailer plays a significant role in controlling prices through their acceptance or rejection of the supplier's price point. In practice, the retailer acts as the gatekeeper to pricing changes and will only purchase product at a price that has been approved or permitted by them.'
3. 'With a lack of visibility of the sale transaction or access to market information, growers can find themselves vulnerable to 'price skimming' practices by traders.'

4. ‘Some suppliers reported instances where they have been unsuccessful in requesting a price rise for their product but later found that the retailer had increased the retail price on the shelves to capture additional profit for themselves.’
5. ‘Heightened retail price competition has limited suppliers from raising prices in line with their higher overheads.’
6. ‘The Review does not believe that the current verification process being used by retailers is leading to the best outcomes for suppliers or consumers.’
7. ‘Price rises were accepted by the retailer on the condition that the cost was off-set, in whole or in part, by some other means by the supplier.’

Addressing these imbalances will increase the capacity of retailer suppliers to manage risk and business viability in the future.

Strengthen the *Competition and Consumer Act 2010* (CCA)

The CCA has three sections dealing with anti-competitive and predatory behaviour. This includes prohibition on the misuse of market power (Volume 1, Sections 45 and 46), unfair contract terms (Volume 3, Schedule 2, Chapter 2) and unconscionable conduct (Volume 3, Schedule 2, Chapter 2). While this provides an appropriate protection framework, all areas need to be strengthened to provide more effective deterrence.

Consider removing ‘substantially’ from V1 S46(1) of the CCA

Amendments to the prohibition on misuse of market power (Section 46) by the Harper Review (2014) was welcomed by ADF. It replaced the prohibition on a firm with substantial market power ‘taking advantage of that power for an anti-competitive purpose’ with a prohibition on such a firm engaging in conduct with ‘the purpose, effect or likely effect of substantially lessening competition.’ This simplified the section and separated purpose from effect to breach the section. Proving intent has been very difficult and a significant barrier to prosecution in the past.

Demonstrating that a misuse of market power was designed or actually caused a substantial lessoning of competition is also extremely difficult in a court of law. The term 'substantial' is often considered in the market as a majority or substantial portion. This is a high-level threshold that can ignore unfair dealing upon small businesses, particularly those further up the supply chain where impacts are less obvious.

Make unfair contract terms illegal and impose a penalty in the CCA

In November 2016, unfair contract terms were extended to small business contracts in the CCA. At the time this change was welcomed by ADF as an initial response to price step downs imposed on dairy farmers by the two major dairy processors, Murray Goulburn and Fonterra. Despite the intention this policy change has not been an effective behavioural deterrent.

The Department of Treasury (2019) reported that 'the regulators have continued to investigate many complaints relating to the possible inclusion of unfair contract terms in small business contracts. The ACCC received 1,238 unfair contract term related contacts between January 2017 and June 2019, of which a large proportion was believed to be related to small business complaints.' Since the extension was implemented the ACCC has successfully litigated several businesses and resolved a number of these complaints via public administrative resolutions, including court enforceable undertakings. However, this is a small representative sample due to limitations in law and enforcement. This was a key driver behind the recommendation for a mandatory dairy code.

ADIC supports option 3 proposed by the Department of Treasury in its *Enhancements to Unfair Contract Term Protections - Consultation Regulation Impact Statement* (2019). This makes unfair contract terms illegal and imposes penalties in the CCA. The statement says that 'this option is likely to be the most significant deterrence against using unfair contract terms in a small business standard form contract. It places the onus on the contract-issuing party to ensure the contract does not contain UCTs, or risk facing a financial penalty.'

Insert an appropriate definition and penalty for unconscionable conduct in the CCA

Unconscionable conduct is currently vaguely defined. Section 20 of the CCA says 'a person must not, in trade or commerce, engage in conduct that is unconscionable, within the meaning of the unwritten law from time to time.' A court is required to give consideration to a raft of factors (S22 of the CCA) to determine what may constitute unconscionable conduct but this is not definitive. In the absence of a definition unconscionable conduct is difficult to prove. This appears to be a contributing factor as to why there has been few prosecutions in the past.

The unconscionable conduct provisions in the CCA (Sections 20-22) says that a 'pecuniary penalty may be imposed for a contravention of this subsection.' An act of unconscionable conduct results in a weaker party being significantly disadvantaged by a dominant party. The suffering can include but not limited to financial loss even bankruptcy and emotional hardship at the company or industry level. Not having a penalty imposed provides no deterrent to such a severe negative outcome.

Reduce international trade barriers

Market interventions in the agriculture sector (such as subsidies or export restrictions) often result in higher prices for staple foods, with a negative impact on the food security of poor households (which can include poor farmers who may be net consumers). Support policies not only fail to achieve their aim, but they can also divert public resources away from actions that could tangibly contribute to improved food security.

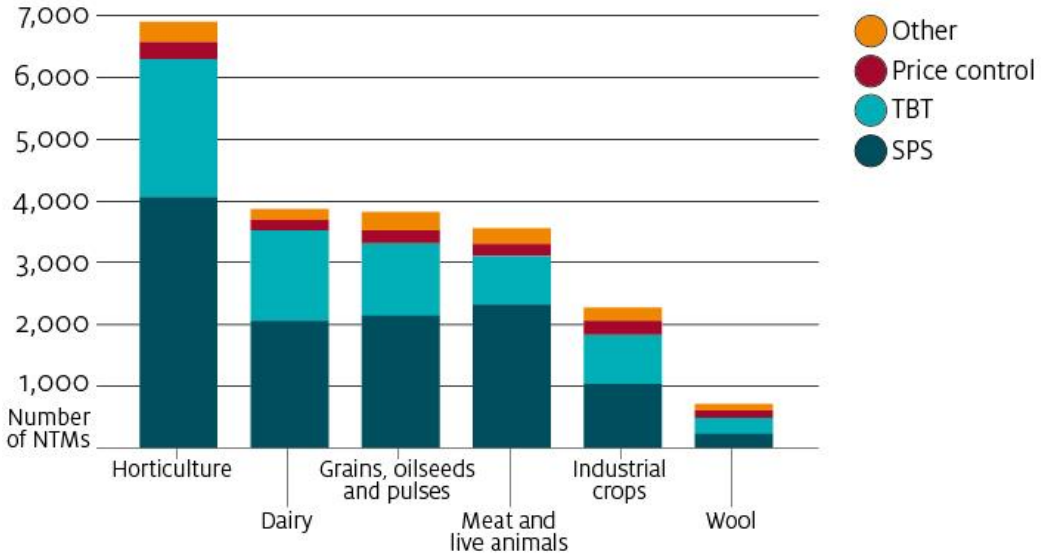
The Australian dairy market has the least amount of government intervention than the major dairy-producing Western countries. Canada is a regulated market whereas the others have a deregulated market with some level of intervention. With the exception of New Zealand most competitor governments provide their farmers with market price supports by way of import tariffs, tariff rate quotas and domestic price subsidies and direct payments (government budget transfers) for various production requirements. It is estimated that the annual cost of these policies is $977 million to net Australian dairy farm income and $2.1 billion to Australian dairy exports (Anderson & Valenzuela 2020). The European Union, Japan, China and Korea account for almost three-quarters of these adverse effects.

This has contributed to Australian dairy's export market share decline. In the late 1990s, Australian dairy supplied around 16% of measured world exports of dairy products. By 2018 this had fallen to around 6%. This has occurred in the context of solid increases in global export trade volumes.

Make reduction in NTBs a priority at G20

Australian agriculture has around 18k NTBs to overcome in global markets (UNCTAD 2019). Of these NTBs dairy is the second most disadvantaged sector behind horticulture.

Figure 27: Non-tariff measures applied to Australian agricultural exports as at January 2019



Source: Levantis, G. & Fell, J., (2019) *Non-tariff measures affecting Australian agriculture*, ABARES, Canberra

A study commissioned by Dairy Australia back in 2014 estimated an annual cost impact on dairy across 356 NTBs alone to be $1.57 billion.

There have been multiple attempts at resolving or reducing NTBs. In December 2018 the Australian Government launched an action plan to remove NTBs. Shortly after the Department of Foreign Affairs and Trade (DFAT) launched a website for Australian exporters to report a NTB for action. Grant funding has been provided by the Australian Government to deliver programs such as Dairy Australia's Dairy Export Assurance Program to reduce regulatory burden for exporters. More recently the 42nd Cairns Group Ministerial Meeting in Switzerland on 12 June 2022 committed to global agricultural reform that includes reducing NTBs to combat rising global food insecurity.

About 80% of global trade is across the G20. While tariffs have been declining in the G20 over the past decade due to the signing of free trade agreements, very little progress has been made at reducing NTBs. The result of this trend is NTBs have now become the key major trading barrier across the G20.

The Australian Government needs to lead reduction of NTBs at the G20. It can draw on its various initiatives to provide up to date reporting on NTBs outstanding and their impact on industry and food security. This will provide the basis for prioritising action by the G20.

Reduce food waste in the dairy industry

Roughly one third of all the food produced in the world for human consumption every year is wasted. In total this is equivalent to approximately 1.3 billion tonnes. Of this amount industrialized countries that includes Australia waste 670 million tonnes and developing countries waste 630 million tonnes (United Nations 2012). In Australia it is estimated that every year 7.6 million tonnes of food is lost or wasted costing the Australian economy around $36.6 billion (FIAL 2021). This demonstrates that reduction in food waste will not only feed more people, but it will also reduce cost for producers and consumers.

Co-fund implementation of the *Dairy Sector Food Waste Action Plan*

In the *Australian Dairy Sustainability Framework*, the Australian dairy industry has a goal to halve food waste by 2030 from 2020 levels. To achieve this target ADPF and DA are partnering with Stop Food Waste Australia to develop a *Dairy Sector Food Waste Action Plan* to reduce food waste across the dairy supply chain. The plan will detail how the industry can reduce loss and waste, save costs, improve efficiencies, and reduce the environmental impacts associated with food waste. As this plan has a public good element it is appropriate for the Australian Government to co-fund its implementation with industry.

Increase dairy farm productivity

Productivity growth can occur from: technical change or progress (as a result of implementing new technologies), improvements in technical efficiency (as a result of farmers becoming more efficient using existing technologies), changing the scale of operations to capture any benefits of larger operations, and changing the mix of inputs used to produce outputs. Actions is required across all these areas for dairy farms to become more efficient and biosecurity sensitive in the future.

Request the Productivity Commission to analyse drivers and barriers to dairy productivity

The technical change component of total factor productivity growth has virtually flatlined over the six-year period 2013-14 to 2018-19 (Marsden Jacob Associates 2021). This is due to a variety of factors such as legislation barriers like the Victorian *Prevention of Cruelty to Animals Act 1986* where farmers have been prevented from adopting virtual fencing technology. A comprehensive study that analyses each technology and RD&E initiative's impact on dairy productivity would help prioritise investment and policy change in the future. The Productivity Commission would be a logical choice to conduct the study given its core focus and previous work on the *Regulation of Agriculture* (2017), *Costs of Doing Business in Australia: Dairy Product Manufacturing* (2014) and *Australian Dairy Industry* (1991).

Narrow the focus of the Drought Resilience Adoption and Innovation Hubs

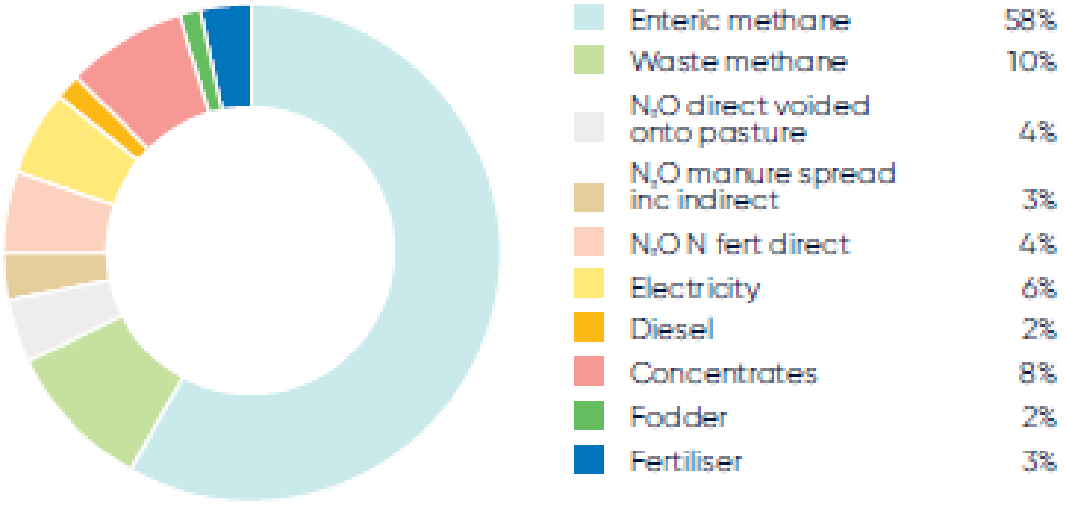
With the given technologies in dairy farming, a very high percentage of dairy farms are technically efficient at maximising outputs with given inputs. Technical efficiency has fallen slightly but 75% of dairy farms are at least 91-92% efficient across Australia. Just on 25% of farms have an efficiency greater than 94.5% (Marsden Jacob Associates 2021).

As part of the Future Drought Fund the Australian Government has created eight Drought Resilience Adoption and Innovation Hubs. Spread across all dairy states these hubs now employ knowledge brokers, regional soil coordinators and adoption officers for the purpose of connecting farmers with regional agricultural experts and adopting innovation and new practices. For these people to be effective in the dairy industry they need to focus efforts on filling the small gaps in technical efficiency rather than providing generic technical efficiency development programs.

Increase mitigation and adaptation to climate change

The Australian dairy industry accounts for 10% of agriculture's greenhouse gas emissions. This equates to approximately 2% of Australia's total emissions. On-farm is the predominant source of emissions across the dairy supply chain, with the largest source of emissions coming from methane from enteric fermentation (58% of on-farm emissions).

Figure 28: Composition of dairy farm CO2 emissions



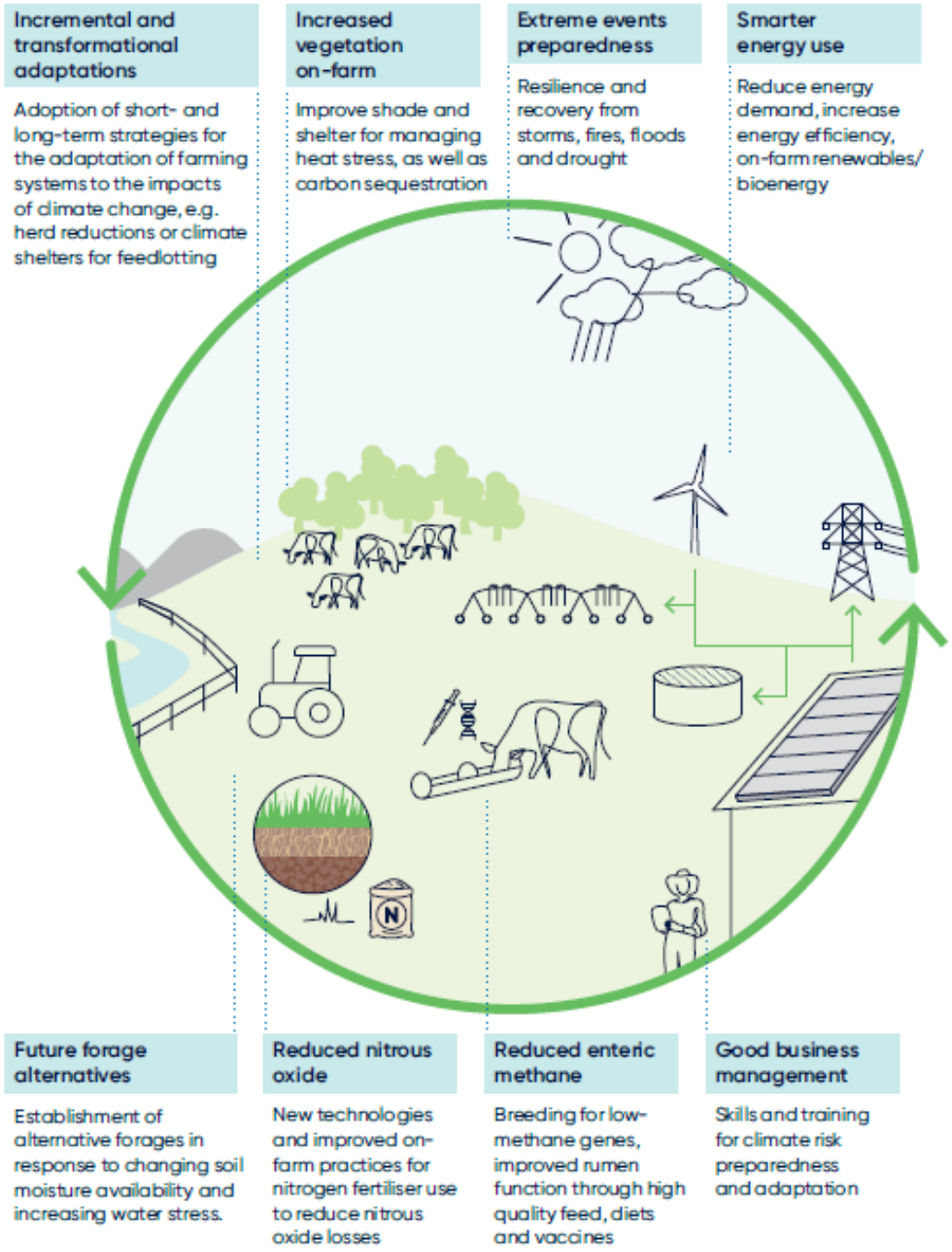
Source: Dairy Australia (2020) *Climate change strategy 2020-2025*, Southbank

Back in 2010 the dairy industry supply chain set a target of 30% reduction in greenhouse gas emission intensity by 2030. The *Australian Dairy Industry Sustainability Report 2020* demonstrated that since 2010 there has been a 23.5% decrease against the target and a decrease of 27% in total emissions (Dairy Australia 2021). This shift has mainly been driven by a move away from natural gas to renewable energy predominantly in the dairy processing sector.

More recently in 2021 the Australian dairy industry supported the economy wide target of net zero emissions by 2050. This is the target that enables the world to limit temperature increase to a maximum of 2 degrees Celsius and avoid catastrophic adverse weather events. It also provides opportunities in carbon farming, tree planting and other offsets that can provide additional sources of revenue for farmers.

The DA *Climate Change Strategy 2020-2025* is the dairy industry's primary mechanism for increasing industry's mitigation and adaptation to climate change. For this to be effective it requires investment by industry and government in various areas across the farming system.

Figure 29: Areas for investment to mitigate and adapt to climate change on a dairy farm



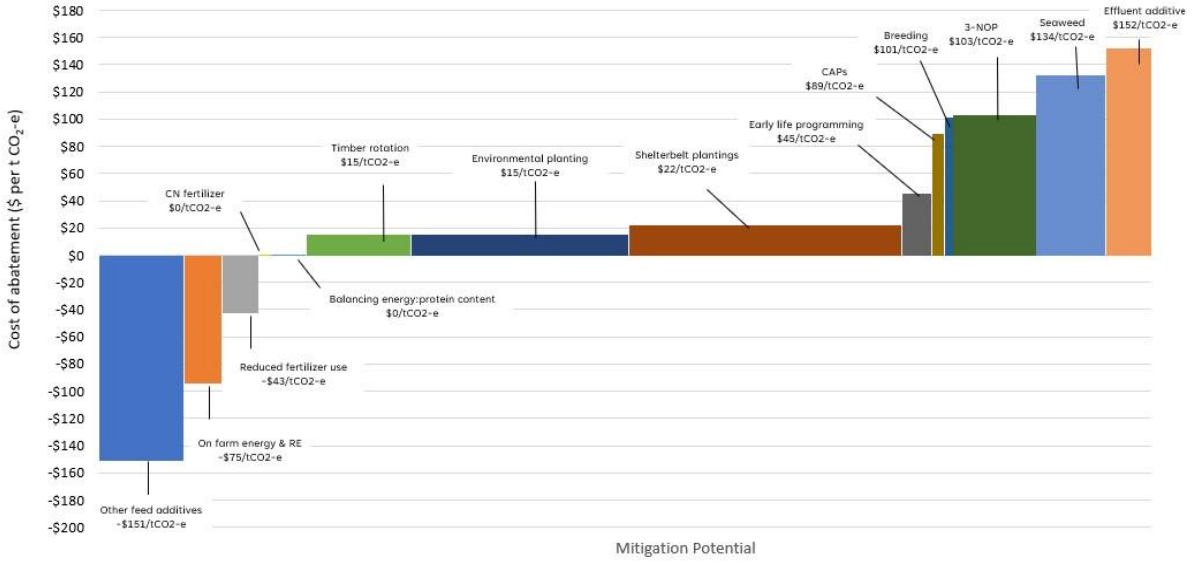
Source: Dairy Australia (2020) *Climate change strategy 2020-2025*, Southbank

Accelerate commercialisation and adoption of emission reduction technologies

The Australian dairy industry has developed an emissions roadmap. This includes identification of the emissions reduction tools, technologies and practice change options available or in the R&D pipeline for dairy farmers. The key highlights from the roadmap and its underpinning analysis are:

1. Commercialisation of methane reduction technologies are not likely until at least 2027 and the cost of adopting technologies that have a significant methane reduction impact are excessive. This makes the Australian Government's achievement of its global methane pledge (a target of at least 30% reduction in methane below 2020 levels by 2030) unattainable from a livestock perspective.
2. Investment in reduction of production inputs like fertiliser and energy not only reduces emissions it increases business profitability.

Figure 30: Australian dairy industry emissions reduction roadmap



Source: Dairy Australia (2022) *Marginal abatement curve*

In the October 2022 Federal Budget, the Australian Government provided $8.1 million over 3 years from 2022–23 to support commercialisation of seaweed. While this is a welcome initiative it only focuses on one technology option and is not enough to address the cost of seaweed adoption. More policy effort and funding are required to accelerate commercialisation and reduce adoption cost for all technological options in the pipeline.

Provide a 2nd round Energy Efficient Communities Program – Dairy Farming Business Grants

Dairy farms and processing facilities are high energy consumers. This is due to the frequency of milking and the energy intensive nature of collecting milk, keeping it cool, translating raw milk into dairy products and cleaning equipment. Efforts have been made by industry to reduce energy bills for dairy farmers. For example, the *Saving energy on dairy farms booklet* (Dairy Australia 2018) is a comprehensive guide to smarter on-farm energy use. This provides dairy farmers with a step-by-step introduction to better understanding power bills, identifying leaks, reducing demand, improving efficiency and considering options for renewables. There have also been reports by the ACCC and other government agencies finding high price gauging and profiteering by energy companies despite system wide inefficiencies and supply shortfalls. Despite these efforts recommendations for change have either not been implemented or have largely been ineffective because prices and profits continue to rise at the expense of energy consumers like dairy businesses.

The Australian Government's $10 million Energy Efficient Communities Program – Dairy Farming Business Grants in 2020-21 was a big success. Dairy farm businesses were provided with grants of up to $20,000 to improve their energy efficiency. Due to its positive net gain on emissions reduction and profitability there was 100% take up with many applicants missing out. Deployment and replacement of appliances have been occurring in 2022 with emissions reductions being credited in 2023. A second round of grants will further reduce energy costs and greenhouse gas emissions while contributing to increased food security.

Make farmers eligible for the R&D tax incentive for provision of farm data to RDCs

In November 2022 DA released the *Australian Dairy Carbon Calculator 2023*. This enables farm managers to calculate the impact of adopting different abatement strategies on their total farm greenhouse gas emissions to work out the strategies best suited to their farming system. The calculator is linked to DairyBase, an online tool enabling dairy farmers and their advisors to measure and compare farm business performance over time. DairyBase has been running since 2015 and currently has 2,500 users, including 1,800 farmers, jointly managing more than 10,000 unique data sets. The goal is to get all dairy farmers participating in DairyBase and the calculator (and other R&D initiatives) to provide an accurate measurement of performance against climate change targets at the business and industry level.

The Australian Government's Research and Development Tax Incentive (R&D Tax Incentive or R&DTI) helps companies innovate and grow by offsetting some of the costs of eligible R&D. For R&D entities with aggregated turnover of less than $20 million (the category that farm businesses fall into), the refundable R&D tax offset is their corporate tax rate plus an 18.5% premium. Subdivision 355 of the *Income Tax Assessment Act 1997* defines what eligible R&D activities qualify for the tax offset. Amending this section of the Act to include data provision by farmers to RDCs would incentivise and in turn increase participation in the calculator and other R&D activities.

Increase the cap and shift to a needs-based model for the Special Disaster Grants

The Australian Government, in partnership with state and territory governments via the Commonwealth-State Disaster Recovery Funding Arrangements (DRFA), provide Special Disaster Grants of up to $75k to support primary producers who have been impacted by floods and severe weather. Once approved, eligible primary producers can access $25k in assistance up-front, with a further $50k in financial assistance available thereafter upon submission of valid tax invoices. Currently these grants are available until 30 June 2023 for primary producers in NSW and Victoria recovering from the devastating impacts of flood.

The problem with this program is there are producers receiving funds that do not deserve it while other producers have far more cost than the grant provides. This is due to application for the grant being based on location (residence in a local government area) than need. For example, assistance is now being provided to 60 local government areas in NSW. Irrespective of the extent of damage and repair each producer is entitled to receive the same amount of funding. This is unfair and inconsistent with the intent of the grant.

It is recommended that the funding cap of $75k for the Special Disaster Grants be increased and based on a needs assessment. Items damaged would need to be listed with a repair estimate (like a Budget) with photos and other evidence attached. This document would form the basis of the grant to be provided. Shifting to a needs-based model increases the program's effectiveness.

Develop a whole of government climate adaptation strategy

The floods, bushfires and droughts highlighted various shortcomings in Australia's climate change preparedness and resilience. Some of these are:

1. Levy banks not being built or built in a place that protects some and disadvantages others.
2. Lack of buffer zones and safety exits to protect from floods and fires
3. Building of homes and assets in flood and fire prone areas
4. Consistent shortfalls in achieving controlled / bushfire risk reduction burning targets
5. Inadequate equipment for firefighting and flood response
6. Inconsistent deployment of Australian defence force personnel
7. Inadequate water infrastructure in the regions including dams.

It is acknowledged that responsibility for these decisions and actions are with Australia's state and local governments. The role of the Australian Government is generally to provide leadership, funding and resources. This context places the Australian Government in the prime position to bring together all state and local governments to conduct an assessment of the climate risks and build a strategy that increases the country's preparedness and resilience.

Improve water security and efficiency

Water is a critical resource for the dairy industry. It is used in all farming systems, from pasture based, to irrigated systems and housed animal systems as well as for manufacturing. Through the *Australian Dairy Industry Sustainability Framework*, the industry is aiming increase water use efficiency. It has been doing this by improving water productivity, active monitoring of water consumption, using recycled water and developing water security management plans. These efforts are effective providing these is access to a secure water supply.

Achieve the MDB Plan through apportion of innovation and efficiency in delivering environmental outcomes

The dairy industry in the Basin contains several important dairying regions – including areas of northern Victoria, southern New South Wales and smaller numbers of farms around Forbes and Wagga Wagga in New South Wales, Toowoomba and Warwick in Queensland, and Murray Bridge in South Australia. Unlike dairy along much of Australia's coastline, where pasture growth depends on natural rainfall, most dairy farms in the Basin, with the exception of some in the Queensland Downs region, rely on irrigation schemes to produce feed requirements. This footprint produces 19% of Australia's milk from 24 processing facilities located in the region. In the Murray Dairy region (Northern Victoria and Southern NSW) alone in 2021-22 they produced 1.7 billion litres of milk worth over $950 million at the farmgate. Dairy products produced from the Basin are sold to export and domestic markets due to the region's efficient transport connectivity and logistics access to Melbourne, Sydney and Brisbane. This region puts fresh milk on supermarket shelves along the east coast of Australia. In 2021-22 at least 97 million litres of milk went to NSW and 62 million litres of milk went to Queensland to be bottled for the retail market.

Access to irrigation water is the major issue affecting milk production in the Murray Dairy region. Since 2012 the *Murray Darling Basin Plan* (via its legislative framework the *Water Act 2007*) has been recovering water from irrigators and other users for the environment. As of 30 September 2022, the Murray–Darling Basin Authority (MDBA) estimates that the contracted (including registered) surface water recovery is 2,107.4 GL/y. More water is still to be recovered for the 605 GL/y Sustainable Diversion Limit Mechanism (SDLAM) project water recovery targets, as well as an additional 450 GL/y for enhanced environmental outcomes. This could mean farmers losing up to 760 GL/y of water currently being used for irrigation across the basin under water licences.

Direct water buybacks and on-farm infrastructure programs have put upward pressure on water prices. This has increased in line with increases in the volume of water recovery (ABARES 2020).

A report by Frontier Economics (2022), commissioned by the Victorian Government, found:

- Milk production in the Goulburn Murray Irrigation District dropped from an average of around 2350 million litres in 2003-04 to 2005-06, to about 1270 million litres in 2019-20 and 2020-21 — a reduction of 46%. This comprises 28% due to water recovery and 18% due to other factors.
- recovery of the 450 GL/y is expected to lead to a gross marginal loss of approximately $150 million annually and 900 job losses for northern Victoria. 137 G/y will come from the dairy industry, which is more than any other agricultural sector.
- if an additional 760GL were to be recovered via buybacks, the average annual cost in foregone production for agriculture in the region would be more than $850 million a year.

The plan states that if there is any shortfall (which is most likely given that state of projects) in 2024 further water buybacks will be triggered for the unrecovered portion of the 605 SDLAM target, most likely recovered through irrigators. Given the current challenging farming conditions in the dairy industry, with floods following years of drought, the idea of ‘willing sellers’ for buybacks is questionable.

For the dairy industry in the Basin to continue to provide nutritious food along the eastern seaboard and internationally, a greater effort to provide water security is required. Buybacks from irrigators are a blunt instrument to provide environmental water. Buybacks may be a cheaper option for governments, but they transfer the costs to rural communities and farmers. The current agreement, that there should be no negative socio-economic impacts, is essential to protect water security for dairy producers. Since the inception of the Plan there has been significant increases in knowledge regarding how to manage the river systems and associated wetlands. Improving current projects, additional, innovative projects and allowing more time to complete projects can supply environmental water without taking more water from the consumptive pool of irrigation water. In this way the environmental and food production goals can be met.

Prioritise development of dairy production in the National Water Grid

The National Water Grid Authority (NWGA) is the lead Australian Government agency responsible for investing in Australia's next generation water infrastructure. Its flagship initiatives are the National Water Grid Fund and guiding Investment Framework.

The commitment in the October 2022 Federal Budget to an expansion of the framework to allow funding for a broader range of projects in regional and remote communities is welcomed by the dairy industry. Previously most water infrastructure projects have been focused in the areas of Northern Territory and Queensland where there is no dairy industry. It is recognised that these and all other water infrastructure investments are based on scientific evidence and economic and environmentally credentialled business cases. However, when the objective of strengthening food security is prioritised in the framework, the portfolio of investment may shift more towards the southern states where dairy is more prominent.

Reduce the risk and impact of pest plants, animals and diseases

Since the May 2022 federal election, the new Australian Government has done a significant amount of work on the biosecurity system. They delivered immediate actions to reduce the risk of FMD and Lumpy Skin Disease (LSD) from Indonesia, released a *National Biosecurity Strategy*, supported a Senate *Inquiry into the biosecurity system*, announced $134.1 million over 4 years from 2022–23 (and $3.3 million per year ongoing) to bolster biosecurity capability in the October 2022 Federal Budget and commenced development of a sustainable funding model for the system. These efforts are welcomed by the dairy industry.

Transform the biosecurity system

The CSIRO (2020) have said that scaling the current biosecurity system through additional funding allocation will not be enough. Their modelling demonstrated that a tripling of investment in interventions out to 2025 will still result in increased residual biosecurity risk compared to 2014–2015 levels. This is why the CSIRO and more recently the dairy industry have argued that the system requires transformational change to improve efficiency and effectiveness.

ADF provided submissions to the Senate inquiry and the government's sustainable funding model process. Using the *National Biosecurity Strategy* as a framework it proposes reform in the areas of governance, funding, disease categorisation, surveillance and detection, diagnostics and vaccine development, compliance and continuous improvement. If these recommendations and supporting initiatives e.g., grant program for improving on-farm and supply chain biosecurity protection, are implemented, Australia will continue to have a world class biosecurity system.

Increase the availability of people to work in dairy

The Australian dairy industry is making a concerted effort to address the worker shortage crisis. One of the five commitments in the *Australian Dairy Plan* (2020) is to 'attract and support new people.' To meet this objective the industry has:

1. maintained currency of the People in Dairy website, which provides all the information employers and employees need to know about human resource management
2. implemented the Pathway for People in Dairy program, which connected 5,583 people to career resources.
3. successfully embedded the Dairy Learning Plan as part of the Marcus Oldham College scholarship program and commenced a pilot at the University of Sydney with a 100% retention rate.
4. extended the Dairy Matters marketing campaign to include advertisements and collateral seeking to attract people to work and have a career in dairy.
5. commenced a new Managing People 1:1 Support program. This is a personalised consultative initiative covering all aspects of human resource management, including attracting and recruiting, onboarding and induction, compliance, safety, managing people and staff retention.
6. commenced a new Farming with My Team program. This is designed to provide farmers with an insight into their own leadership style and build their leadership skills. Improved leadership will not only benefit the farm business but provide farmers with skills that will benefit them beyond the farm gate.

These initiatives can only go so far. If there are insufficient workers available in the country, the effectiveness of these programs will be limited. It is critical the Australian Government support these industry programs by increasing labour supply across the country.

Ensure the *Jobs White paper* includes key *Agriculture Workforce Strategy* recommendations

The Jobs Summit was held on 1 & 2 September 2022. 142 people attended including the National Farmers Federation to represent agriculture. About 110 recommendations were made across five themes – more training and skills, strengthen migration system, industrial relations reform, equal opportunity and job creation. An Agriculture Minister's taskforce that includes an ADF National Councillor has been meeting to validate the recommendations for agriculture. This has been feeding into development of the Australian Government's *Jobs White Paper*.

Analysis of the Jobs Summit recommendations and taskforce decisions against the previous government's *Agriculture Workforce Strategy* (which did not get implemented) highlights many similarities. For example, deficiencies in workforce data and analysis were identified in the Jobs Summit and taskforce. The *Agriculture Workforce Strategy* addressed this by making a recommendation for an expert unit to be established in the department. This was followed in the March 2022 Federal Budget where $3.2 million was provided over 4 years from 2022-23 to the Australian Bureau of Statistics to improve its monthly statistics on employment, underemployment and participation rates in regional labour markets and to deliver market statistics at a higher level of geographic detail. Rather than reinventing the wheel or going back in process it is more efficient and effective to leverage and advance the work in the strategy than disregard it.

Ensure new funding for Visa processing prioritises dairy

In November 2021 ADF and DA received notification from the Department of Home Affairs of the Australian Government's acceptance of most of the changes proposed to the Dairy Industry Labour Agreement (DILA). These included:

1. expansion of occupations listed from one to two. The Dairy Cattle Farm Operator reflects FLH 3 in the Pastoral Award 2020 and Senior Dairy Cattle Farm Worker reflects FLH 5-7 in the Pastoral Award 2020.
2. Under the Dairy Cattle Farm Operator occupations for the TSS visa, the requirement is now 1 years' experience. For the SESR visa, the requirement is 2 years' experience. Or skill level AQF Cert II or III, for TSS and SESR visas.
3. Under the Senior Dairy Cattle Farm Worker, the skill level for both TSS and SESR visas is AQF Cert III and 2 years' experience (previously 3 years) or 3 years' experience without the qualifications (previously 5 years). The ENS visa experience level is 3 years.

4. The SESR visa for the DILA now has a seamless pathway to permanent residence and also a lower Skilling Australia Fund levy than the TSS. (Note the SESR is not currently available in the GSC DAMA.)
5. The English language requirement has been reduced to IELTS 5 with no minimum score for both TSS and SESR visas.
6. concessions on age, LMT and salary.

ADF and DA have been promoting the DILA to dairy farmers. This has increased awareness and take up of Visa applications under the DILA.

Despite being granted priority status for processing Visa applications under the DILA, the timelines and costs for obtaining a foreign worker has been excessive. This has undermined the DILA concessions obtained by industry and farmer confidence making applications. The issue was identified in the Jobs Summit and taskforce and in the October 2022 Federal Budget $42.2 million was provided over two years from 2022–23 for the Department of Home Affairs to increase visa processing capacity. It is critical that these funds are directed at priority industries like dairy.

Pass the *Social Services Legislation Amendment (Enhancing Pensioner and Veteran Workforce Participation) Bill 2022*

Currently, a single pensioner and certain veterans can earn a wage while receiving pension payments. However, if they earn over $190 per fortnight their pension erodes by 50 cents in every dollar earnt. The business and pensioner communities have been advocating for the cap to be removed to incentivise pensioners returning to the workforce, providing business with increased access to labour and increasing incomes for pensioners and the tax office.

The *Social Services Legislation Amendment (Enhancing Pensioner and Veteran Workforce Participation) Bill 2022* increases the cap to $600. While this does not go far enough it is an improvement for everyone, so should be passed by the Parliament.

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