KPMG

2024 Dairy Industry Materiality Assessment

Findings Report

September 2024

Inherent Limitations

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This report is for the purpose set out in section **2.0 Methodology** (p.g. 10-12). This report has been prepared at the request of the Sustainability Steering Committee, on behalf of the dairy industry, and in accordance with the terms and conditions of KPMG's engagement letter with Dairy Australia dated 25/03/2024. Other than our responsibility to Dairy Australia in the engagement letter, neither KPMG nor any member or employee of KPMG undertakes responsibility arising in any way from reliance placed by a third party on this report. Any reliance placed is that party's sole responsibility.

Contents

Acknowledgements

KPMG would like to acknowledge and thank the dairy industry and community stakeholders that so willingly and openly contributed to this project, as well as the ADSF Sustainability Steering Committee and Dairy Australia. To enable transparency and anonymity, respondents to the consultations undertaken through the assessment, individuals and organisations have not been identified.

Glossary

Term	Definition
AASF	Australian Agricultural Sustainability Framework
ABSF	Australian Beef Sustainability Framework
ADSF	Australian Dairy Sustainability Framework
ASRS	Australian Sustainability Reporting Standards
ESRS	European Sustainability Reporting Standards
DMA	Double Materiality Assessment
GDSF	Global Dairy Sustainability Framework
GRI	Global Reporting Initiative
IFRS	International Financial Reporting Standards
ISSB	International Sustainability Standards Board
SASB	Sustainability Accounting Standards Board
SSC	ADSF Sustainability Steering Committee
RDC	Research and Development Corporation
UNSDG	United Nations Sustainable Development Goals

1.0

Executive summary

1.0 Executive Summary

This Findings Report has been prepared to outline the approach, findings and recommendations of the 2024 double materiality assessment. The assessment covers the whole dairy supply chain. The Report is provided primarily for the Sustainability Steering Committee to guide prioritisation of time and resources to amend or reprioritise the goals, targets and activities within the ADSF, where required. For the dairy industry, the Report may provide a useful reference for addressing sustainability related matters within their own operations.

The Australian dairy industry's approach to managing sustainability

The Australian Dairy Sustainability Framework (ADSF) outlines how the industry is coordinating its efforts to ensure ongoing, safe, nutritious, quality food products in a way that cares for the environment, animals, the community and the people that produce it.

The ADSF was first launched more than a decade ago off the back of an impact materiality assessment undertaken in 2011/2012. Since then, the ADSF has undergone several reviews and updates, including the creation of goals and targets in 2016 and 2018 respectively. To align with shifts in operating contexts, significant changes to global and domestic sustainability standards, reporting and regulations, and to acknowledge the evolving expectations of stakeholders, a refreshed materiality assessment was undertaken in 2024 for the industry to identify the current material topics using both an impact materiality (inside out) and financial materiality (outside in) lens. This approach is also commonly referred to as a double materiality assessment (DMA)*.

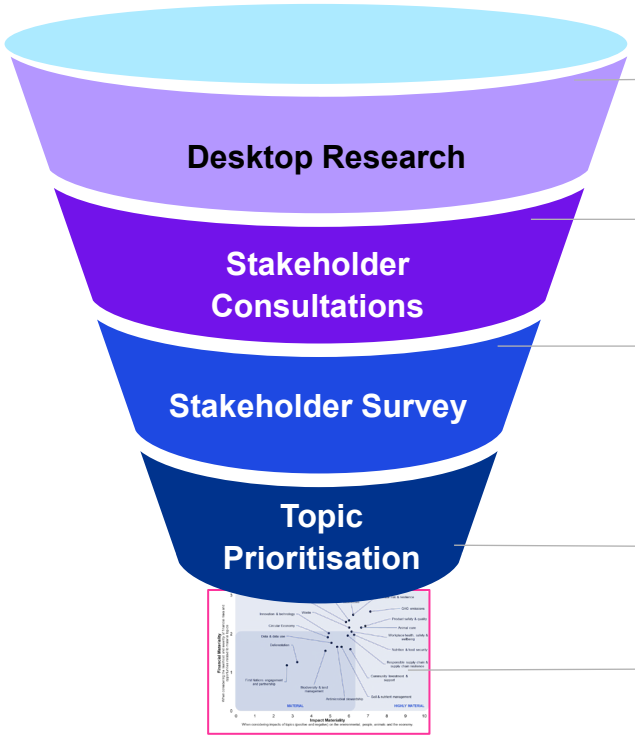
Undertaking a DMA aligns with current stakeholder expectations, including investors, employees, governments, and the broader community, who are increasingly interested in understanding sustainability related risks, opportunities and impacts. A DMA can also help in identifying and managing the most relevant current and future sustainability-related risks, impacts and opportunities more effectively. This is because it requires industry to consider both the potential financial implications of these risks and opportunities on the industry and the impacts (positive and negative) that the industry has on the environment, society and the economy, all of which can have a profound influence on areas such industry reputation, consumer and customer relationships, social licence to operate, access to or cost of capital and license to operate.

The approach taken to prepare the assessment

The DMA was undertaken by following a combination of the Global Reporting Initiative (GRI) approach to materiality (impact materiality) and the International Sustainability Standards Board (ISSB) guidance on financial materiality. The DMA was completed using a sequential approach consisting of 4 steps: desktop research, stakeholder consultations, a stakeholder survey, and a prioritisation workshop (undertaken by the Sustainability Steering Committee - SSC). *See figure overleaf.*

Note: the double materiality approach developed is not in accordance with the double materiality approach as defined in the European Sustainability Reporting Standards (ESRS).

Approach taken to prepare the double materiality assessment



149 documents (inc. existing Standards, Frameworks and media articles) were assessed to identify a long list of 26 topics.

21 stakeholder groups along the supply chain were consulted to identify their top material topics from the long list of topics.

500 stakeholders were invited to respond to a survey, identifying their top material topics and the topic's significance.

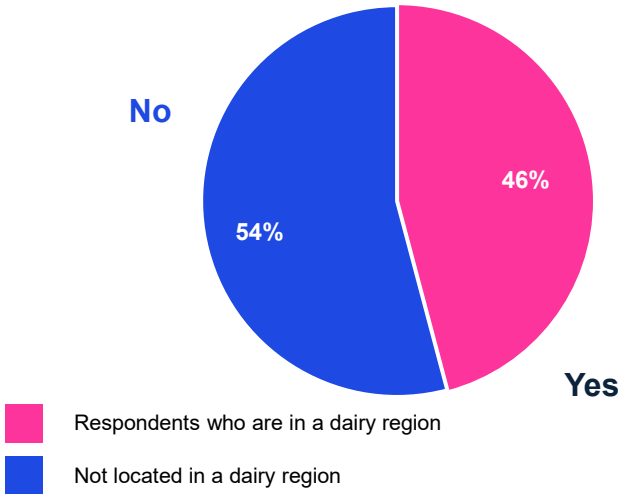
Data from the consultations and surveys was used to create a shortlist of 20 topics.

The SSC prioritised the shortlist of topics, assessing their impact and financial materiality.

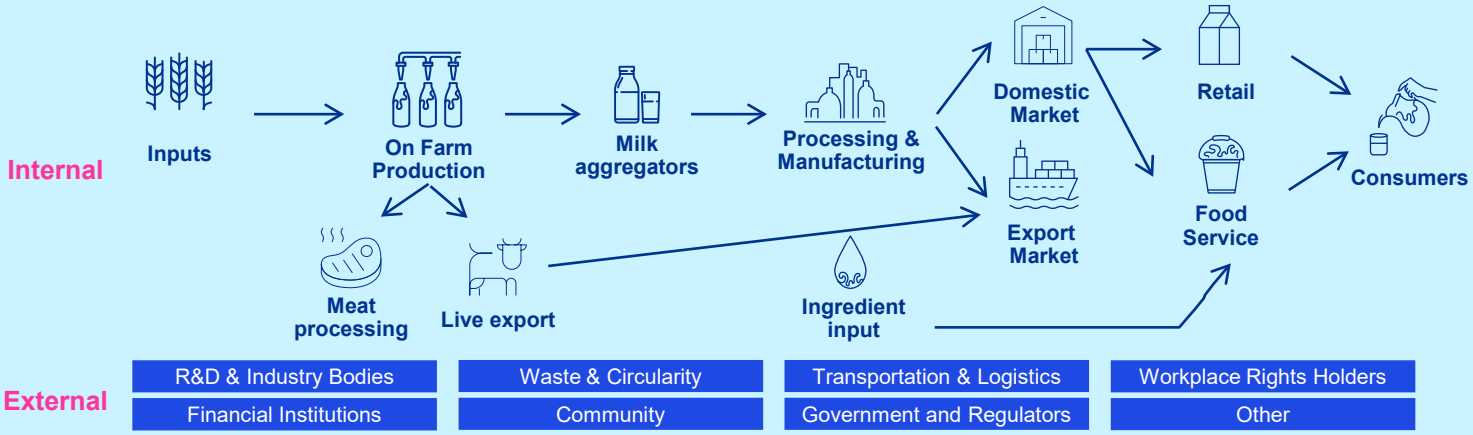
The outputs of the topic prioritisation are presented in a **double materiality matrix**, identifying more material and less material topics.

Who was invited to participate?

Stakeholders from across the supply chain were invited to respond via direct consultation or through the survey. Respondents represented a broad range of both internal and external stakeholders (see below), as well as both businesses located within, and outside of, dairy regions (see right). This ensured a broad range of input and provided both outside in and inside out views as to the significance of topics throughout the DMA.



Supply chain map used to guide stakeholder participation in the DMA



What were the material topics identified in the 2024 assessment?

20 topics were shortlisted for prioritisation. These are presented on the matrix below, whereby the x-axis represents impact materiality, and the y-axis represents financial materiality.

Thresholds for more material and less material topics were set by the SSC. The thresholds are a useful guide on where to focus limited time and resources. The response to addressing and reporting on material topics is ultimately up to the SSC.

The more material topics in 2024 were, in order of priority:

- Greenhouse gas (GHG) emissions,
- Product safety and quality,
- Animal care,
- Climate risk and resilience,
- Economic viability of businesses,
- Farm biosecurity,
- Nutrition and food security,
- Workplace health, safety, and wellbeing,
- Waste, and
- Water.

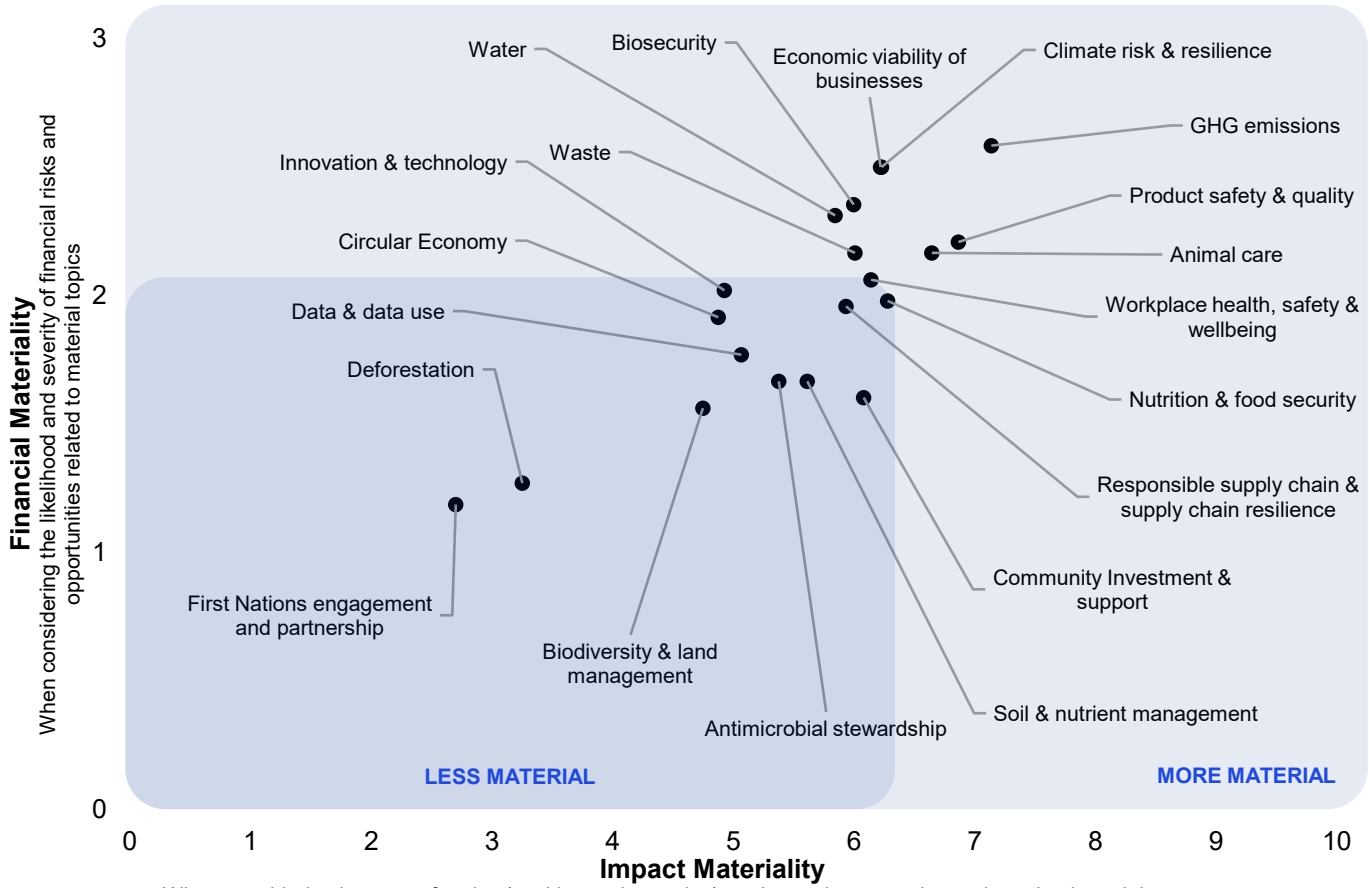
The less material topics in 2024 included:

- Responsible supply chain and supply chain resilience,
- Community investment and support,
- Soil and nutrient management,
- Antimicrobial stewardship,
- Innovation technology,
- Data and data use,
- Circular Economy,
- Biodiversity and land management,
- Deforestation, and
- First Nations engagement and partnership.

Topics not included from the initial list of 26, or those that fall below the thresholds, does not mean these topics are not important or relevant for dairy industry stakeholders. The relative materiality of topics is typically specific to a stakeholder group.

Material Topic Definitions

Definitions for each topic can be found on pages 46 and 47.



What has changed since the 2019 materiality assessment

Several shifts in material topics for the dairy industry were observed between the 2019 and 2024 materiality assessments. Overall, the top five material topics from 2019 still feature in the top ten in 2024:

1) product safety and quality (ranked 2nd in 2024),
2) water availability and efficiency (ranked 10th in 2024),
3) physical climate risk (ranked 4th in 2024),
4) animal care (ranked 3rd in 2024) and;
5) biosecurity (ranked 6th in 2024).

This shows that while there has been some change in the perceived materiality of topics between years, 60% of the topics in the highly material topic threshold in 2019 remain in the top 10 topics in 2024.

Notable shifts include GHG emissions, which have risen sharply from 10th in 2019 to 1st in 2024 and economic viability of business, which is 5th in 2024, but 2019 was only considered a 'material' topic across business management capability, value creation and market growth.

It should be noted that the 2024 materiality used a DMA, while the 2019 materiality assessment considered an impact lens only (rating topics by influence and significance). While comparisons can be identified between the two, they are not methodologically reflective of each other. Despite these methodology differences, the more material topics across the two assessments are largely the same.

What should the 2024 materiality assessment be used for?

The outcomes of the DMA will support the SSC to assess and, if necessary, reprioritise the ADSF goals, targets and activities going forward.

In responding to this materiality assessment, it is recommended that the SSC also:

- Share a response to this DMA with industry and how the SSC intends to address the more material topics identified in this Report;
- Improve the mechanisms by which stakeholders are engaged in the sustainability dialogue across the dairy supply chain – especially between those located in dairy regions and those located outside of dairy regions, as disparity was observed between the material topics observed by these groups;
- Enhance data capture, reporting and disclosure measures as they relate to ADSF goals, performance and achievements;
- Strengthen capacity building programs which underpin the ADSF's implementation; and
- Identify ways to collaborate with other agricultural industries on similar or cross-sectoral sustainability activities to promote shared opportunities, investment and achievement of outcomes.

While the Findings Report provides recommendations for the SSC, organisations and other stakeholders across the supply chain may find this report a useful reference for material sustainability risks, opportunities and impacts as they consider their own activities and sustainability focus areas. It is important to note that the significance of material topics and associated impacts, risks and opportunities may differ between organisations, and that independent review and analysis of what topics are applicable is entirely at the discretion of individual organisations or individuals.

A dairy industry materiality guidance report (How to apply the national materiality assessment to individual dairy businesses) will be made available by the SSC.

2.0
Methodology

Methodology

2.1 What is a double materiality assessment and why was this approach utilised?

'Double materiality' refers to exploring sustainability topics through two lenses of materiality – "financial" materiality and "impact" materiality. Typically, undertaking a DMA helps an entity identify topics it should report upon to its stakeholders which are material to its business. In this instance, the approach being used is exploring material topics for a whole industry. Previous materiality assessments for the dairy industry have taken an "impact" materiality lens only.

The DMA was undertaken by following a combination of the Global Reporting Initiative (GRI) approach to materiality (impact materiality) and the International Sustainability Standards Board (ISSB) guidance on financial materiality.

Undertaking a DMA, which includes both 'financial' and 'impact' materiality, is preferable in the evolving sustainability reporting landscape for several reasons. Firstly, it provides a more comprehensive view of sustainability performance by considering not only the affects of sustainability-related topics on financial performance but also the industry's impact on society, people, the environment and in the case of the dairy industry - animals.

Undertaking a DMA aligns with the growing expectations of stakeholders, including investors, employees, governments, and the broader community, who are increasingly interested in understanding sustainability risks, opportunities and impacts. Secondly, a DMA can help in identifying and managing the most relevant current and future sustainability-related risks, impacts and opportunities more effectively. This is because it requires industry to consider both the potential financial implications of these risks and opportunities and their broader societal impacts, which can influence industry reputation, consumer relationships, and social licence to operate.

2.2 Why refresh materiality assessments?

The dairy industry sought to update its materiality work in 2024 to align with global changes in operating contexts, current sustainability standards and regulations, and evolving expectations of stakeholders.

2.3 How was the double materiality completed?

The DMA was completed using a sequential approach that included: desktop research, stakeholder consultations, a survey, a shortlisting of material topics and a prioritisation activity (undertaken by the SSC).

The approach to double materiality has been outlined on the next page.

2.4 What is the double materiality intended to help support?

A refreshed materiality assessment is intended to enable a unified and holistic supply chain approach to addressing sustainability related risks, opportunities and impacts. Furthermore, the refreshed materiality results will be utilised to inform updates to the ADSF.

Double Materiality Assessment

More information on DMA and methodologies can be found on page 84 onwards.

Methodology

DOUBLE MATERIALITY APPROACH

ACTIVITY UNDERTAKEN

1 DMA STEP ONE

Use the Global Reporting Initiative (GRI) Sector Standards to understand the sector context

Understand the dairy industry's context, value chain, and develop initial long list of topics

International Sustainability Standards Board (ISSB) International Financial Reporting Standards (IFRS) S1 and S2

See Appendix 6.1, pages 43-45

Identify actual and potential sustainability impacts (positive and negative)

Identify risks and opportunities that may affect the financial prospects of the dairy industry, considering the actual and potential industry dependencies

Desktop Research

Assessed existing sustainability standards and guidelines, dairy industry materials, other industry assessments, and global information.

Outputs:

- Identified a list 26 of possible material topics, considering impacts (positive and negative) and risks and opportunities (financial).

See pages 14-16.

2 DMA STEP TWO

Assess the significance of the sustainability impacts

Assess the significance of the risks and opportunities that may affect financial prospects of the dairy industry, considering the actual and potential industry dependencies.

Stakeholder Consultations

Twenty-one (21) stakeholder groups were interviewed across the dairy industry value chain. *See pages 17-19 and 65-75.*

Outputs:

- Identified top-3 sustainability topics, impacts, risks, and opportunities across participants in the supply chain.

Materiality Survey

To support the revision of topics into a short list, a materiality survey was developed to gain further insights from a broader range of stakeholders from across the dairy supply chain. The survey asked stakeholders to identify material topics alongside impacts, risks and opportunities.

Outputs:

- Identified sustainability topics, impacts, risks, and opportunities.

See pages 20-24 and pages 76-83.

3 DMA STEP THREE

Prioritise the most significant impacts

Identify the most material sustainability risks and opportunities which may reasonably affect prospects in short, medium, and long term.

Based on the findings from (1), (2) and (3), 20 material topics were shortlisted, and a prioritisation workshop conducted with key dairy stakeholders.

Outputs:

- Shortlist of material topics considering impacts (positive and negative) and risks and opportunities (financial).

Prioritisation Workshop (see pages 28-34).

4 DMA STEP FOUR

Impact materiality

Material topics

Financial materiality

This report documents the findings from DMA process.

Outputs:

- Top 20 material topics to the dairy industry
- A double materiality matrix
- Recommendations (see pages 40-41).

3.0

Findings and insights

3.1 Undertaking desktop research to identify current material topics

A desktop assessment of existing sustainability standards and guidelines, dairy industry materials, other industry assessments, and global information was completed.
This assessment identified 26 material topics, including emerging topics, for the dairy industry that were used to inform DMA consultation and survey activities.

3.1.1 How were the initial material topics identified?

Documents were analysed using a qualitative process (see further detail in the Appendix 6.1, pages 43-45). This included:

1. Identifying appropriate documents for review through desktop scanning and with the support of the SSC, who provided additional documents.
2. Identifying appropriate media to be scanned using timebound publication criteria (i.e. recent articles) and mentions of 'Environment', 'Social', 'Governance', and 'Sustainability' and any sub-phrases relating to (but not limited to): Nature, Biodiversity, Sustainability, Reputation, Water, Soil, Air and First Nations People. Domestic media (Australian) was prioritised however international media was also included.
3. Summarising the document and media 'types' (e.g. report, news articles, scientific journal, etc.), and the information within.
4. Collating like topics into a long-list of topics and listing the associated impacts, risks and opportunities and assessing the initial list with the support of sustainability and agribusiness experts.

3.1.2.1 Most frequently mentioned material and emerging topics

From the 81 documents reviewed, several topics were mentioned repeatedly and several topics were identified as emerging. Similar topics were aggregated, for example GHG emissions, carbon dioxide and nitrous oxide were grouped 'GHG emissions'.

Topics mentioned frequently	
GHG emissions	Land and soil management
Animal care	Workplace health and safety
Water	Nutrition and food security
Product safety and quality	

Emerging topics	
Nature, biodiversity and deforestation	Technology, research and development
Wellbeing	Responsible supply chain management
Circular economy, packaging and waste	Community impact and relationships

A topic was considered emerging based on factors such as the number of times the topic was mentioned compared to previous materiality assessments and its increasing relevance to industry stakeholders.

3.1.2.2 Other observations from the desktop review

Outside of identifying topics, other observations from the desktop review were:

- In a world of evolving consumer expectations, public trust in the dairy industry remains high based on both AgriFutures' community trust survey[1] and Dairy Australia's trust tracking.[2]
- Environmental management has remained the key driver for social license for rural industries in Australia per the community trust in rural industries program.[1]
- Global articles frequently mentioned the movement to 'sustainable dairy' highlighting emissions reductions initiatives as a priority.

1 AgriFutures' Community Trust in Rural Industries, available here: Community Trust in Rural Industries: Year 4 national survey 2023 | AgriFutures Australia
2 Dairy Australia undertakes regular trust tracking on an annual basis.

3.1.2.3 Other observations from the desktop review (cont.)

- Other Australian agricultural industries and dairy businesses identified GHG emissions, workplace health and safety, farm biosecurity, energy management, land management and biodiversity, and climate risk and resilience as material topics.
- Other global dairy industry and dairy businesses materiality assessments predominantly align with GRI with more recent materiality assessments shifting to a double materiality process.

3.1.3 Seventy-eight articles from a media scan were identified

A media scan covering the period January 2023 to February 2024 utilising the key words “Environment”, “Social”, ‘Governance”, “ESG”, and “Sustainability” surfaced 78 relevant articles for analysis.

3.1.3.1 In these media articles, three key themes were mentioned frequently

Emissions reduction

Emissions targets, scrutiny of industry commitments to meeting those targets and the evolution of emissions reduction legislation and reporting requirements were key themes in most articles.

Data reliability

Alongside the release of new reporting standards and the increased consumer expectation for transparency, especially on sustainability topics and animal welfare, data availability, and the reliability of that data was frequently mentioned.

Community Impact

Several articles raised concerns about the dependance regional communities place on dairy for resilience. This included not only topics such as being a significant employer in regional communities, it also included the wellbeing, career development and health/safety of workers.

Other observations:

- Outside of emissions reduction, data reliability and community impact, the next most frequent topic mentioned was ‘waste’ (including packaging considerations and the use of waste for energy).
- Collaboration and community emerged consistently as drivers for the movement to more sustainable dairy practices, noting the significant impact that the dairy industry has in regional communities.
- In support of the “sustainable dairy” movement, articles highlighted the importance of technology developments across the dairy value chain. In this instance, “Technology developments" refers to the creation, improvement, and implementation of various tools, methods, and systems that can help mitigate the environmental impact of dairy operations. Technology discussed or identified in the articles was predominantly emissions reduction technology in feed additives, processing efficiencies, fleet management and effluent waste-to-energy.

70%

of articles from the sustainability media scan showed a positive sentiment towards the dairy industry

3.1.4 26 initial topics were identified from the desktop research

Following the document review and the media scan, themes were grouped to create a list of 26 topics to take through the DMA activities. As part of creating this list of 26 topics, various sub-topics were grouped together – for example bobby calves was included in 'animal care' – this was to create a simplified list of 'like' topics and themes where impacts, risks and opportunities align. It should be noted, this list is provided in alphabetical order, not in order of priority.

Material Topic Definitions

Definitions for each topic can be found on pages 46-47.

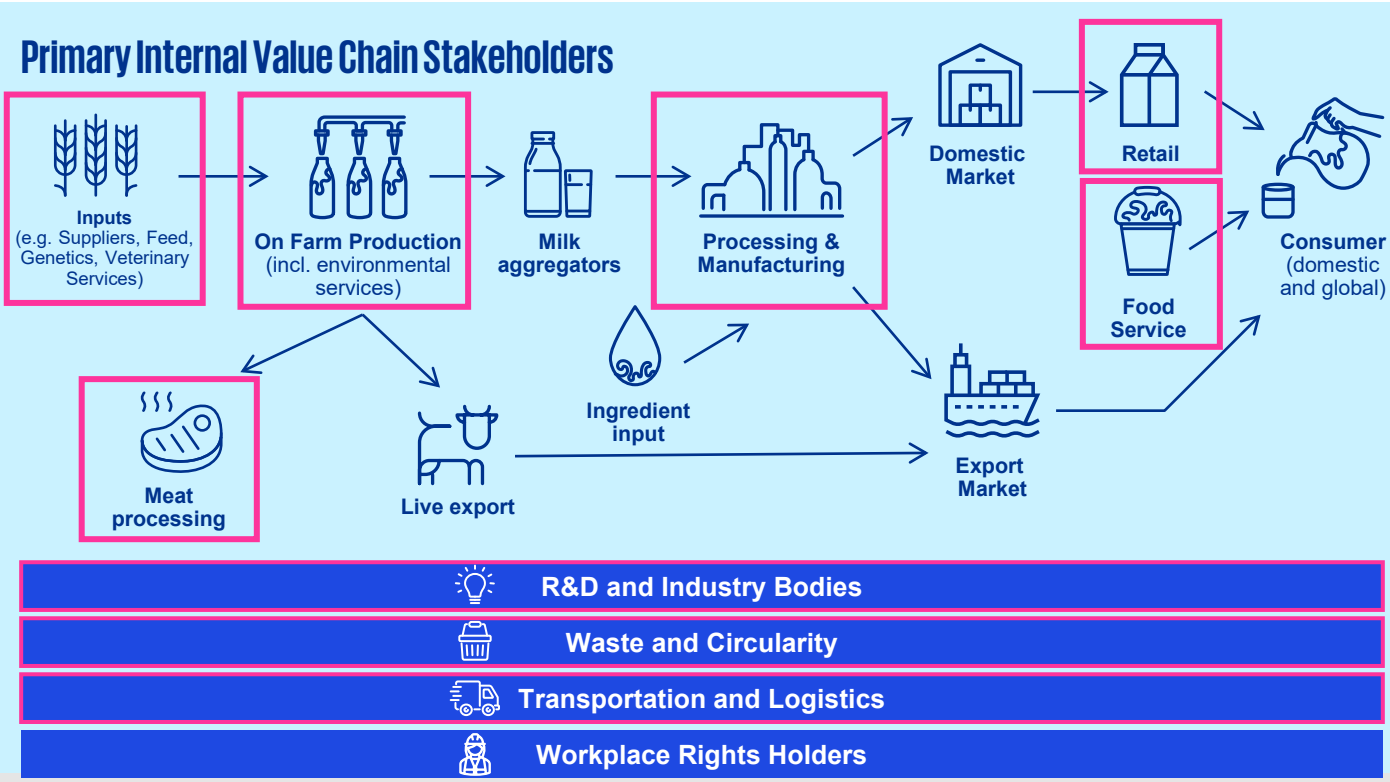
1	Air quality	**14**	First Nations engagement and partnership
2	Animal care	**15**	GHG emissions
3	Antimicrobial resistance	**16**	Inclusion and diversity
4	Biodiversity and land management	**17**	Innovation and technology
5	Circular economy	**18**	Modern slavery
6	Climate risk and resilience	**19**	Nutrition and food security
7	Community investment and support	**20**	Public policy and advocacy
8	Data and data use	**21**	Product safety and quality
9	Deforestation	**22**	Responsible supply chain and supply chain resilience
10	Economic viability of businesses	**23**	Soil and nutrient management
11	Employment practices	**24**	Waste
12	Energy	**25**	Water
13	Farm biosecurity	**26**	Workplace health, safety and wellbeing

3.2 Assessing the significance of identified topics with stakeholders

A combination of consultative interviews across the supply chain and an open invitation survey were used to assess the significance of topics identified in 3.1.

3.2.1 Stakeholder Consultations

A total of 21 stakeholder groups or organisations were identified across the supply chain through a stakeholder mapping exercise with the support of the SSC. From this mapping exercise, stakeholders who directly participate in the supply chain as well as those that provide services or are adjacent to the supply chain were selected for consultation. A variety of supply chain participants were engaged in the process to ensure diversity of opinion and commentary provided. The stakeholders represented in the **boxes** of the below graphic were included in the final interviews, others participated in the survey (outlined in detail in 3.2.2 on the following page).



Additional Value Chain and External Stakeholders

Financial Institutions (including investors and shareholders)

Community (including First Nations People, communities in dairy regions and broader community)

Government and Regulators (including global policies, regulations, and frameworks)

Other stakeholders: NGOs, labour hire and unions, animal rights groups, special interest groups, sustainability practitioners, dietitians and medical practitioners

3.2.1.1 Consultation participants were asked a series of structured questions to identify their top material topics

Participants were asked to identify the material topics, impacts, risks, opportunities and emerging issues as they related to sustainability for the dairy industry. Selected and anonymised responses are summarised, verbatim, on page 19, with further detail on the responses provided by each supply chain node provided in Appendix 6.3, on pages 65-75) . To facilitate the topic analysis, verbatim responses were grouped under their most similar topic heading – for example those who said 'GHG emissions' impact on climate change' were analysed as 'GHG emissions'.

The most frequently mentioned material topics by all stakeholders were:

Rank	Material Topics (from longlist)	Mentions
1	GHG emissions	**13**
2	Animal care	**8**
3	Climate risk and resilience	**4**
4	Economic viability of businesses	**4**
Equal 5th	Biodiversity and land management	**3**
Equal 5th	Product safety and quality	**3**
Equal 5th	Labour availability	**3**
Equal 8th	Antibiotic resistance	**2**
Equal 8th	Circular Economy	**2**
Equal 8th	Waste	**2**
Equal 8th	Workplace health, safety and wellbeing	**2**
Equal 8th	Responsible supply chain and supply chain resilience	**2**
Equal 13th	Antimicrobial resistance	**1**
Equal 13th	Bobby calves	**1**
Equal 13th	Deforestation	**1**
Equal 13th	Soil and nutrient management	**1**
Equal 13th	Nutrition and food security	**1**

For a full breakdown of each supply chain stakeholder's material topics, see page 19

Were any topics raised that were not on the long list?

'Labour availability' was not a topic identified in the desktop review and media analysis. However, several stakeholders did raise 'labour availability' (Equal 5th, see above). As a response to this, the definition of the topic of Employment Practices was widened to include considerations for labour availability. This was also the case for Packaging (Equal 8th, see above) which was then considered within 'Waste' and 'bobby calves' (Equal 13th, see above) which was then considered within 'Animal care'.

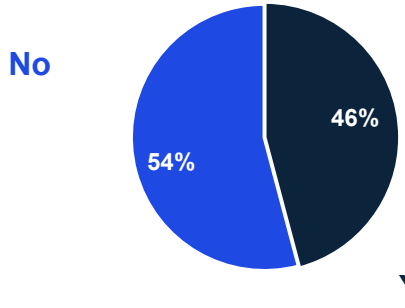
Outside of the specific consultation questions asking stakeholders to discuss their top material topics, they were also afforded an opportunity to comment on any other emerging sustainability issues they'd not yet raised. In response, several participants commented on the rise of sustainability regulation and associated reporting requirements. This was often raised as an area in which the industry was underprepared. This could be an area in which the SSC provides a watching-brief on behalf of industry stakeholders, as well as appropriate guidance on how to respond to regulatory and voluntary reporting requirements.

3.2.1.2 The following table provides a summary of the top three material topics identified by the interviewees, grouped by value chain node.

Value chain node	Identified material topics		
On farm production	Environmental impacts from resource / nutrient management	Workplace health and safety	Economic resilience
Farm inputs	Food safety	Use of ionophores	Animal welfare
Transportation	GHG emissions	Profitability	Logistics and efficiency
Processing and manufacturing	Biodiversity	Employee wellbeing	Animal welfare
	GHG emissions on climate change	Climate change and resilience	Animal welfare
	GHG emissions and climate	Traceability	Animal welfare
	GHG emissions	Natural capital	Animal welfare
Retail	GHG emissions	Consumer demand	Industry reputation
	Packaging	Antibiotic resistance	Customer expectations
Food service	GHG emissions	Antibiotic resistance	Animal welfare
Community	Climate change	Variable costs	Access to skilled labour
Financial institutions	GHG emissions	Biodiversity	Economic resilience
	Climate risks	Environmental management	Work health and safety
	GHG emissions	Climate resilience	Access to skilled labour
Government and regulators	GHG emissions	Climate risk and sustainable adaptation	Animal welfare
R&D and industry bodies	GHG emissions	Biodiversity	Animal welfare
Additional stakeholders (as identified on page 17)	Packaging	Labelling	Circular economy
	On-farm labour availability	Bobby calves	Animal welfare
	GHG emissions	Resource management	Resilience in farming communities
	Food safety	Food waste	Nutrition
	GHG emissions	Antimicrobial resistance	Deforestation

3.2.2 DMA Survey

A survey was developed to gain further insights from a broader range of stakeholders from the dairy industry value chain. The survey asked stakeholders to identify material topics alongside impacts, risks and opportunities.



Respondents who are in a dairy region

Not located in a dairy region

Yes – Dairy region	%	n
Western Australia	21%	13
South Australia	5%	3
Murray Region, Northern Victoria and Southern NSW	15%	9
Gippsland Region, Victoria	26%	16
Western Victoria	13%	8
Subtropical Region, Queensland, NSW	5%	3
New South Wales	8%	5
Tasmania	7%	4
NET	**100%**	**61**
No – Non-dairy location	**%**	**n**
Nationally	21%	15
Queensland – Urban	3%	2
Queensland – Rural	1%	1
Western Australia – Urban	0%	0
Western Australia – Regional	0%	0
South Australia – Urban	0%	0
South Australia – Regional	0%	0
Victoria – Urban	47%	34
Victoria – Regional	6%	4
New South Wales – Urban	13%	9
New South Wales – Regional	6%	4
Tasmania – Urban	1%	1
Tasmania – Rural	0%	0
Canberra – Urban	3%	2
Canberra - Rural	0%	0
NET	**100%**	**72**

3.2.2.1 The survey received 133 responses from across Australia

The survey was sent to more than 500 participants, meaning that the survey had a response rate of 27%. Anything greater than 10-15% responses from a total respondent group is considered a viable sample size.

Located in a dairy region

Just under half (46%) of respondents indicated they're based in a dairy region. Of these regions, the largest number of responders were from Gippsland, Western Australia and then (equally) Murray Region, Northern Victoria and Southern NSW. It should be noted that those who identified as being 'located within a dairy region' also considers stakeholders whose company is headquartered in that region. i.e. 'in a dairy region' also captured processors, suppliers and logistics businesses, with headquarters in those locations. *See left for breakdown.*

The highest number of respondents (in order) were:

- Victoria - urban,
- those who identified as having a 'national' footprint, then
- urban NSW.

It should be noted, that the response rate for 'Victoria – urban' is significantly higher than other non-dairy locations, as this location includes a number of Australia's dairy business headquarters. *See left for breakdown.*

Locations with no responses

While all efforts were made to disseminate the survey, responses were not received from some locations. These were all 'non-dairy' regions and are not important regions when it comes to the dairy supply chain (e.g. non-Urban Canberra).

When analysing responses, the location of respondents was not used in determining the number of times a material topic was identified as significant, i.e. more respondents being from Victoria – urban, did not skew the ranking of material topics. The location of responses was used to ensure that data was captured from a geographical spread of respondents. This also applies to the group respondents identified themselves as being from, e.g. farmer, processor, etc. This information was only used to ensure that data was captured from a spread of participants across the supply chain.

3.2.2.2 The top *positive and negative impact* material topics from the survey

Material Topic	When the respondent was asked what their most material topic was	When the respondent's ranked their top 3 topics	When the respondent's ranked their top 5 topics
Animal care	26% of respondents ranked this topic their highest	49% of respondents included this topic in their top 3	66% of respondents included this topic in their top 5
Nutrition and food security	23% of respondents ranked this topic their highest	47% of respondents included this topic in their top 3	61% of respondents included this topic in their top 5
GHG emissions	13% of respondents ranked this topic their highest	27% of respondents included this topic in their top 3	35% of respondents included this topic in their top 5
Biodiversity and land management; Product quality and safety; soil and nutrient management (*equally)*	N/A	N/A	34% of respondents included these topics in their top 5

Note: the percentages in the top 3 and top 5 columns are not intended to add to 100%; as 3 datasets (i.e. 1st ranked, 2nd ranked, 3rd ranked), then 5 datasets (i.e. top 1 – 5th ranked topics) means the percentage totals for the 3rd and 4th columns respectively are 300% and 500% when all responses are counted. Not all topics are shown here.

In undertaking the survey, various respondents included commentary in free text fields which, upon analysis, aligned to a topic that should have been ranked. For example, biodiversity and land management was mentioned an additional 12 times in free text to the question 'are there any missing topics' or 'is there anything else you'd like to add' – this was despite this topic already being included in the longlist of topics presented to the survey respondents. When this data is added manually to the dataset, **the top 5 ranked material topics do not change overall**.

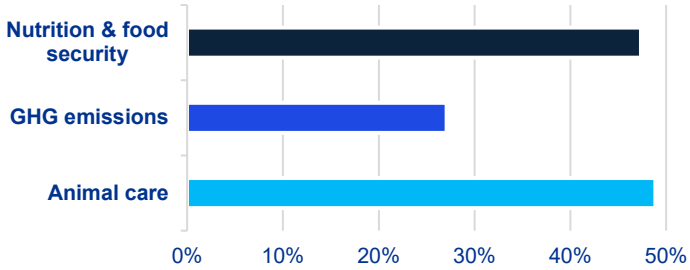
Materiality Survey Findings

Further detailed findings are available in Appendix 6.4, pages 76-83.

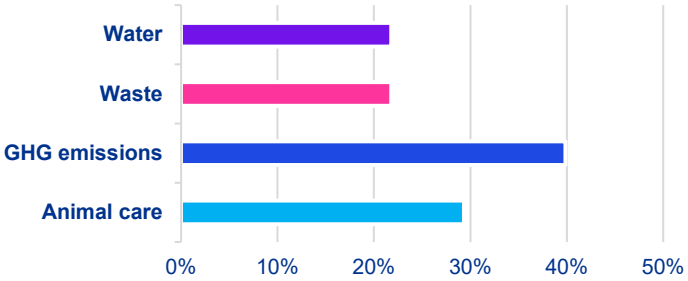
3.2.2.3 The survey respondents were also asked to select the most positive and negative impacts of their identified material topics.

The topics with the most positive and negative impacts were as follows:

Top 3 material topics where the dairy industry can have or is having the most significant positive (+) sustainability impacts



Top 3 material topics where the dairy industry can have or is having the most significant negative (-) sustainability impacts



Note, in the negative impacts, water and waste received equal frequency in their responses for negative impacts. Hence why there are four topics on the right-hand graph.

3.2.2.4 Risks and opportunities were then ranked for material topics

The following table outlines the respondents' selections of their top risks and opportunities for the material topics.

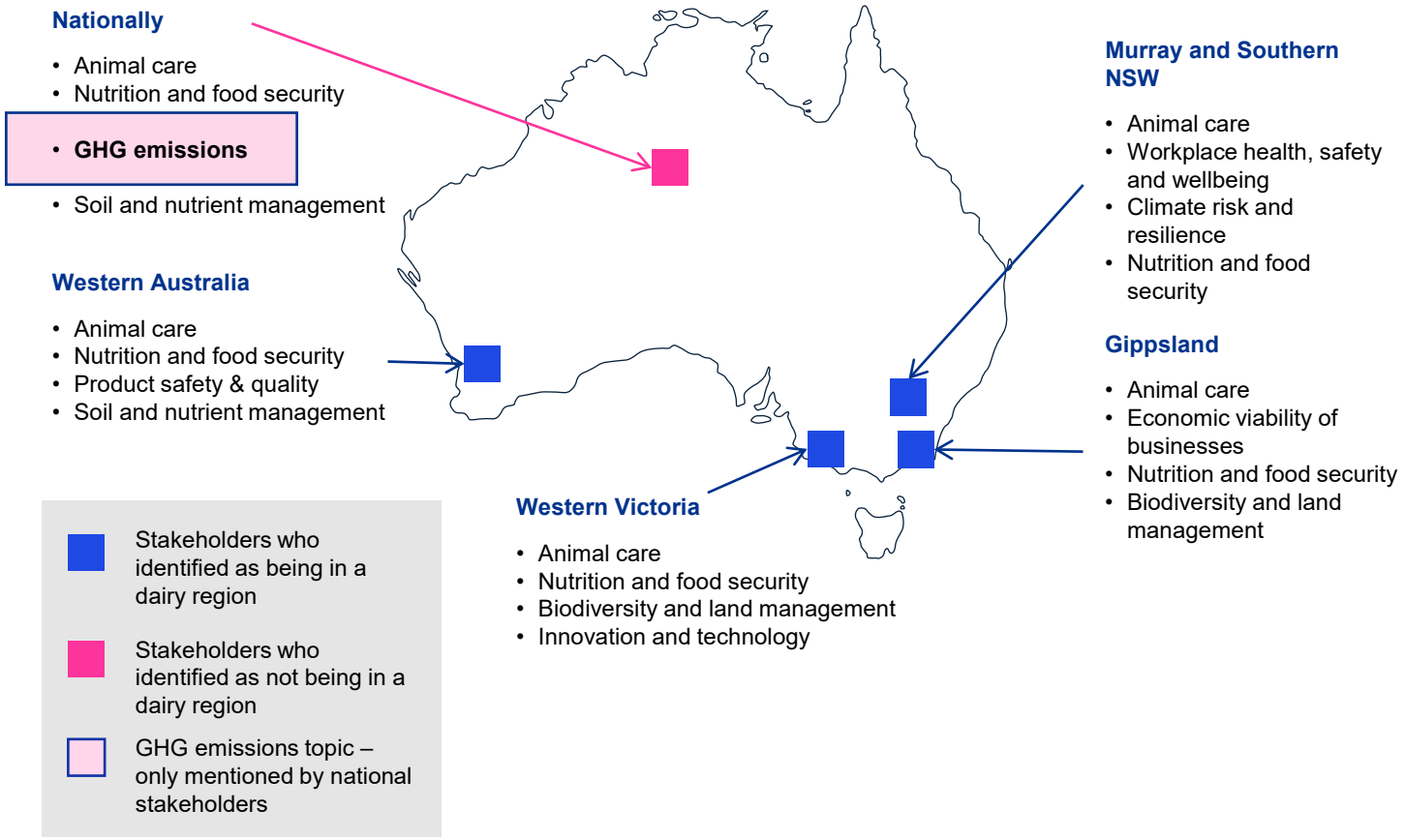
Material Topic		Opportunities	Risks
Animal Care	*Topic Ranking*	**1st**	**2nd**
	Most frequently selected risk or opportunity	More than half (52%) of respondents selected the opportunity *"Ability to demonstrate to consumers, through product differentiation such as labelling / verification, that dairy industry has best animal care practices in place"*	78% of respondents selected the risk *"Reduced consumer spend or products are boycotted due to poor animal welfare practices, leading to decreased market share"*
Nutrition and food security	*Topic Ranking*	**2nd**	
	Most frequently selected risk or opportunity	72% of respondents selected the opportunity *"Continued demand for dairy industry products, since they're seen as part of a nutritious and healthy diet"*	Not in top 5

Material Topic		Top 5 Opportunities Ranking	Top 5 Risks Ranking
GHG emissions	*Topic Ranking*	**3rd**	**1st**
	Most frequently selected risk or opportunity	Nearly all (92%) of respondents selected the opportunity *"Sustained or enhanced biodiversity resulting in productivity benefits leading to increased revenue"*	More than half (51%) of respondents selected the risk *"Reputational damage in the dairy industry associated with being a high-emitting industry leads to reduced market share"*
Biodiversity and land management; Product quality and safety; Soil and nutrient management (*equally)*	*Topic Ranking*	**Equal 4th**	**5th** (note: biodiversity and land management only)
	Most frequently selected risk or opportunity	With 69% of respondents who identified **biodiversity** as one of their most material topics selecting the opportunity *"Sustained or enhanced biodiversity resulting in productivity benefits leading to increased revenue"* With all (100%) respondents who identified **product quality and safety** as one of their most material topics selecting the opportunity "*Strengthened market competitiveness and product demand as a result of increased consumer trust in safe dairy products"* With nearly half (49%) of respondents who identified **soil and nutrient management** as one of their most material topics selecting the opportunity *"Increased agricultural productivity from holistic soil management practices and reduction in the reliance upon inorganic"*	With more than 50% of respondents who identified this topic as one of their most material, selecting the risk "*Reduced consumer spend as a result of being seen as an industry that is exacerbating biodiversity and nature loss*" closely followed by 38% identifying the risk related to *"Requirements to mitigate biodiversity loss through offsets or credits"*
Waste	*Topic Ranking*	**Not in top 5**	**3rd**
	Most frequently selected risk or opportunity		With 67% of respondents selecting the risk "*Reputational damage due to high waste production or mismanagement of waste produced*"
Water	*Topic Ranking*	**Not in top 5**	4th
	Most frequently selected risk or opportunity		With nearly half (47%) of respondents selecting the risk *"Reputational damage due to environmental degradation and water contamination from the dairy industry"*

3.2.2.5 Analysing the impact material topic data by location of respondent shows that while there was some variation across demographic groups, topics were largely consistent

From the groups with the largest number of survey respondents (national (non-dairy regions) and WA, western VIC, Gippsland and Murray/Southern NSW (for dairy regions)), the most consistently ranked topics were animal care, nutrition and food security and biodiversity and land management.

The survey did show an interesting result for further consideration. When looking at the top-rated topics by respondent region, only non-dairy regions included GHG emissions in their top topics. However, as will be seen later in this Findings Report, GHG emissions are a more material topic in the 2024 materiality assessment (see Recommendations, pages 40 and 41). This indicates that there may be a varied understanding between those located in dairy regions (which are more likely to be dairy farming businesses but may not **exclusively** be dairy farming businesses) and those located in other national locations, of the possible impacts, risks and opportunities related to the topic of GHG emissions. It should be noted, that a similar observation (a disparity of understanding of the relative materiality of environmental issues between dairy and non-dairy regions) was also made in the 2019 materiality assessment.



The above is a graphic summary of top material topics by different respondent geographies. While other regions provided responses, they were fewer in number and not significant enough to analyse. For example, if there was only one respondent in a region, then 'top impact topics' for that region are not shown on the above graph as this would appear to indicate that the data was comparable to a region such as Gippsland which had 16 respondents.

3.3 Shortlisting material topics

Using the list of topics identified in 3.1, and the significance of these topics as assessed through interviews and the survey in 3.2, a shortlist of topics was developed.

3.3.1 Topics were shortlisted from 26 topics to 20 topics

This was done by:

1) Utilising the 'mention frequency' of the topics by interview participants (i.e. their top material topics, as per pages 18 and 19);
2) Utilising the survey response data, including the overall highest ranked topic, top 3 topics and top 5 topics, material impacts (positive(+) /negative(-)), risks and opportunities data; and
3) Free text information from the survey, feedback from the SSC and subject-matter experts.

Shortlisted Material Topics *Not in ranked order*	**Reason for shortlisting**			
	Ranking by interview participants	**Ranking in survey**		**Other**
		Impact	**Financial**	
GHG emissions	1st	3rd (+) 1st (-)	3rd (Opp) 1st (Risk)	N/A
Animal care	2nd	1st (+) 2nd (-)	1st (Opp) 2nd (Risk)	N/A
Climate risk and resilience	14th	9th (+) 5th (-)		Significant additional number of mentions in free-text fields of the survey
Antimicrobial stewardship	16th (antimicrobial stewardship) and 8th (in relation to antibiotics)	12th (+) 16th (-)		N/A
Biodiversity and land management	5th	4th (+) 6th (-)	Equal 4th (Opp) 5th (Risk)	N/A
Data and data use	N/A	16th (+) 21st (-)		Significant mentions in open text questions in interviews as an 'enabler' of other topics; in media scan results; subject matter experts also raised this topic as important for future reporting requirements.
Economic viability of businesses	4th	8th (+) 8th (-)		Significant additional number of mentions in free-text fields of the survey.
Deforestation	19th	21st (+) 13th (-)		Emerging issue identified in desktop review.

Continued next page.

Shortlisted Material Topics	Reason for shortlisting			
	Ranking by interview participants	Ranking in survey*		Other
		Impact	Financial	
Innovation and technology	N/A	7th (+) 22nd (-)		Significant additional number of mentions in free-text fields of the survey
Workplace health, safety and wellbeing	14th	10th (+) 11th (-)		Significant additional number of mentions in free-text fields of the survey
Water	N/A	14th (+) 3rd (-)	4th (risk)	N/A
Product safety and Quality	6th	5th (+) 24th (-)	Equal 4th (Opp)	N/A
Nutrition and food security	24th	2nd (+) 25th (-)	2nd (Opp)	N/A
Soil and nutrient management	22nd	6th (+) 7th (-)	Equal 4th (Opp)	N/A
Responsible supply chain and supply chain resilience	15th	15th (+) 17th (-)		N/A
Community Investment and support	N/A	N/A		Steering Committee
Circular economy	9th	18th (+) 18th (-)		Steering Committee, Significant additional number of mentions in free-text fields of the survey
First Nations engagement and partnership	N/A	22nd (+) 15th (-)		Steering Committee
Waste	13th	11th (+) 4th (-)	3rd (risk)	Steering Committee
Farm biosecurity	N/A	13th (+) 19th (-)		Steering Committee, subject matter experts raised this topic as important

Survey Rankings – Further Detail

Rankings are further detailed in the appendix, see pages 76-83.

*For financial materiality risks and opportunities, only the top 5 ranked risks and opportunities were used for this shortlisting.

3.3.2 Topics that did not make the shortlist of 20 topics

There following six topics were not included in the shortlist in 2024:

1. Air Quality (from the survey data: ranked <20 in both positive and negative impact considerations; from the interview data: did not rank) – Air Quality was not a topic in the 2019 materiality assessment,
2. Employment Practices (is considered within the topic of employee worker health, safety and wellbeing),
3. Energy (from the survey data: ranked <20 in positive impacts, ranked 12th in negative impacts, not ranked at all in risks/opportunities; from the interview data: did not rank) – energy management and efficiency was a material topic in the 2019 assessment however, this indicates the topic has declined in importance and influence since the 2019 assessment,
4. Inclusion and Diversity (from the survey data: ranked <20 in positive impacts, ranked 14th in negative impacts, not ranked at all in risks/opportunities; from the interview data: did not rank) – while Inclusion and Diversity was a topic in the 2019 materiality assessment, the topic has declined in importance and influence since the 2019 assessment and could also considered within other topics such as 'Workplace health, safety and wellbeing',
5. Modern Slavery (from the survey data: ranked <20 for both positive and negative impacts, not ranked at all in risks/opportunities; from the interview data: did not rank) – Human Rights was a topic in the 2019 materiality assessment. Modern slavery considerations have been considered in the topic of responsible supply chain, and
6. Public Policy and Advocacy (from the survey data: ranked 19th in positive impacts, ranked 10th in negative impacts, ranked 4th in financial risks; from the interview data: did not rank) – Aligned policy advocacy was a topic in the 2019 materiality assessment however, this indicates the topic has declined in importance and influence since the 2019 assessment.

Although these topics were deemed less material relative to the other topics selected through the DMA process, this does not mean that they should not be considered or remain as a watching brief by the dairy industry.

3.3.3 What has changed since the 2019 assessment?

New topics on the list since 2019 include:

- Circular economy,
- Deforestation,
- Data and data use,
- First Nations engagement and partnership,
- Responsible supply chain and supply chain management, and
- Innovation and technology.

Factors influencing changes to material topics may include the release of new standards (IFRS and GRI) and sustainability reporting regulations, changing stakeholder priorities and shifts in the socio-economic and political environment. Importantly, the previous materiality assessment (2019) was an impact materiality assessment.

Some topics included in the previous 2019 materiality assessment have also been consolidated due to their common and interrelated nature. For example, in the 2019 assessment six sub-topics relating to animal care were included. This has been streamlined within the 2024 DMA to three topics: animal care, farm biosecurity and antimicrobial stewardship.

It is not unexpected to see changes to the dairy industry material topics between assessments.

Additional insights are provided on page 33. Full definitions of each topic can be found on pages 46 and 47.

3.3.4 What was the shortlist used for?

To undertake the final step of the DMA, the shortlist of topics were prioritised in a workshop with the SSC.

3.4 Prioritising material topics

To prioritise material topics, the SSC ranked the 20 shortlisted material topics first by their positive impacts, then their negative impacts and finally the associated financial risks and opportunities. The outcome of the prioritisation process was a double materiality matrix and ranking of topics by materiality.

3.4.1 Material topics were first ranked by their positive impacts

To rank topics by their positive impact, the likelihood of the impact materialising and the scale and scope of the impact (if it was to occur) were considered. Likelihood and scale and scope rankings reflect the GRI Impact prioritisation approach.

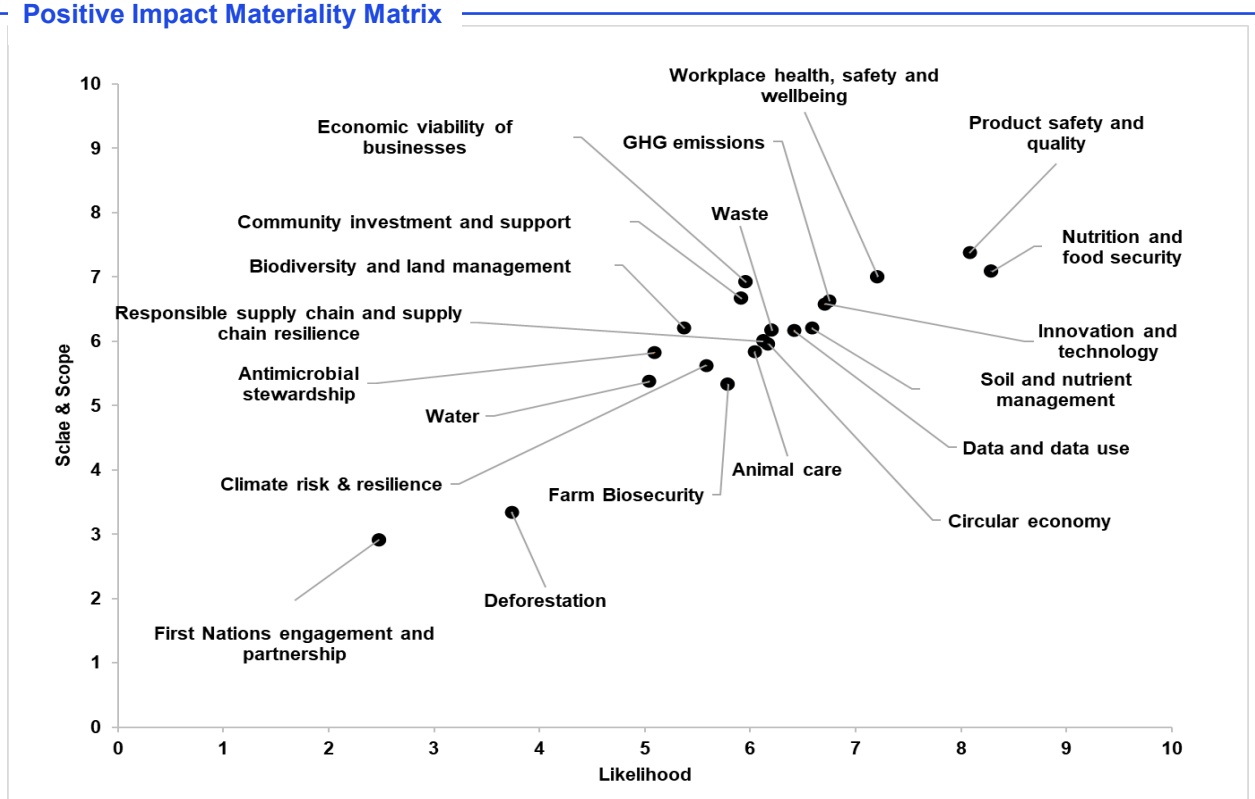
- Likelihood was ranked 0-10, where 0 was no chance of occurring and 10 was going to occur or had occurred,
- Scale and Scope was also ranked 0-10, where 0 considered that there would be no positive impacts to society, the economy, the environment or animals, and that the impact would be very small in its locality and 10 was that there would be extremely positive impacts and those impacts could be 'nationwide'.

3.4.1.1 Observations

- **High-Positive Impact Topics:** *Product safety and quality*, *Nutrition and food security*, and *Workplace health, safety,* and *wellbeing* were rated highest in both axes.
- **Moderate-Positive Impact Topics:** *Economic viability of businesses*, *Community investment and support*, and *Biodiversity and land management* are moderately high in importance and impact. *GHG emissions*, *Innovation and technology*, and others form a central cluster with moderate ratings.
- **Impact topics that ranked lower or could be considered emerging and for monitoring:** *First Nations engagement and partnership* and *Deforestation* are rated lowest in both importance and impact.

The positive impact materiality matrix is below.

Positive Impact Materiality Matrix

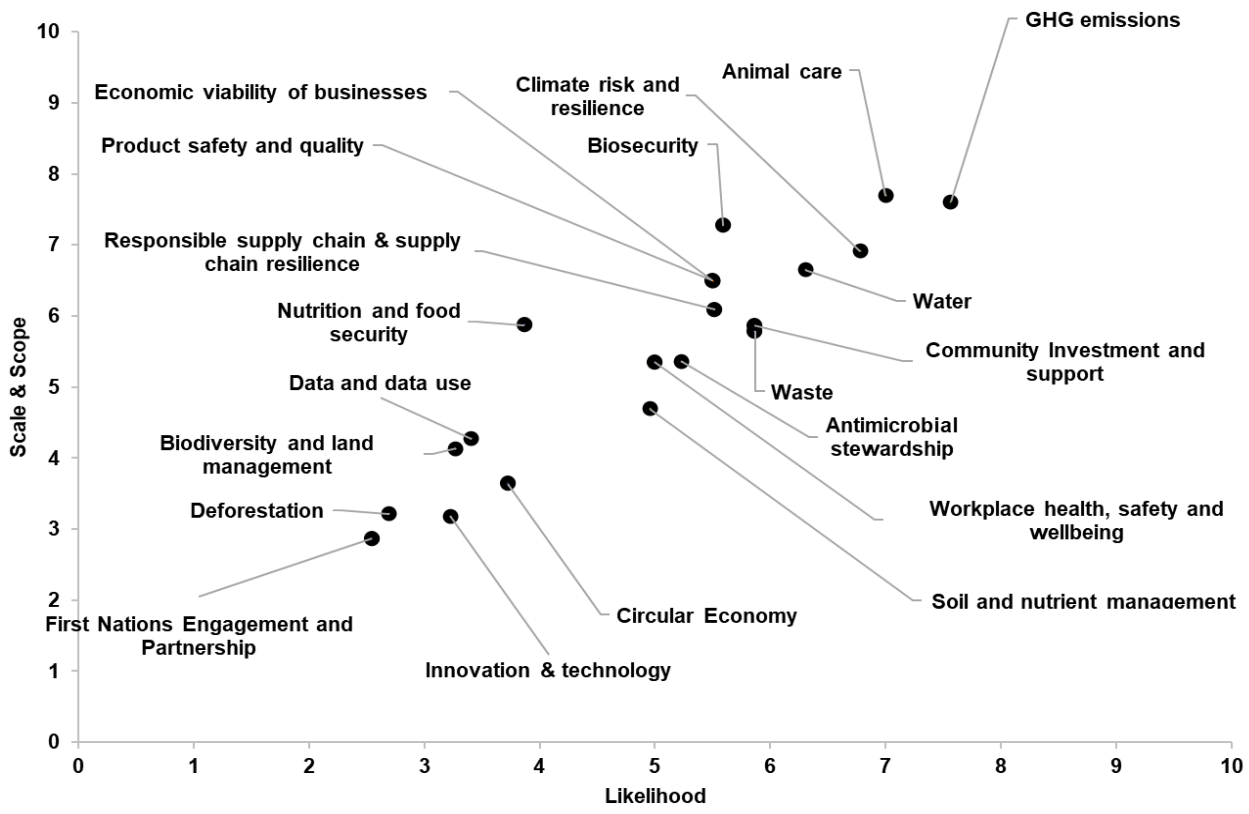


3.4.2 Material topics were ranked by their negative impacts, using the same process outlined at 3.4.1.

3.4.2.1 Observations

- **High-Negative Impact Topics:** *GHG emissions, Animal care, Climate risk and resilience, Water* and *Farm biosecurity* are rated high in both likelihood and severity, indicating significant potential negative impacts.
- **Moderate-Negative Impact Topics:** Topics such as *Economic viability of businesses*, *Workplace health, safety, and wellbeing*, and *Product safety and quality* have moderate likelihood and severity.
- **Impact topics that ranked lower or could be considered emerging and for monitoring:** *First Nations engagement and partnership* and *Deforestation* have the lowest ratings, indicating lesser perceived negative impacts.

Negative Impacts



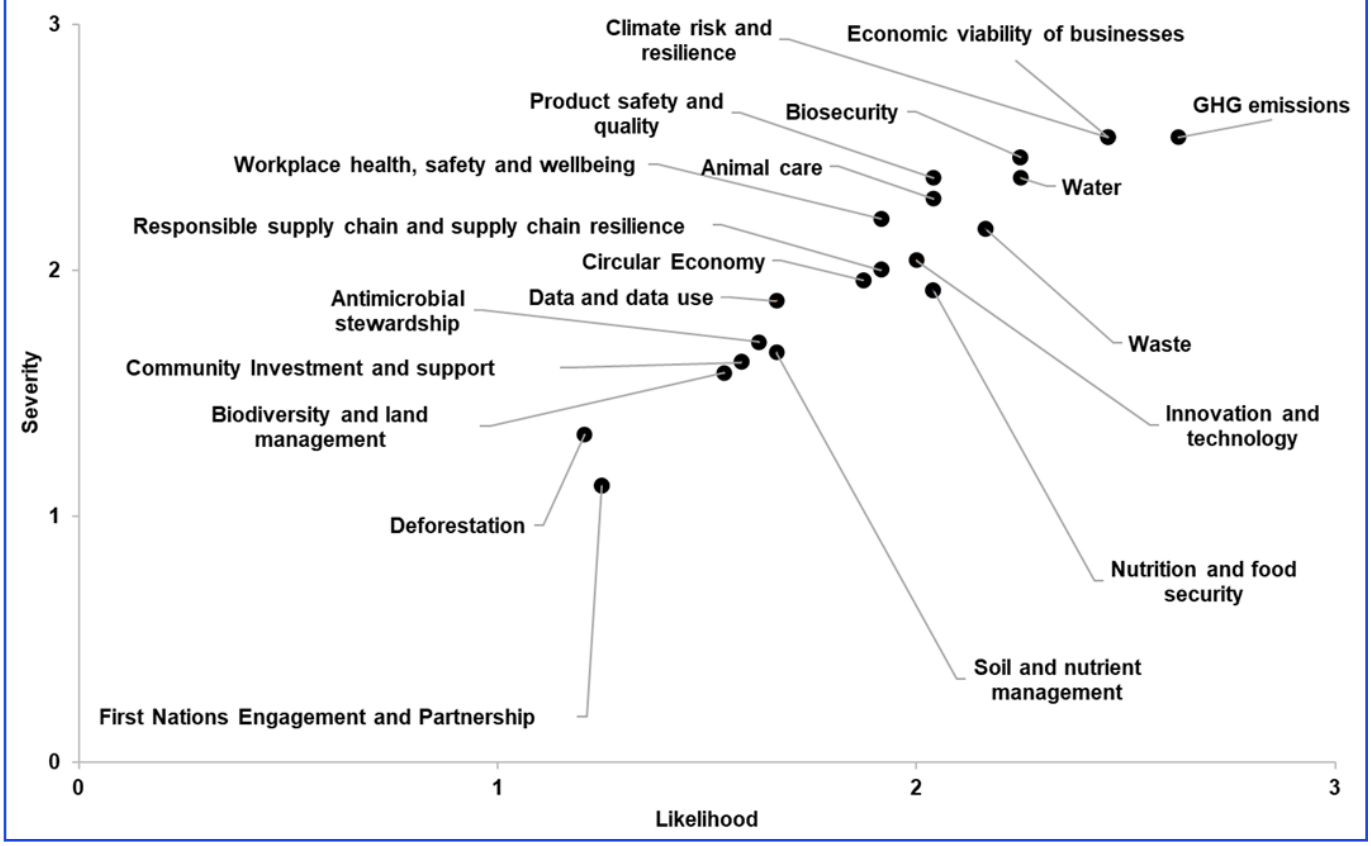
3.4.3 Next, topics were prioritised considering their financial risks and opportunities

To rank topics, the SSC considered the likelihood and severity of risks and opportunities relating to the material topics. Topics were assessed for their effect on the industries financial position and value. A dairy industry rating framework was designed, and endorsed by the SSC, to support the evaluation of financial materiality. *A copy of this can be found on page 86.*

3.4.3.1 Observations

- **High Financial Significance:** *Economic viability of businesses*, *Climate risk and resilience*, *Biosecurity*, *GHG emissions*, and *Water* are high in both likelihood and severity.
- **Moderate Financial Significance:** *Product safety and quality*, *Workplace health, safety, and wellbeing*, *Responsible supply chain and supply chain resilience*, *Circular Economy*, *Animal care*, *Waste, Data and data use*, *Innovation and technology*, *Nutrition and food security*, and *Soil and nutrient management* are moderately rated.
- **Lower Financial Significance:** *First Nations engagement and partnership*, *Deforestation*, *Community Investment and support*, *Biodiversity and land management*, and *Antimicrobial stewardship*, have the lowest ratings.

Financial Risks and Opportunities



3.4.4 Creating the double materiality matrix

To create the double materiality matrix, each topic's combined positive and negative impacts were aggregated (x-axis) and compared to each topic's financial materiality (y-axis). A scale of 0-10 (impact materiality) and 0-3 (financial materiality) was applied. *See next page for final matrix.*

3.4.5 How was the threshold for materiality considered?

To guide the SSC in setting the thresholds for the significance of topics, the following definitions from the below standards were considered:

GRI: (note: interpret significance to 'the dairy industry' rather than 'the organisation')

- "The significance of an impact is assessed in relation to the other impacts the organisation has identified"
- "The organisation should arrange its impacts from most to least significant and define a cut-off point or threshold to determine which of the impacts it will focus its reporting on. The organisation should document its threshold"
- "The organisation needs to determine how many of the topics it will report on, from highest to lowest priority"
- "Where to set the threshold is up to the organisation"

IFRS material 'judgements': (note: consider this statement in relation to the 'the dairy industry' rather than 'an entity')

- "Materiality judgements are specific to an entity. Consequently, this Standard does not specify any thresholds for materiality or predetermine what would be material in a particular situation"

With the above in mind, materiality thresholds for 2024 were set as follows:

- **Financial** (y-axis) considering the rating framework agreed by the SSC for the purposes of financial materiality (see page 86), such that topics were considered

  More material if >2

  Less material if <2

- **Impact** (x-axis)

  More material if > 6

  Less material if < 6

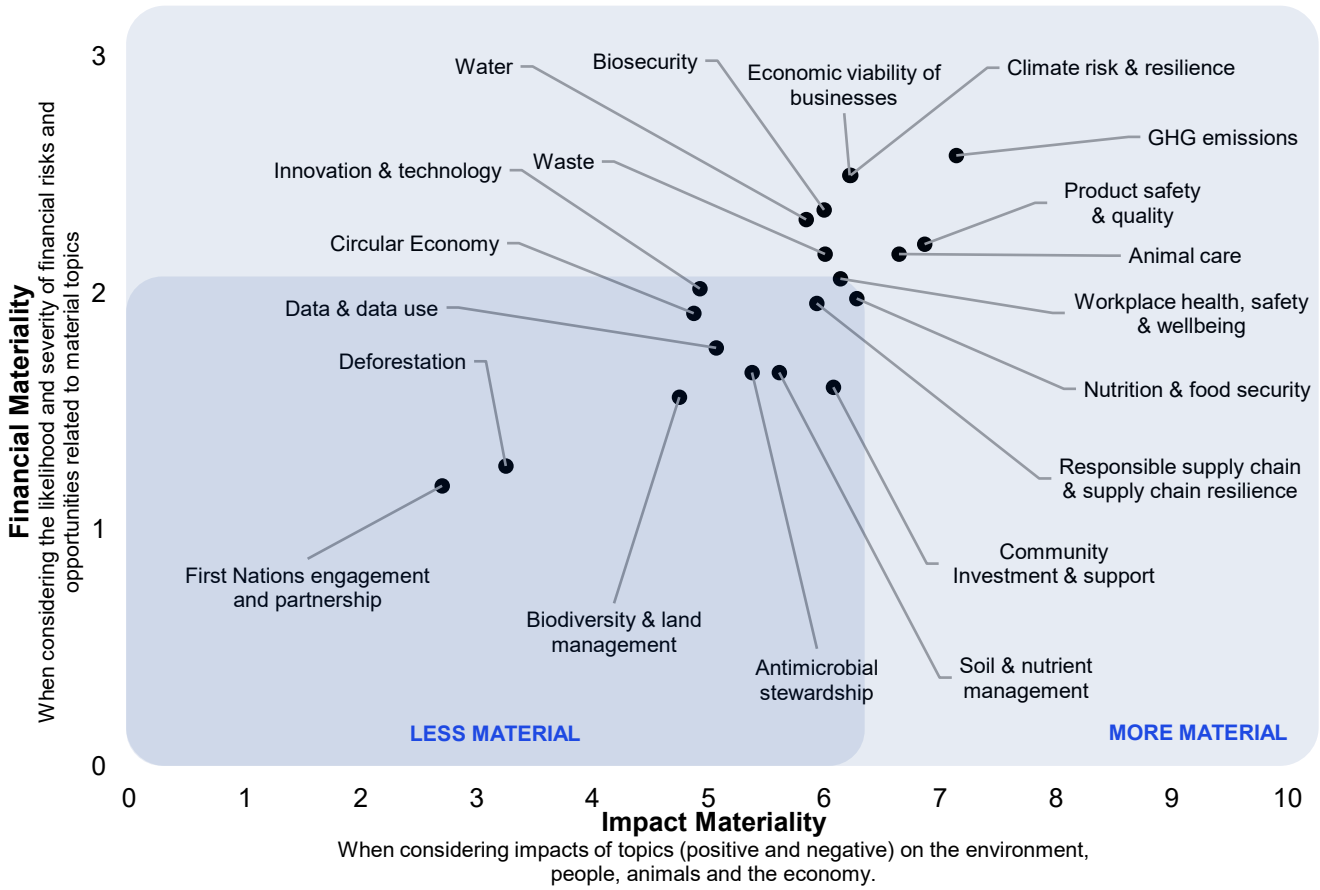
A qualitative assessment was conducted to check whether the topics are in an appropriate threshold boundary. The topics rated more material for financial and impact materiality in the prioritisation activity were cross-checked against the material topics identified by stakeholders interviewed and surveyed.

Top material topics in the survey	Ranking in double materiality
Animal care	3rd, more material
GHG emissions	1st, more material
Biodiversity & land management	18th, less material
Climate risk & resilience	4th, more material
Nutrition & food security	7th, more material

Top material topics in the interviews	Ranking in double materiality
GHG emissions	1st, more material
Animal care	3rd, more material
Climate risk and resilience	4th, more material
Economic viability of businesses	5th, more material
Biodiversity and land management	18th, less material

The assessment was undertaken to give confidence to the SSC that the prioritisation process had provided rankings of the material topics that align with the views of the stakeholders interviewed and surveyed.

Double Materiality Matrix



Material Topic Definitions

Definitions for each topic can be found on pages 46 and 47.

3.4.6 Considering the material topics, from more material to less material

The topic rankings used to create the double materiality matrix, can also be presented in a list format, such that topics are ranked in order of **more material** to **less material**.

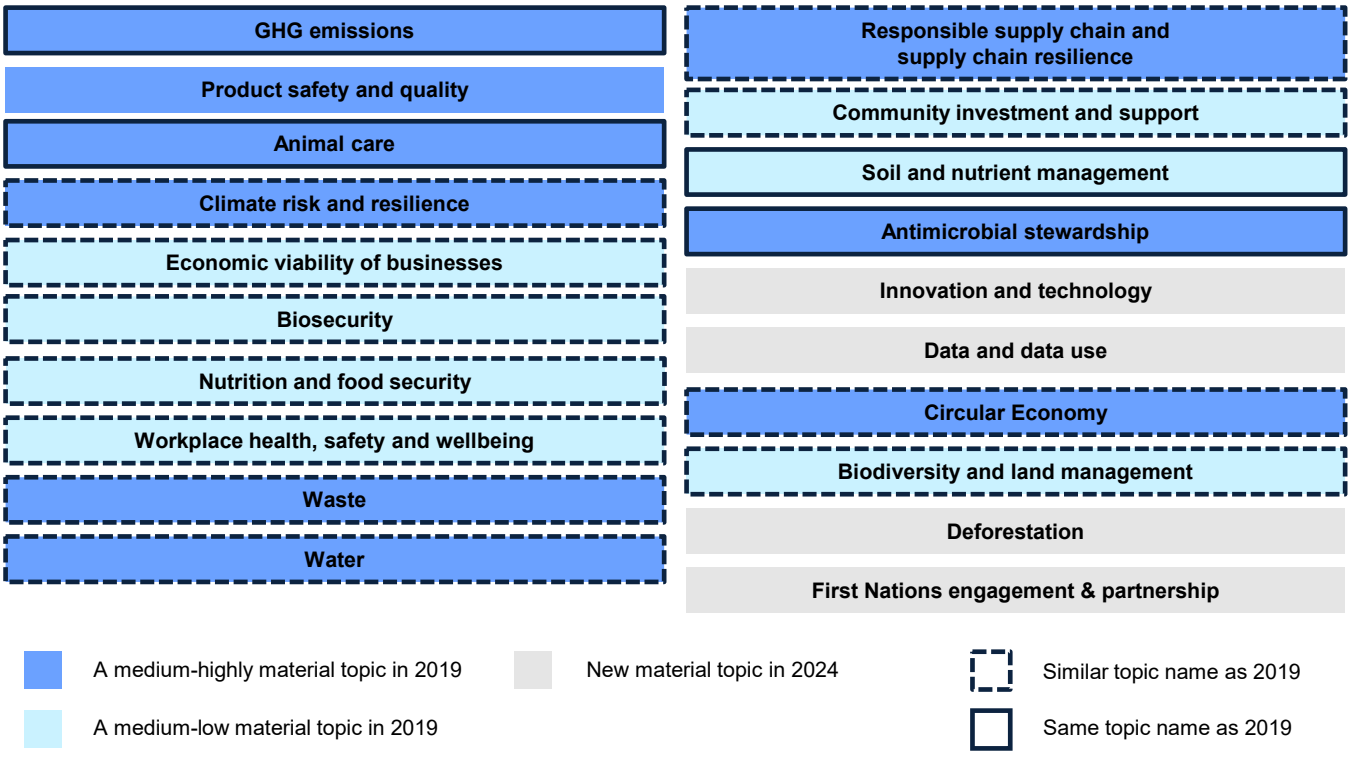
1	GHG Emissions	**11**	Responsible supply chain and supply chain resilience
2	Product safety and quality	**12**	Community investment and support
3	Animal care	**13**	Soil and nutrient management
4	Climate risk and resilience	**14**	Antimicrobial stewardship
5	Economic viability of businesses	**15**	Innovation and technology
6	Farm biosecurity	**16**	Data and data use
7	Nutrition and food security	**17**	Circular Economy
8	Workplace health, safety and wellbeing	**18**	Biodiversity and land management
9	Waste	**19**	Deforestation
10	Water	**20**	First Nations engagement and partnership

When considering the 2024 material topics for the dairy industry, the following should be noted:

- Topics may change with future iterations of the materiality assessment;
- The outputs of the DMA are primarily to guide the SSC and are also a useful reference for the dairy industry as a whole;
- Material topics help to guide where to focus limited time and resources; and
- Topics being placed below the threshold does not mean that these topics are not important for stakeholders or the dairy industry.

3.4.7 How did the 2024 material topics differ from 2019?

When comparing the results of the current materiality assessment (2024) with the previous materiality assessment (2019), it is important to note the differences in methodologies used to assess materiality. As noted earlier in this report, the 2019 assessment was an impact materiality only, this materiality assessment considers both impact and financial materiality.



When comparing the topics from 2019 and 2024 the following was observed:

- The top 14 material topics in 2019 and 2024 are very similar;
- Some of the 2019 topics had slightly different definitions or were grouped into one topic in 2024;
- Of the new material topics in 2024, nearly all ranked lower than most other topics in the assessment – this indicates while the topics should be factored into future ADSF considerations they are 'emerging' compared to higher material topics;

Continued next page.

- Topics in 2019 that didn't appear in the 2024 materiality assessment include: market growth and development/promotion, value creation across industry, energy management and efficiency – it should be noted that some topics in 2019 were considered in broader definitions of topics in 2024 (e.g. 'food wastage' is considered within 'waste');
- The top 5 material topics in 2019 were 1) product safety and quality (2nd in 2024), water availability and efficiency (water is 10th in 2024), physical climate risk (4th in 2024), animal care (3rd in 2024) and biosecurity (6th in 2024); and
- GHG emissions has risen sharply from 10th/medium-high in 2019 to 1st in 2024 and economic viability of business (reflected in previous topics such as business management capability, value creation and market growth) has risen from high/medium to 5th.

4.0

Comparing the dairy industry materiality to other agricultural industry materiality assessments

4.1 How does the dairy industry compare?

The 2024 material topics for the dairy industry were compared with the material topics from four other agricultural industry frameworks and two dairy businesses:

- The **Australian Agricultural Sustainability Framework (AASF):** This is a whole of agriculture industry assessment, which is useful in identifying where the dairy materiality assessment outcomes align to the industry at large. The AASF double materiality assessment was completed this year (2024);
- The **Australian Beef Sustainability Framework (ABSF):** The beef industry is interesting to compare to, with the commonality being bovine animals. The ABSF completed materiality assessments in 2016 and in 2020 (both were impact materiality). The ABSF is intending to update their materiality assessment in 2024;
- The **Sheep Sustainability Framework (SSF):** The SSF was completed recently and uses a DMA. However, the context of the industry is different, in that it covers both a meat product and a fibre product.
- The **Global Dairy Sustainability Framework (GDSF):** This is closely aligned in terms of industry but is more globally focused. The GDSF presents its sustainability issues within an annual progress report. In calendar year 2022 (the most recently available) the report identified 11 priority criteria for industry, though the report is not a formal materiality assessment.
- Finally, two company specific materiality assessments were assessed upon request of the SSC (noting that these were considered as part of the desk top review). **Friesland Campina** conducted its most recent double materiality assessment in FY2023 and **Fonterra** (NZ headquartered), completed an impact materiality assessment in FY2020.

The results of the comparison are provided on the next page, followed by key observations.

The table below compares the dairy industry material topics with the material topics from four other agricultural industry frameworks and two dairy businesses

Dairy 2024 material topics	AASF	ABSF	SSF	GDSF	Friesland Campina	Fonterra
GHG emissions	✓	✓	✓	✓	✓	
Animal care	✓	✓	✓	✓	✓	✓
Climate risk and resilience	✓	✓	✓		✓	✓
Biodiversity and land management	✓	✓	✓	✓		✓
Data and data use	✓				✓	
Economic viability of businesses	✓	✓	✓	✓		
Deforestation	✓					
Innovation and technology	✓		✓			
Workplace health, safety and wellbeing	✓	✓	✓	✓		✓
Water	✓	✓	✓	✓	✓	✓
Product safety and quality	✓	✓	✓	✓	✓	
Nutrition and food security	✓	✓	✓		✓	✓
Antimicrobial stewardship	✓	✓				✓
Soil and nutrient management	✓	✓	✓	✓		✓
Responsible supply chain and supply chain resilience	✓		✓		✓	✓
Farm biosecurity	✓	✓	✓			✓
Circular economy	✓		✓		✓	
First Nations engagement and partnership	✓					
Waste	✓	✓	✓	✓	✓	✓
Community investment and support	✓	✓	✓	✓	✓	✓

Topics that appeared in 5 comparisons

Topics that appeared in 6 comparisons

The following was observed from the comparison:

- There is relatively strong commonality between the 2024 dairy material topics and other agricultural industry and dairy business material topics. For example:
  - Four topics – Animal care, Water, Waste and Community investment and support are common to all other assessments.
  - Six topics – GHG emissions, Biodiversity and land management, Workplace health, safety and wellbeing, Product safety and quality, Nutrition and food security and Soil and nutrient management are common to six of the other assessments.
  - 100% of the Dairy Industry material topics are shared with the AASF and 80% with the SSF, who both similarly undertook a DMA.

This shows that the Dairy Industry is well aligned with other similar agricultural sector frameworks, and dairy businesses in terms of its topics of focus, particularly when comparing with those who have conducted DMA.

- There were four topics – Deforestation, Data and data use, Innovation and technology, and First Nations engagement and partnership – that were not mentioned in most of the other assessments.
  - For Deforestation, Data and data use, and Innovation and technology, this is likely due to the timing of the materiality assessments (as this is a rapidly emerging issue rather than a long standing one); and
  - For First Nations Engagement and Partnership, this topic is less likely to be material for international assessments (GDSF and Freisland Campina).

5.0
Recommendations

5.1 Recommendations

Conducting a DMA for the Australian dairy industry is part of a broader proactive monitoring, review and strengthening process for the industry to continue to address sustainability and financial resilience across the supply chain.

The following recommendations are provided primarily for the SSC to guide prioritisation of time and resources to amend or reprioritise the goals, targets and activities within the ADSF, where required. For the dairy industry, the DMA may provide a useful reference source for addressing sustainability within your own operations.

Recommendations for the SSC	
Review the ADSF's current priorities in relation to the findings of the 2024 DMA	The SSC should utilise the DMA results to identify where to focus sustainability activities for the near future by reviewing where current ADSF activities compared to the 2024 more material topics and designing programs and performance measures for these topics. Ensuring goals and/or targets are specific, measurable, achievable, relevant, and time-bound and support the triple bottom line for producers and industry stakeholders will be a key success factor. Existing ADSF priorities may need to shift or be adapted to consider the findings from the 2024 assessment.
Improve the mechanisms by which stakeholders are engaged on sustainability matters	**Communicate DMA results to industry and the supply chain**. This should include the SSC providing a formal response to the Findings Report, outlining their proposed priorities, actions and timelines to respond to the findings of the DMA itself. The SSC should also consider ways in which the findings of the assessment can be communicated in short-form for rapid and easy comprehension – e.g. one-page factsheets. These communications should be tailored to different audiences along the supply chain. **Consider ways to create improved two-way dialogue on sustainability with industry:** so that sentiment and progress on the ADSF can be monitored more fluidly and actions to address opportunities can be expedited (and feedback on the ADSF outside of formal materiality assessments) can be captured more regularly.
Enhance data capture, reporting and disclosures	Every ADSF goal and target (current or future) should be supported by appropriate, reliable and consistent data. There are some current ADSF topics where it is understood that there is no agreed data for targets currently reported on or used for baselining. Better data will help drive continuous improvement processes, ensuring incremental benefits for the whole supply chain are evidence-based. With better data capture and reporting, the ADSF will also be able to transparently report upon progress year-on-year.
Strengthen capacity building programs to underpin ADSF implementation	Identify and support simple capacity building activities for the whole supply chain. This will help drive sustainability action, and address feedback and commentary received throughout the DMA (see page 27) that there could be more holistic uptake of the ADSF. For example, as was noted on page 18, the rise of regulatory reporting – while not a material topic – was raised by stakeholders as an area in which capacity building could be useful. Or, on page 24, where a disparity between dairy regions and non-dairy regions top material topics in the survey was observed. Dairy regions didn't identify GHG emissions as a top issue, even though it was the highest ranked topic in the DMA. A similar observation was noted in 2019 (that dairy regions place lower emphasis on environment related topics than other supply chain stakeholders).

Recommendations for the SSC	
Collaborate with others across agriculture	Increase cross-agriculture industry collaboration with other sectors on shared challenges and R&D opportunities. This is particularly relevant where there is topic crossover identified in the materiality assessments as documented in detail on pages 36-38.
Embed continuous improvement in the ADSF	Formalise and communicate an ADSF continuous improvement process and provide greater visibility to industry stakeholders of the objective, timelines and mechanisms by which the ADSF is reviewed, feedback can be provided and updates made.
Recommendations for industry	
Use this report as a reference source for dairy industry material topics	The list of material topics and the DMA process may provide useful inputs into the development of your own organisation specific materiality assessment and sustainability strategy. This report provides a strong indication of sustainability topics that are important to key stakeholders across the supply chain and feature prominently in media and other literature. A *Guidance Document* will be released by the SSC to support individual dairy businesses in using the findings of this assessment.

5.1.2 Other considerations

In undertaking the DMA, stakeholders were able to provide feedback on the ADSF in general. In summary, this feedback noted:

- The overall message of the ADSF is positive – it's a good 'conversation starter'. However, stakeholders indicated the need for clearer communications on the performance of the industry against targets over time;
- That there isn't always a full awareness of the activities being undertaken by the ADSF. For example, recommendations or R&D outcomes are not always fully adopted or participated in by all stakeholders in the supply chain, resulting in lower levels of impact;
- There is a clear opportunity for more collaboration across the supply chain (and with the beef industry) on some material topics; and
- That measurement and monitoring (underpinned by quality data) is going to be a key challenge for the ADSF to address.

Most of the recommendations outlined above address this general feedback.

6.0
Appendices

6.1 Approach to undertaking desktop research

Several sources of information were used to undertake the desktop research. These were industry resources provided by the SSC, or recommended for review throughout consultations, desktop scanning of other materiality assessments, industry literature, global standards, frameworks and regulation, and a media scan for articles mentioning relevant topics.

6.1.1 Purpose of desktop research, including the media scan

The desktop research and media scan were designed to rapidly assess current and emerging topics across the dairy supply chain as it relates to sustainability. The desktop and media scan was designed to identify a long list of topics, impacts, risks and opportunities that should be considered in the materiality assessment. Documents (such as industry materials, Standards, etc.) tend to provide an 'inside out' view, while the media scan is a useful tool in identifying 'outside in' topics as it captures information from publications in the industry both domestically and globally.

6.1.2 Collation of documentation for analysis

A total of 81 documents were identified for analysis. This included documents provided by Dairy Australia, identified by KPMG, or in some instances provided by the SSC or interviewed stakeholders. This specifically included the five reporting standards or frameworks below, and an additional 78 documents (listed from page 87 onwards).

Global Reporting Initiative

GRI 13: Agriculture, Aquaculture and Fishing Sectors 2022 provides sector guidance for the dairy industry. The sector standard provides a list of likely material topics including: emissions, biodiversity, animal care, local communities, and more. GDSF was a key contributor to the sector standard and many topics align with the DSF criteria.

SASB Standards

SASB provides a Meat, Poultry and Dairy industry standard.
The standard identifies ten sustainability disclosure topics: emissions, energy management, water management, land use and ecological impacts, food safety, antibiotic use in animal production, WHS, animal care, environmental and social impacts of animal supply chain, and animal feed and sourcing.

IFRS Sustainability

As part of Appendix B of the exposure draft IFRS S2 Climate-related Disclosure, the IFRS provides Industry-based disclosure requirements. Volume B23 sets out requirements for Meat, Poultry and Dairy. The recommended disclosure topics are: emissions, energy management, water management, land use and ecological impacts, and animal feed and sourcing.

UN S.D.G.s

The dairy industry impacts several of the UNSDG's. Notably the industry has direct impact on: 2- No Hunger, 8- Decent Work and Economic Growth, 12- Responsible Consumption and Production, and 17- Partnership for the goals. By addressing these goals the industry can contribute to sustainable development and align with global sustainability goals.

Global Dairy Sustainability Framework

The GDSF monitors and reports the annual sustainability progress of the global dairy sector. The GDSF identified 11 priority criteria for the industry: Animal care, emissions, rural economies, product safety and quality, biodiversity, soil nutrients, market development, soil quality and retention, working conditions (processing), work conditions (farm), water availability and quality, and waste.

6.1.3 Collation of media articles for analysis

A media scan for the dairy industry was completed with a focus on news and media releases issued between January 2023 and February 2024, spotlighting "ESG" and "Sustainability" aspects of the dairy industry. Key words included in the search were "Environment", "Social", "Governance", "ESG", and "Sustainability". The scope of the global scan included international market commentary. The scan identified 81 relevant media articles (see page 90 onwards). Identified articles were categorised into key themes of "Environment:", "Social" and "Governance". Additionally, a sentiment analysis of the tone and content of the articles was conducted to identify a positive or negative sentiment towards the dairy industry per article.

6.1.4 How was analysis of documentation and media articles undertaken?

Documents were analysed through a qualitative process:

1. Each document was read in its entirety then summarised for key themes and observations.
2. Each document was also classified by its source type, to ensure a balance of sources. Document types included: public reports, annual company reports, annual company ESG / sustainability reports, guidelines or tools, materiality assessments for companies or other industries, public policy positions and standards or frameworks.
3. Using the summary qualitative notes from each document, information was then grouped into like-topics, providing a reason for doing so, for example: *Product safety and quality*– included as a material topic because of the presence in the previous dairy materiality survey, frequent mentions in domestic and international dairy reports (industry and company) and current ADSF commitments.
4. For each identified topic, using the summary qualitative notes from each document, a definition (see pages 46 and 47) was prepared and impacts, risks and opportunities were identified. Impacts, risks and opportunities are defined as:
   a) Positive and negative impacts that the dairy industry has on the environment, society and economy.
   b) Sustainability risks and opportunities, to which the dairy industry is exposed, that could reasonably be expected to affect financial performance, cash flows, access to finance, or cost of capital.
5. The longlist of 26 topics, impacts, risks and opportunities was reviewed by the SSC. The longlist was also used as an input to drafting of the materiality survey.

Media articles were analysed through a qualitative process whereby:

1. Articles were grouped into three key themes “Environment”, “Social” and “Governance”.
2. Each article was read in its entirety then summarised for key themes and observations.
3. Each article and its key themes and observations were analysed for a positive or negative sentiment toward the dairy industry and classified based on the sentiment as either “positive” or “negative”.
4. Analysis of the media articles allowed for insights into:
   - Emerging sustainability topics gaining global attention in the industry which could impact dairy industry operations.
   - Stakeholder views and expectations of the dairy industry.
   - Leading practices, innovation and other trends within the global dairy industry.
5. Key themes and observations were compiled to create a summary of the global media trends within the specified parameters. These key themes and observations were utilised as an additional source of understanding of the global dairy context which assisted in the development of the topics, impacts, risks, and opportunities developed per the document analysis process.

6.2 Topic: Definitions, Impacts, Risks and Opportunities

The following 26 topics were identified through desktop research. In the proceeding pages, the associated impacts, risks and opportunities have also been outlined.

Material Topic	Definition
Air Quality	This topic refers to the condition of the air within and around dairy operations. This encompasses the management and control of gases such as methane, ammonia, and particulate matter released from livestock and manure management on-farm through to processing and manufacturing of dairy products.
GHG emissions	This topic considers greenhouse gas (GHG) emissions in the dairy industry. It includes considerations for the implementation of practices to measure, reduce, and manage emissions to mitigate climate change. It includes the consideration for the adoption of sustainable technologies, mechanisms to improve energy efficiency, and adhering to environmental regulations to minimise GHG emissions across operations and activities.
Animal care	This topic considers the well-being and management of dairy cows, including bobby calves. It also considers animal husbandry practices like feeding, housing, and medical care to uphold high standards of animal welfare (such as humane treatment and minimising stress throughout an animals' lifecycle and the integration of ethical practices across operations).
Climate risk and resilience	This topic considers the assessment, management, reporting and disclosure of risks and opportunities associated with climate change, and the associated activities that may be taken to address these risks and opportunities (including physical and transitional risks and opportunities).
Antimicrobial stewardship	This topic considers the responsible use of antibiotics and other antimicrobials in the dairy industry, ensuring the health and welfare of livestock while protecting public health. It includes consideration for monitoring and managing use, the promotion of alternative treatments, and adhering to guidelines to maintain effective disease controls.
Biodiversity and land management	Biodiversity is the part of nature that is alive, and includes plants, animals, micro-organisms and the ecosystems of which they are a part. This topic considers the dairy industry's interaction with biodiversity, and its approach to maintaining biodiversity through land management and stewardship practices throughout the value chain.
Data and data use	This topic considers the collection, management, and utilisation of data in the dairy industry. It considers the implementation of practices to ensure data accuracy, security, and ethical use, how it can support decision-making and improve operational efficiency. This topic interacts closely with several other topics.
Economic viability of businesses	This topic considers the economic viability of businesses in the dairy industry, including their financial sustainability, profitability, and resilience against market fluctuations. It includes consideration for efficient resource management, innovation, and strategic planning to maintain competitive and successful operations across all activities throughout the dairy industry value chain.
Innovation and technology	This topic considers the use of advanced practices and tools that may enhance productivity, efficiency, and sustainability. It could include adopting cutting-edge technologies, investing in research and development, and fostering a culture of continuous improvement throughout the dairy industry value chain.
Workplace health, safety and wellbeing	This topic considers the dairy industry's ability to provide a safe and healthy workplace environment for the workforce across the value chain, including their psychosocial health and mental wellbeing.

Material Topic	Definition (cont.)
Water	This topic considers water management in the dairy industry. This may include practices to conserve water resources, reduce wastage, efficient irrigation methods, water recycling systems, adherence to water quality standards to minimise environmental impact and maintaining water security and practising water stewardship.
Product safety and quality	This topic considers how dairy products meet safety and quality standards, this could be through rigorous testing, adherence to hygiene and sanitation protocols, and traceability to deliver safe and high-quality products to consumers.
Nutrition and food security	This topic considers how dairy products contribute to balanced nutrition and food security needs.
Soil and nutrient management	This topic considers practices to maintain soil health, optimise nutrient use efficiency, and minimise environmental impacts. It may refer to practices such as soil testing, precision farming, and nutrient management to enhance soil fertility, reduce nutrient runoff across all operations and activities throughout the dairy industry value chain.
Responsible supply chain and supply chain resilience	This topic considers the ethical production and sourcing of milk and dairy products and the transparency of their production and processing. It can include the dairy industry's recycling, waste reduction, prevention of modern slavery, fostering socially responsible operations, and having robust risk management and contingency plans to strengthen supply chain resilience.
Deforestation	This topic considers the dairy industry impacts deforestation, including the future prevention of the clearing of forests and promoting sustainable land use. It considers how deforestation is factored into responsible sourcing, accounting for reforestation efforts, and adherence to environmental regulations to minimise deforestation.
Waste	This topic considers the dairy industry's approach to on-farm and post-farm gate waste management including both solid and liquid waste streams. It considers effluent management, wastewater management and energy waste management.
First Nations engagement and partnership	First Nations engagement and partnership means acknowledging the role of Elders, Traditional Owners, as Custodians as leaders in their communities, observing community values, norms and protocols. This topic addresses the consideration of First Nations voices, partnership with First Nations groups, and effective management of cultural heritage.
Public policy and advocacy	This topic considers the industry's approach to working with various levels of government, for example through advocacy, to ensure that government policies enable the longer-term success of the industry. This includes ensuring agreed and unified positions on policy issues across the industry itself.
Circular economy	This topic considers the dairy industry's approach to circular management of waste streams including packaging. It includes consideration of material use, re-use, and end-of-life treatment and management of waste and resources using circular principles across the dairy value chain.
Community investment and support	This topic considers how the dairy industry invests in and supports local communities, through initiatives such as economic contributions, educational programs, charitable activities, and partnerships that enhance community well-being and development. Local communities comprise individuals living or working in areas that are affected or could be affected by dairy activities.
Employment practices	This topic considers the policies and practises related to the management of employees. This can include aspects such as labour availability, fair wages, safe working conditions, respect for labour rights, non-discrimination, and the provision of mechanisms to address workers' grievances.

Material Topic	Definition
Energy	This topic refers to the strategies and practises related to the use, conservation, and sourcing of energy, and actual use of energy within the dairy industry. It encompasses the efforts to reduce GHG emissions associated with energy use, improve energy efficiency, and invest in renewable energy sources and technologies to support energy transition.
Modern slavery	Modern slavery refers to situations in which persons are coerced to work through the use of violence, intimidation or by more subtle means. This topic considers the risk of practises that fall under the definition of modern slavery within the industry's operations and supply chains. This includes forced labour, child labour, human trafficking, and other forms of exploitation.
Farm biosecurity	This topic considers the strategies and practices related to the prevention, control, and management of biological risks on dairy farms. This includes measures to prevent the introduction and spread of diseases among livestock, as well as measures to protect the health of workers and the environment.
Inclusion and diversity	This topic considers the strategies, policies, and practises related to promoting and maintaining a diverse and inclusive work environment. This includes efforts to ensure equal opportunities, fair treatment, and respect for all employees, regardless of their gender, race, ethnicity, age, disability, sexual orientation, or any other characteristic.

For the 26 topics identified, and defined above, each has the following impacts, risks and opportunities

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
GHG emissions	Climate change mitigation due to emissions reduction across the value chain including reduced enteric methane, reducing unproductive stock numbers, use of more efficient fertilisers and better practices, and effective use of energy in processing and manufacturing activities.	GHG emissions are not reduced, resulting in industry contribution to climate degradation; for example from increased emission of enteric methane, release of nitrous oxide, use of fossil fuels, etc.	Exposure to increased operating or compliance costs related to high-emitting activities (i.e. cost of carbon credits), including cross-border carbon taxes.	Positive reputational impacts of being seen as an industry that is actively decarbonising, leading to increased market share.
			Reputational damage in the dairy industry associated with being a high-emitting industry leads to reduced market share.	Additional revenue streams can be captured via Australian Carbon Credit Units, leading to increased revenue.
			Increased exposure to climate risks, leading to reduced productivity and impacts on operations.	Access to more favourable cost of capital (i.e. sustainability-linked loans) and increased investor confidence.

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
GHG emissions (cont.)			The inability to decarbonise will lead to decreased access to or no access to capital (debt and equity).	
Animal care	The overall health and welfare of livestock throughout the value chain, is enhanced.	Poor health and welfare outcomes for livestock throughout the value chain.	Reduced consumer spend or products are boycotted due to poor animal welfare practices, leading to decreased market share/consumption.	Ability to demonstrate to consumers, through product differentiation such as labelling / verification, that dairy industry products are produced with animal welfare as a top priority, leading to increased market share.
	Improved productivity and profitability of farms due to improved animal health and welfare.	Ethical concerns and poor public perception associated with early life slaughter of surplus calves.	Failure to attract talent to the industry, due to perceived or actual poor animal welfare.	Attracting and retaining top talent and scarce skills to sustain and grow the dairy industry.
	Dairy farmers are known to practice high levels of animal care without jeopardising milk volume or quality.	Dairy products are produced at the expense of quality animal welfare outcomes.	Increased regulatory scrutiny and costs due to breach of animal welfare regulations.	A reduction in regulatory scrutiny and / or the risk of new regulations being imposed increases operating efficiency.
			Reduced product quality and productivity due to poor animal health.	Improved product quality and productivity resulting from healthier livestock.
Workplace health, safety and wellbeing	Improved employee well-being and morale, including mental health in the dairy industry.	Workplace injuries, higher prevalence of mental health issues and strained healthcare systems, especially in rural areas, because of poor industry practices.	Increased costs and legal liability for dairy companies if workplace injuries result in lawsuits and compensation claims.	Increased productivity due to improved employee health and wellbeing, including mental health.

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Workplace health, safety and wellbeing (cont.)	Lowered healthcare costs and absenteeism rates due to decreased workplace injuries and mental health issues in the dairy industry.	Increased healthcare costs and absenteeism rates due to increased workplace injuries and mental health issues in the dairy industry.	Low employee morale and retention challenges due to unsafe workplaces, compounded with inability to attract talent, leading to reduced productivity.	Increased attraction and retention due to healthier workplaces, leading to increased productivity.
	The industry leads in providing a safe workplace, cognisant and compliant with legislation and provides career paths for participants.	The industry lags in ensuring workplace safety, disregards legislation, and offers no avenues for career advancement for participants.	Reputational damage to dairy companies, leading to consumer backlash and loss of stakeholder trust	Improved industry reputation through WHS improvements leading to improved employee wellbeing and increased employee attraction.
Economic viability of businesses	A financially robust dairy sector contributes to overall economic growth and community resilience, for example through job creation, exports, and investment in research and development.	Dependence on maximising short-term profits in the dairy industry may neglect long-term sustainability, risking exposure to shocks and economic instability in communities.	Competitors with stronger financial positions may outpace in innovation, marketing, available resources (labour, land, water, capital), or expansion efforts, eroding market share of the dairy industry.	Financial stability enables dairy companies to invest in expansion initiatives, such as new production facilities, distribution networks, or market penetration strategies, facilitating growth and market reach.
	Dairy industry investments and support bolster regional and rural communities, fostering sustainable development and livelihoods.	Decline in economic viability leads to increased farm exits and less milk supply threatening dairy processor viability which in turn negatively impacts on regional economy.	Failing to keep up with market trends, resulting in reduced demand for products and overall market share.	Continued growth and prosperity of the industry, which also provides significant social and economic benefits for the communities dairy operates in.

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Economic viability of businesses (cont.)			Decline or shut down of business for one node in the value chain resulting in service disruptions for the wider region and increased operational costs.	Increased innovation and improved industry resilience, leading to sustained operations into the future.
Climate risk and resilience	Ongoing economic opportunities for communities in dairy industry regions, such as increased job opportunities through climate mitigation and resilience practices in the dairy value chain.	Loss of livelihoods for communities in dairy regions, such as through farm closures/ logistics disruptions/ asset damage as a result of climate-related events (droughts, flooding, bush fires).	Significant reduction in dairy industry productive output from climate-related impacts, leading to decreased revenue.	Dairy industry is more resilient to climate impact-related disruptions, leading to sustained operations into the future.
	Support for local communities through job and income generation in the dairy industry.	Unemployment due to dairy business closures.	Limited access to skilled labour for the dairy industry if community cohesion and resilience is disrupted, leading to decreased productivity.	Ongoing access to skilled employees in the dairy industry leading to increased productivity.
Product safety and quality	Reduced foodborne illnesses and promotion of public health due to safe and high quality dairy industry products.	Health risks to consumers from consumption of contaminated dairy industry products.	Loss of consumer trust and confidence in the dairy industry resulting in decreased demand for dairy products and loss of market competitiveness.	Strengthened market competitiveness and product demand as a result of increased consumer trust and confidence in safe and high-quality dairy products.
			Production disruptions and increased costs due to increased regulatory scrutiny, including trade restrictions.	

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Farm biosecurity	Decreased spread of disease, pests, and weeds due to sustainable dairy industry practices.	Increased spread of diseases, pests and weeds due to poor dairy industry practices.	Significant reduction in productivity due to spread of diseases, pests and weeds.	Maintain and enhance production due to proper management of disease, weeds and pests.
	Early detection and minimisation of significant impacts of emergency animal diseases, such as lumpy skin disease, foot and mouth disease, ensures the economic viability of the industry isn't jeopardised.	Biosecurity incursions from overseas causes sickness in animals resulting in the need to cull.	Reputational damage in the dairy industry associated with biosecurity incursions leads to reduced market share.	Overseas biosecurity issues resulting in increased export opportunities for Australian dairy products.
			A significant EAD such as FMD/LSD could result in cessation of trade and other losses to the dairy industry in the value of billions of dollars.	Protection of existing export markets.
Responsible supply chain and supply chain resilience	The dairy supply chain is able to withstand environmental or social risks, preventing the temporary or permanent shutdown of the industry in the event of an issue.	Part or all of the supply chain is unable to withstand the realisation of supply chain risks, resulting in temporary or permanent shutdown of part or all of the industry.	Events (such as flood, drought, COVID, food safety breach, etc.) result in supply chain disruption.	Ability to withstand supply chain shocks, and maintain market supply.
Waste	Improved effluent waste management and reduced nutrient run-off, minimising the dairy industry's environmental impacts, such as water and land contamination.	Environmental contamination from incorrect disposal of waste, including effluent.	Reputational damage due to high waste production or mismanagement of waste produced, leading to reduced market competitiveness and minimised social licence to operate.	Improved industry reputation due to effective and safe waste management practices, leading to strengthened market competitiveness.

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Waste (cont.)	Improved community health outcomes such as water quality improvements due to proper waste and effluent management in the dairy industry.	Health risks to communities due to improper waste management and high nutrient run-off in the dairy industry (e.g. drinking water contamination).	High costs associated with poor waste management (including disposal).	Additional revenue streams can be captured via Australian Carbon Credit Units through the animal effluent management method and innovative circular economy streams such as biofuels and efficiencies in managing waste, leading to increased revenue.
Water	Strengthened community resilience to water scarcity as a result of sustainable water management practices in the dairy industry.	Disruption to communities, other industries, and the environment through impacts of inefficient water use and practices in the dairy industry.	Risk of financial impacts due to regulatory restrictions on water usage and higher supply costs due to scarcity.	Competitive advantage in a water scarce future, leading to sustained productivity and revenue.
	Shared benefit water resources between communities and the dairy industry.	Dairy industry operations create competition for water resources leading to conflicts with local communities.	Reputational damage due to environmental degradation and water contamination from the dairy industry, leading to reduced market competitiveness.	Strong water stewardship practices enhance reputation, social licence to operate and licence to operate increasing profitability.
	Water quality is improved due to sustainable dairy industry practices, creating positive community health and environmental outcomes.	Community health and environment is negatively impacted due to poor water quality runoff from dairy businesses.	Loss of consumer base and community trust due to negative impacts on water quality and quantity, affecting industry profitability.	

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Nutrition and food security	Improved public health because of balanced diets and healthy lifestyles resulting from consumption of dairy industry products.	Increased public healthcare costs to treat diet-related health conditions because of over-consumption of less healthy dairy industry products OR lack of consumption of dairy products in their entirety (e.g. calcium deficiencies in infants and children).	Declining demand and loss of market share due to negative public perception of the health benefits of dairy products including in comparison to plant-based or precision-fermented alternatives.	Continued demand for dairy industry products, since they're seen as part of a nutritious and healthy diet, preserving market share.
	The dairy industry continues to supply the market with safe nutritional products, maintain food security and contribute to public health through high quality nutrition).	Increased health disparities related to lack of access to nutritious dairy industry products.	Missed market opportunities through lack of connection with underserved populations.	Expanded dairy distribution channels to reach populations underserved by the dairy industry, leading to increased market share.
Soil and nutrient management	Reduced erosion and maintained soil health through soil management in the dairy industry.	Soil erosion and degradation from intensive dairy industry practices occurs.	Reduced agricultural productivity and increased production costs due to environmentally unsustainable practices, such as over grazing and high chemical fertiliser inputs.	Increased agricultural productivity from holistic soil management practices and reduction in the reliance upon inorganic soil conditions.
		Fertiliser increases nutrient content in water bodies and particulates from runoff damage waterways and disrupt ecosystems.	Increased costs due to regulatory fines for environmental compliance breaches.	Opportunity to develop additional revenue streams by participating in environmental markets (i.e. carbon markets for carbon sequestration).

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Soil and nutrient management (cont.)			Reputational damage due to marine ecosystem impacts from the dairy industry such as eutrophication and coral bleaching, leading to reduced market competitiveness.	New fertiliser innovation, such as food waste and effluent based fertilisers in replacement of mined inorganic fertilisers.
			Increased use of inputs such as fertiliser due to poor soil health increasing operational costs.	Decreased use of inputs such as fertiliser as soil health is maintained and additional inputs are not required, decreasing operational costs.
Biodiversity and land management	Maintain habitat for diverse species in areas within and surrounding dairy business operations.	Habitat destruction and fragmentation such as through land clearing, for example in the construction of dairy industry facilities.	Reduced consumer spend because of being seen as an industry that is exacerbating biodiversity and nature loss, leading to decreased market share.	Sustained or enhanced biodiversity resulting in productivity benefits leading to increased revenue. For example, natural pest control can lower input costs.
	Dairy adds value to community through well regarded practice around protection of waterways, nutrient run off mitigation, revegetation and biodiversity plantings.	Dairy negatively impacts the community through poorly managed practices leading to contamination of waterways, nutrient runoff, deforestation, and loss of biodiversity.	Fines and penalties for environmental compliance breaches by the dairy industry leads to increased costs and regulatory scrutiny.	Opportunity to capitalise on environmental market credits (i.e. carbon credits, biodiversity credits, etc.).

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Biodiversity and land management (cont.)	Persistence of ecosystem services, such as carbon sequestration and water cycling, within dairy industry operations.	Disrupted ecosystem services like carbon sequestration and reduced water quality, due to dairy industry operations.	Requirements to mitigate biodiversity loss through offsets or credits if industry development and process does not operate in a way that maintains biodiversity.	
	Mutual ecosystem services benefits between communities and the dairy industry.	Competition for land and its resources leads to conflicts with local communities, such as through the development of sites related to the dairy industry.		
Antimicrobial stewardship	Reduced antibiotic resistance in livestock due to responsible antibiotic use in the dairy industry.	Increased antibiotic resistance in livestock caused by overuse or misuse of antibiotics in the dairy industry.	Loss of confidence and market share in the dairy industry due to consumer health concerns regarding antibiotic use.	Responsible use of antibiotics leads to increased consumer confidence, increased productivity and decreased regulatory scrutiny and legal liabilities.
	Prevention of environmental contamination from antibiotics being present in runoff.	Environmental contamination occurs due to antibiotic runoff.	Regulatory scrutiny and legal liabilities from misuse of antibiotics in the dairy industry, leading to loss of investor confidence and increased costs.	
		Perceived human health concerns resulting from exposure to antibiotic resistant bacteria in consumed dairy products.	Decreased productivity and increased costs due to treatment failure of commonly used antibiotics.	

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Antimicrobial Stewardship (cont.)		Perceived human health concerns resulting from exposure to antibiotic resistant bacteria in consumed dairy products.	Decreased productivity and increased costs due to treatment failure of commonly used antibiotics.	
Deforestation	Ongoing carbon sequestration, habitat to enhance biodiversity, overall amenity and cultural value are maintained through limited and/or no further deforestation across the dairy industry.	Land cleared for dairy industry use, results in destruction of habitat, increase in emissions, and loss of amenity and cultural value.	Higher compliance costs and financial liabilities related to deforestation in the dairy industry.	Positive reputational impacts as a result of being seen as an industry that minimises deforestation or enhances re-forestation, leading to increased market share.
			Restrictions on Australian dairy products being imported into foreign countries from regulations such as the EU Regulation of Deforestation-free products, leading to decreased market share.	Sustained market access where deforestation regulations exist, and possible differentiation from other dairy export competitors.

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Circular economy	Reduced environmental impacts (e.g. resource depletion, waste generation, pollution) as a result of efficient use of resources, such as water, energy, or packaging materials.	Increased environmental impacts (e.g. resource depletion, waste generation, pollution), as a result of inefficient use of resources, such as water, energy, or packaging materials.	Reduced consumer spend or product boycotts due to unsustainable use of materials in dairy products, leading to decreased market share.	Improved industry reputation as a result of sustainably using materials, leading to increased demand for dairy products.
	Value of resources (e.g. water, energy, packaging materials) maximised through reduction, reuse, recycling, and repurposing in the dairy industry.	Excessive use of resources resulting in negative environmental impacts, such as pollution or climate change, as a result of production of dairy products.	Increased operating costs and possible fines due to inefficient use of resources, such as water, energy, or packaging materials.	Decreased operating costs due to efficient use of resources, such as water, energy, or packaging materials.
	Jobs created through waste management and recycling initiatives (including R&D and technical expertise) in the dairy industry.	Negative environmental impacts, such as pollution and climate change, as a result of inefficient use of resources in the dairy industry.	Difficultly obtaining permits for waste facility expansions or waste discharges, leading to production interruptions.	
			Inability to access suppliers/retailers due to supplier/ retailer expectations on packaging such as no single-use plastics or recyclable packaging only, leading to a decreased market share.	

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Data and data use	Effective data security measures enhance the industries ability to protect sensitive information and reduces the risk of data breaches.	Security measures are unable to mitigate data breaches causing sensitive information to be leaked.	Limited access to capital due to low investor confidence in data quality and safety.	Improved investor confidence in reliability and safety of dairy business data.
	Effective data collection and management results in more efficient resource allocation and enhanced sustainability outcomes, such as more efficient production systems.	Ineffective data collection and management results in reduced sustainability outcomes, such as overuse of chemicals.	Limited ability to manage sustainability risks as a result of poor data quality, leading to loss of investor and stakeholder trust.	Enhanced management of sustainability issues, ensuring stakeholder expectations are met.
	Collaboration and accelerated innovation is facilitated across the industry due to data-sharing and interoperability.	Data-sharing increases the risk of data breaches and raises concerns about data-privacy when sharing sensitive information across industry.	Increased operating costs, such as higher chemical costs, due to poor decision making based on low availability, or poor quality of, data.	Decreased operating costs and increased productivity due to good quality and highly available data to support decision making.
			Increase risk of fines or class actions from regulators or stakeholders respectively if a data breach was to occur.	
Innovation and technology	Adoption of technology solutions enables more efficient resource use and reduces social and environmental impacts of the dairy industry. For example, GHG emissions are reduced through use of a new technology or innovation.	Unemployment caused due to reduced manual labour needs in the dairy industry.	Dependency on technology leading to decreased resilience to system failures or disruptions, resulting in decreased productivity.	Enhance the competitiveness of the dairy industry and increase margins.

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Innovation and technology (cont.)			High adoption costs or significant upfront investment for unproven technologies.	New talent attraction opportunities arising from the implementation of new technologies and processes to sustain and grow the industry.
			Industry conglomeration occurring as smaller industry participants cannot keep up with the rate of innovation resulting in market concentration and reduction in supply availability.	De-risk the industry by providing alternatives to labour (automation) and other inputs - biotech/GM replaces chem fertiliser and pesticides.
Community investment and support	Employment opportunities and contribution to the local economy, such as dairy companies funding local schools, sponsoring health clinics, or contributing to community centres, fostering economic growth and social well-being.	Intensive farming practices and potential community health risks, i.e. through the expansion of dairy farms straining local water resources and contributing to pollution if not managed sustainably, harming both the environment and public health.	If community investments are not managed sustainably, environmental degradation and social dissatisfaction can lead to stricter regulations, legal challenges, and operational disruptions. These issues can increase costs and negatively impact profitability.	Investing in community development can improve the dairy industry's reputation, leading to increased consumer loyalty and access to new markets. Positive community relations can also attract investments and partnerships, boosting profitability.

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
First Nations engagement and partnership	Promotion of traditional land stewardship practices in the dairy industry and knowledge exchange leads to enhanced biodiversity and ecological resilience.	Displacement of First Nations communities from traditional lands and degradation of sacred sites for dairy business operations.	Increased costs from risk of penalties related to damage to or failure to protect cultural heritage.	Positive reputational impacts associated with effective reconciliation measures, leading to increased market share.
	Mutual respect and reconciliation with First Nations communities in the dairy industry.	Limited or underrepresented First Nations participation in the dairy sector.	Product boycotts, decreased demand, and loss of social license resulting from failure to meet stakeholder expectations for First Nations engagement and partnership.	
	Contribution to First Nations self-determination and empowerment through employment, economic opportunities and appropriate benefit sharing in the dairy industry.	Exacerbated socioeconomic disparities within Indigenous communities through unequal distribution of benefits from dairy industry partnerships.		
Air quality	A reduction in air pollutants (e.g. greenhouse gases such as methane, odour and particulate matter) associated with the dairy industry results in a healthier environment.	An increase in air pollutants (e.g. greenhouse gases, odour and particulate matter) associated with the dairy industry results in environmental degradation.	Loss of profits due to loss of social licence to operate and potential legal action relating to environmental compliance breaches related to air pollutants.	Industry stakeholders are able to maintain their social licence to operate ensuring continued operations into the future.
	A reduction in air pollutants (e.g. greenhouse gasses, odour and particulate matter) associated with the dairy industry results in better community health outcomes.	An increase in air pollutants (e.g. greenhouse gasses, odour and particulate matter) associated with the dairy industry results in a reduction in community health.	Loss of profits due to loss of social licence to operate and potential legal action.	Industry stakeholders are able to maintain their social licence to operate ensuring continued operations into the future.

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Employment practices	Improved employee well-being and job satisfaction creating a strong and resilient workforce.	Poor employee well-being and low job satisfaction creating a unstable workforce in the dairy industry.	Decrease in productivity, efficiency and innovation due to difficulties in attracting and retaining skilled employees.	Attracting and retaining top talent and scarce skills to sustain and grow the dairy industry.
	The industry values providing a safe workplace, cognisant and complaints with legislation and provides career paths for participants.	The industry disregards workplace safety, fails to comply with regulations, and offers no opportunities for career advancement for its participants.		
Inclusion and diversity	Enhanced social cohesion and community resilience as a result of inclusive practices in the dairy industry.	Poor social equity and inclusion in dairy industry workforce including marginalisation of minority workers.	Reduced access to diverse perspectives and limited innovation to drive value creation for the dairy industry, leading to reduced productivity and poor workforce attraction and retention.	Access to diverse perspectives, which enables greater innovation and increased productivity.
			Reputational damage of being seen as a discriminatory industry, leading to reduced market share.	Increased inclusiveness and diversity will attract and maintain top talent. For example, gender inclusivity ensure 100% of the workforce is available for employment.

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Energy	Reduced emissions and decreased contribution to climate change from efficient vs effective energy management, such as reduction in dairy industry's reliance on fossil fuels.	Increased emissions and higher contribution to climate change, due to dairy industry's reliance on non-renewable energy sources.	The inability to decarbonise will lead to a decreased access to or no access to capital (debt and equity).	Access to more favourable cost of capital (i.e. sustainability-linked loans) and increased investor confidence.
	Reduced emissions and decreased contribution to climate change, due to dairy industry's transition to renewable energy sources.	Increased emissions and higher contribution to climate change, due to dairy industry's reliance on non-renewable energy sources.	Maintained use of inefficient energy sources and systems, leading to increased energy costs.	Adoption of more efficient energy sources and systems leading to decreased energy costs.
			Reputational damage of being seen as an industry failing to decarbonise, resulting in decreased revenue and market share.	Positive reputational impacts of being seen as an industry that is actively decarbonising its energy use, leading to increased market share.
			Exposure to volatility in the energy market, leading to disruptions to productivity.	Competitive advantage as a result of efficient energy use, resulting in less reliance on a volatile energy market and possible increased revenue.

Material Topic	Impacts		Risks	Opportunities
	Positive	Negative		
Modern slavery	Fair labour conditions for supply chain participants in the dairy industry.	Exploitation of workers in dairy supply chains including forced or child labour.	Increased regulatory scrutiny and costs due to legal repercussions for modern slavery violations, including fines and lawsuits.	Improved industry reputation due to fair labour conditions along the value chain, resulting in reduced regulatory scrutiny and ongoing social licence to operate.
	Human rights are protected especially among vulnerable groups, such as migrant workers.	Human rights violations perpetuate social inequality, especially among vulnerable groups, such as migrant workers.	Resourcing shortages due to poor perception of the industry in relation to labour and human rights, leading to reduced productivity and increased costs.	Increased employee attraction due to industry seen as having good human rights, leading to increased productivity.
Public policy and advocacy	Policies advocated by the dairy industry benefit the industry as well as society, for example through increasing employment opportunities.	Corruption, bribery, undue influence, and imbalanced representation of dairy industry interests in policy.	Negative reputational impacts of being seen as an industry that has excessive influence over policy development or as potentially corrupt, leading to reduced market share and loss of revenue.	Reduced compliance costs due to favourable policy landscape to dairy industry interests.
			Increased policy and regulatory scrutiny results in increased compliance costs to address regulatory requirements such as environmental compliance costs.	
			Impending policy, such as implementation of EUDR, affecting market share and export prospects.	

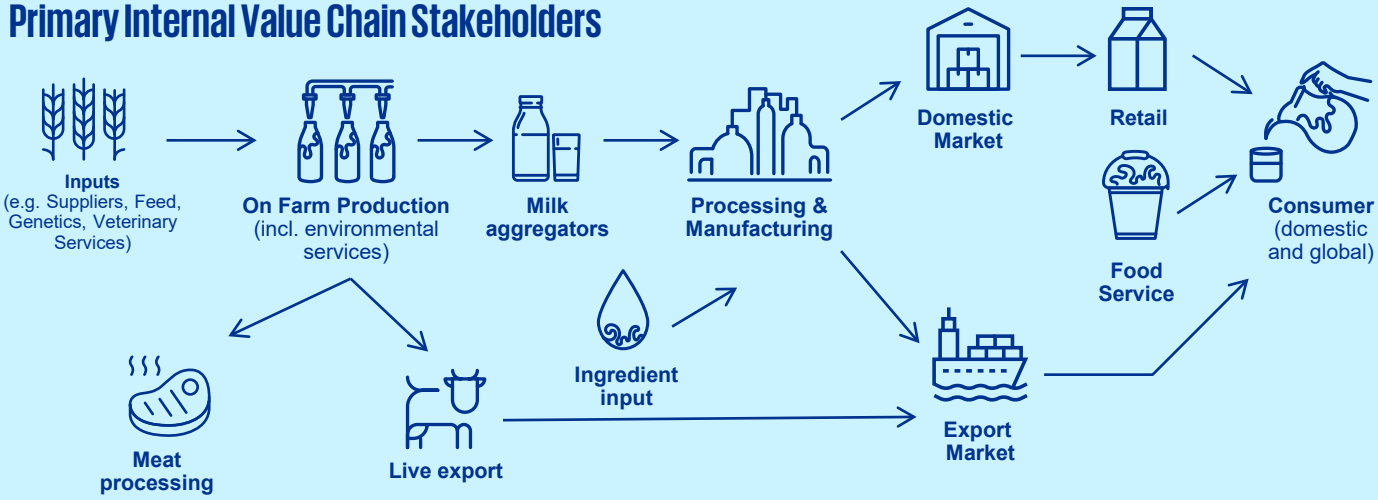
6.3 Approach to undertaking stakeholder consultation

In consultation with the SSC, a stakeholder consultation process was designed and delivered to support the shortlisting of material topics.

6.2.1 Stakeholder consultations

A total of 21 stakeholder groups or organisations were identified across the supply chain through a stakeholder mapping exercise with the support of the SSC. From this mapping exercise, stakeholders who directly participate in the supply chain as well as those that provide services or are adjacent to the supply chain were selected for consultations. A variety of supply chain participants were engaged in the process to ensure diversity in opinion and commentary provided.

Primary Internal Value Chain Stakeholders



R&D and Industry Bodies

Waste and Circularity

Transportation and Logistics

Workplace Rights Holders

Additional Value Chain and External Stakeholders

Financial Institutions (including investors and shareholders)

Community (including First Nations People, communities in dairy regions and broader community)

Government and Regulators (including global policies, regulations, and frameworks)

Other stakeholders: NGOs, labour hire and unions, animal rights groups, special interest groups, sustainability practitioners, dietitians and medical practitioners

6.2.2 Stakeholders were provided a specific brief, reviewed by the SSC ahead of each consultation

A consultation briefing note was prepared, with corresponding questions for stakeholders ahead of interviews. The interview guides for those that were directly involved in the supply chain was slightly different to those that were outside the value chain.

Generally, the questions for both within and outside of the supply chain were similar, with nuances to capture the perspectives the stakeholder may bring.

1. Could you please describe your organisation and where in the dairy value chain it is located?
2. What are the sustainability topics most important to you based on your role within the dairy industry value chain? (*Top 3 requested)*
3. In your view how does the dairy industry impact on people, the economy and the environment both positively and negatively? For these impacts:
   a) What is the most material in your opinion?
   b) Where do these impacts occur in the value chain?
   c) What is the timeframe for which you think these impacts will be realised?
4. In your view what are some areas the dairy industry has dependencies on to stay in business? For these impacts:
   a) What is the most material in your opinion?
   b) Where do these dependencies occur in the value chain?
   c) What is the timeframe for which you think these dependencies will be relevant?
5. What risks or opportunities related to sustainability (such as climate risk (physical or transitional), health and safety, animal welfare, or human rights, currently or in the future might affect the financial prospects (cash flows, access to capital over the short, medium, or long term) of the industry?
6. In your opinion, how impactful do you believe the dairy industry's current sustainability related objectives per the ADSF to be?
7. What do you see as emerging sustainability trends that will impact the dairy industry, including overseas and/or domestic?
8. What would you like to see the dairy industry doing more or less in relation to sustainability?
9. Are there any other sustainability observations or considerations that we haven't covered that you feel are important?

6.2.3 The responses from the 21 interviews provided a rich data source for the long list of material topics and provided insights on the relative importance of topics across different stakeholder groups

The top 3 material topics provided by each stakeholder group are summarised on page 19 – all responses were considered with an equal weighting. The top 3 topics provided by interview groups were also supported by discussion on impacts, risks and opportunities, which are summarised in greater detail on the following pages.

The following table outlines the detailed responses of each supply chain node following consultation using the agreed questions on page 66.

Top Material Topics	Impacts		Risks	Opportunities
	Positive	Negative		
On-farm production				
• Economic resilience • Social sustainability (Workplace, Health and Safety, and Attraction and retention) • Environmental impacts (GHG, soil, biodiversity, land management)	• Economic prosperity in regional communities	• Natural resource depletion and soil degradation • Injuries and fatalities in people/workers • Animal care and health outcomes	• Economic viability • Social licence to operate • Regulatory / reporting changes and compliance cost • Climate transition • Labour shortages • Biosecurity outbreak/incursion	• Cross-supply chain solutions • Robotics and technology • Energy and climate transition incentives • Hybrid dairy and plant products • Training and career progression for farmers and workers
Inputs				
• Food safety • Animal care • Use of ionophores (in feed/feed additives)	• High quality feed and staff training improves animal care outcomes • Job creation and community economic benefit	• Fertiliser overuse resulting in detrimental environmental impacts	• Droughts and/or flood risks and impacts • Energy usage (access and cost) • Lack of resource and/or labour availability	• Access to new markets, requiring an uplift in volume

Top Material Topics	Impacts		Risks	Opportunities
	Positive	Negative		
Transportation				
• GHG emissions • Profitability • Logistics and efficiency	• Animal care • Competitive salaries and good employment opportunities	• Emissions and emissions footprint	• Fuel shortages causing disruption in transportation • Disease events (e.g. foot-and-mouth) impacting livestock movements, practices accompanying restrictions	• Seasonal approaches to production can benefit profits and lower cost-production ratios • Capitalisation on low nutritional value and high environmental impact of dairy alternatives • Local sourcing of energy • Technology use (such as for route optimisation)
Processing and manufacturing				
• GHG emissions and climate • Animal care • Waste & Packaging • Circular economy • Traceability • Employee wellbeing • Biodiversity	• Consumer expectations of nutritious, natural, and healthy foods • Nutrition and provision of high-quality food • Livelihoods and trade opportunities • Regional employment and economic benefits • Improves environmental conditions	• Environmental impacts (emissions, soil degradation and deforestation) • Natural resource use • High price and costs to consumers • Volatile pricing for farmers • High-stress work environments	• Diminishing milk pool • Limited consumer knowledge of production standards • Animal care activism and awareness • Reduction in smaller farms and farm succession • Market changes impacting dairy market and industry • Biosecurity incidents and disease outbreaks • Climate volatility and extreme weather events • Shifting consumer demands, including milk alternatives • Industry ability to meet import standards • Animal care and live export • Climate transition costs	• Consumer shift to natural products • Supply chain sustainability • Efficiencies from innovation and technology • Collaboration with other industries such as beef (dairy-beef) • Shifting consumer demands • Collaborations and partnerships • Improved reporting and visibility • Packaging to reduce waste • Staff engagement and career pathway building across value chain • Alignment of industry practices with consumer and community values

Top Material Topics	Impacts		Risks	Opportunities
	Positive	Negative		
Processing and manufacturing				
			• Climate volatility and extreme weather events • Shifting consumer demands, including milk alternatives • Industry ability to meet import standards • Animal care and live export • Climate transition costs	• Packaging to reduce waste • Staff engagement and career pathway building across value chain • Alignment of industry practices with consumer and community values
Retail				
• GHG emissions • Consumer demand and expectations • Reputation of the industry • Packaging • Antibiotic resistance	• Provision of employment • Contribution to GDP and export market • Access to nutritious food	• Inflation (unaffordable products, cost on farmers) • Environmental and ecosystem impacts (e.g. soil degradation and nutrient run-off) • Animal care	• Changing consumer preferences may decrease demand • Inflation and price increases • Food safety • Dwindling supplier base and milk pool • Consumer misconception of dairy impact on environment; demand for dairy • Climatic variability, droughts / floods • Access to labour • Transition risks	• Investment in technology and innovation • Research and development for environmental protection and management • Improved bobby calf care • Knowledge sharing across value chain • Affordable nutrition

Top Material Topics	Impacts		Risks	Opportunities
	Positive	Negative		
Food Service				
• Animal care • Antibiotic resistance • GHG emissions	• Improved working conditions	• Community resistance and reputational damage due to bobby calf treatment • Modern slavery violations	• Inconsistent data collection and sharing (difficulty setting targets) • Reluctancy of usage of dairy beef • Animal disease interrupting supply chains	• Cross value chain collaboration • Education and information sharing • Dairy beef usage, including dairy and beef industry collaboration
Community				
• Access to labour • Variable costs • Climate change	• Economic viability of rural communities • Restoration of natural habitat	• GHG emissions • Biodiversity and habitat loss	• Loss of skilled labour • Low profit margins and variable milk costs • Extreme weather • Animal rights activism altering animal care legislation • Regulatory and compliance changes	• Use backup fuel and energy sources for climate resilience • Collaboration to upskill future workers, especially in animal husbandry • Develop energy transition projects and micro-grids • Enhance soil health through improved management practices

Top Material Topics	Impacts		Risks	Opportunities
	Positive	Negative		
Financial Institutions				
• GHG emissions • Biodiversity and resource efficiency • Economic resilience • Climate change resilience • Access to skilled labour	• Rehabilitation and nature positive initiatives • Technology advancement • Employment in rural communities • Economic resilience in regional regions	• Animal care (including live export) • Human rights • Environmental degradation • Physically demanding labour	• Climate transition risks • Diminished market access • Reputational risks due to slow transition • Diminishing milk pool posing risk to investment • Biosecurity and disease risks • Diminishing access to skilled labour • Resource (water) competition • Nitrogen legislation	• Technology for emissions reduction • Grassroots engagement for sustainability framework development • Advocacy for economic resilience of industry stakeholders • Introduction of a sustainability rating system to enable the financial sector participation in market incentives • Environmental credentials increasing market access overseas • Attraction and retention due to consistent year-round employment that the dairy industry provides

Top Material Topics	Impacts		Risks	Opportunities
	Positive	Negative		
Government and regulators				
• GHG emissions • Climate risk and sustainable adaptation • Animal care	• Climate resilience in dairy regions • Employment in regional areas • Natural capital to improve biodiversity	• GHG emissions • Environmental damage • Animal care (such as disease and bobby calf treatment)	• Decline in farmers/producers in dairy farming • Biosecurity risks • Need for collection of quality data for reporting • Reputational impacts relating to bobby calf treatment • Antimicrobial / antibiotic resistance	• Technology to reduce emissions • Mitigation of climate risks • Adoption of dairy beef • Technology to improve animal care • Attraction and retention on farm • Renewable energy opportunities
R&D and industry bodies				
• GHG emissions • Biodiversity • Animal care	• Economic benefits for complementary industries • Employment and economic viability in rural communities	• Ecological and biological impacts, including impacts on land and water • Bobby calf treatment	• Climate change weather extreme impact on assets (and resulting financial and reputational impacts) • Decline in milk pool • Access to natural resources and feedstocks	• Shift to indoor cattle to mitigate heat stress • Vegetation and biodiversity corridors • Automation on-farm • Dairy beef • Improve access to capital

Top Material Topics	Impacts		Risks	Opportunities
	Positive	Negative		
Waste				
• Packaging • Labelling • Circular economy	• Safe products • Reduced emissions	• Waste within the supply chain • Food contamination due to the use of “toxic” ingredients in packaging • Use of packaging inappropriate for recycling • GHG emissions	• Changes in consumer preferences • Cost of new technologies • Reliance on imported materials	• Circular economy • Technology and innovation • Usage of compostables
Other				
• GHG emissions • Deforestation • Antimicrobial resistance • Food safety • Food waste • Nutrition	• Access to nutritious food • Improved human rights • Climate action and GHG emissions reduction	• Lack of community access to nutritious food due to high cost • Environmental degradation • Biodiversity impacts • Deforestation • Animal health	• Reduction in national milk pool • Increase in product costs • Improved efficiencies resulting in less waste available for food donation • Regulatory expectations for reporting, including data requirements • Investor expectations and concerns • Physical climate change risks • Transitional climate change risks	• Engagement with farmers • Increasing education surrounding regulatory demands • Collaboration across the industry to form a sustainability roadmap • Work with producers to reduce and optimise food waste • Food waste taxes incentivise donations • Donations increase demand for dairy products • Incorporation of donations into sustainability frameworks

6.2.4 In response to Q6 of the survey specifically, stakeholders provided views on the level of impact they think the ADSF is having on sustainability

The insights include:

- The ADSF was often said to be a 'mature' framework (in that it has been around for some time). However, stakeholders suggested that the ADSF could be doing more to deliver tangible actions and outcomes – for example, they noted some goals and targets that had 'no data' year-on-year or minimal progress year-on-year. Stakeholders were clear that this didn't infer that the ADSF wasn't making *any* progress.
- The ADSF positions the industry positively and is a great tool to communicate the reputation and credibility of the dairy industry. However, this needs to be balanced with ensuring that its not just communicated outside the supply chain, but also within the supply chain (especially down to the level of individual dairy farmers).
- Stakeholders suggested that confidence in the ongoing development of the ADSF could be facilitated through greater transparency as to how targets and goals are being achieved. This could be through metrics and data which can be universally used across industry to report upon progress.
- Some topics raised by stakeholders throughout consultations are noted as topics that have been consistently highly rated in materiality assessments (e.g. bobby calves or animal care). Consideration should be given to how positive traction is truly being made to address the impacts, risks and opportunities related to topics such as these.

6.2.5 In response to Q7 of the survey, stakeholders provided views on emerging trends that will impact the industry

These included topics and themes such as:

- The likely increase in the impacts that international dairy markets may have on the Australian market and its regulatory landscape. This was commonly raised in the context of sustainability-related regulations (e.g. deforestation in the EU). However, this was also raised as an opportunity draw on insights from international operators who are addressing similar regulations ahead of Australian dairy industry.
- Nature, natural capital and biodiversity were all frequently raised by stakeholders as key emerging topics for consideration. The TNFD framework and the European Union Deforestation Regulations were noted frequently by stakeholders, who identified that the impact the industry is perceived to be having on nature will only increase in the eyes of stakeholders.
- Some supply chain stakeholders (particularly NGOs, retailers and financial institutions) noted that customers, consumers and investors are expecting greater transparency around the dairy industry's operations and sustainability related impacts (particularly on topics such as animal welfare, soil and nutrient management and nature).
- Stakeholders commonly noted that consumers are becoming more and more 'aware' of the 'sustainability' of the products they choose.

6.2.6 In response to Q8 of the survey, stakeholders provided views on what the dairy industry could be doing more or less of as it relates to sustainability

Stakeholders noted that there could be a greater focus on GHG emissions reduction, highlighting that other industries are making good progress in this area. Additionally, it was noted that more focus should be placed on land management and stewardship.

Stakeholders identified that while there are good R&D activities happening along the supply chain as it relates to sustainability, that adoption of these R&D investments is not always high. Technologies that drive efficiencies and improve decision making are becoming more readily available but some remain expensive to adopt.

A potential disparity between understanding and knowledge of sustainability topics across the industry was noted, with knowledge typically being more mature down the supply chain. Stakeholders emphasised the need to undertake greater education and communication activities to address this.

6.4 Analysing the DMA survey results

A survey was designed, facilitated and analysed as part of assessing the significance of material topics and to facilitate shortlisting.

6.3.1 The materiality survey was designed for survey respondents to rank their top material topics, impacts, risks and opportunities

The survey firstly asked respondents a series of demographic questions, to allow analysis of responses by geography and dairy operations / non-dairy operations. Secondly the respondents were asked rank their top material topics from the longlist of topics. This was followed by questions asking them to rank their top positive and negative impact for that topic and then their top risks and opportunities for that topic. Respondents were given free text fields to add impacts, risks or opportunities they deemed to be missing.

The survey was designed and tested with the support of the SSC. Dairy Australia shared the link with more than 500 email contacts on their database. 133 responses were received or 27% of the total survey sample. A sample of more than 10-15% is significant enough to infer findings.

6.3.2 Analysing the survey results

6.3.2.1 The responses from the survey were collated in a survey analysis platform with raw data exported by each question and response frequencies (# of times a topic was selected) and proportions (# of responses for that question/the overall no. of respondents, etc.) were analysed.

The following table provides an overview of the frequency of material topics selected by respondents when considering positive impacts.

Topics	Top	Top 3	Top 5	RAW #	% Ranking in Top 5
Animal care	26%	49%	66%	88	13.2%
Nutrition & food security	23%	47%	61%	81	12.2%
GHG emissions	13%	27%	35%	47	7.1%
Biodiversity & land management	4%	20%	34%	45	6.8%
Product safety & quality	8%	22%	34%	45	6.8%
Soil and nutrient management	2%	19%	34%	45	6.8%
Innovation & technology	5%	14%	31%	41	6.2%
Climate risk & resilience	2%	15%	26%	34	5.1%
Economic viability of businesses	3%	13%	26%	34	5.1%
Workplace health, safety & wellbeing	2%	11%	20%	26	3.9%
Waste	1%	7%	19%	25	3.8%
Antimicrobial stewardship	2%	10%	17%	23	3.5%
Farm biosecurity	2%	9%	15%	20	3.0%
Responsible supply chain and supply chain resilience	2%	8%	14%	19	2.9%
Water	0%	5%	14%	19	2.9%
Data & Data use	0%	5%	11%	14	2.1%
Employment practices	0%	3%	10%	13	2.0%
Circular economy	2%	5%	9%	12	1.8%
Energy	2%	4%	7%	9	1.4%
Public policy & advocacy	1%	3%	7%	9	1.4%
Deforestation	1%	2%	5%	7	1.1%
First Nations engagement & partnership	0%	0%	2%	3	0.5%
Inclusion & diversity	1%	2%	2%	3	0.5%
Modern slavery	1%	1%	2%	2	0.3%
Air quality	0%	1%	1%	1	0.2%

Total sample; Unweighted; base n = 133

Respondents included 'missing' topics in the free text field of the survey. The number of times the topic was mentioned was included in a secondary analysis (see '**free text mentions**' column) and the overall topic rankings revaluated – considering these additional mentions. The % change in where the topic ranked is provided in the final column.

Topics	Raw #	Free Text Mentions	New Raw #	% Ranking in Top 5	% Change
Animal care	88	6	94	12.9%	0.4%
Nutrition & food security	81		81	11.1%	1.1%
GHG emissions	47	2	49	7.8%	-1.0%
Biodiversity & land management	45	12	57	6.8%	-0.1%
Product safety & quality	45	5	50	6.7%	0.4%
Soil and nutrient management	45	2	47	6.4%	0.3%
Innovation & technology	41		41	5.6%	0.6%
Climate risk & resilience	34	2	36	5.1%	0.1%
Economic viability of businesses	34	3	37	4.9%	0.2%
Workplace health, safety & wellbeing	26	8	34	4.7%	-0.7%
Waste	25	4	29	4.0%	-0.2%
Antimicrobial stewardship	23		23	3.1%	0.3%
Farm biosecurity	20	3	23	3.1%	-0.1%
Responsible supply chain and supply chain resilience	19	1	20	3.1%	-0.3%
Water	19	4	23	2.7%	0.1%
Data & Data use	14		14	2.6%	-0.6%
Employment practices	13	6	19	2.1%	-0.2%
Circular economy	12	3	15	1.9%	0.2%
Energy	9		9	1.5%	-0.5%
Public policy & advocacy	9	1	10	1.4%	0.0%
Deforestation	7	4	11	1.2%	0.1%
First Nations engagement & partnership	3		3	0.4%	0.0%
Inclusion & diversity	3		3	0.4%	0.0%
Modern slavery	2		2	0.3%	0.0%
Air quality	1		1	0.1%	0.0%

Total sample; Unweighted; base n = 133

When assessing negative impacts, the following topics were ranked as most significant:

Topics	Top	Top 3	Top 5	Raw #	% Ranking in Top 5
GHG emissions	24%	40%	52%	69	10.4%
Animal care	15%	29%	38%	51	7.7%
Water	10%	22%	37%	49	7.4%
Waste	8%	22%	37%	49	7.4%
Climate risk & resilience	5%	18%	35%	47	7.1%
Biodiversity & land management	2%	20%	33%	44	6.6%
Soil and nutrient management	1%	15%	28%	37	5.6%
Economic viability of businesses	6%	17%	26%	35	5.3%
Employment practices	2%	14%	24%	32	4.8%
Public policy & advocacy	5%	15%	23%	30	4.5%
Workplace health, safety & wellbeing	5%	13%	23%	30	4.5%
Energy	2%	7%	18%	24	3.6%
Deforestation	4%	10%	15%	20	3.0%
Inclusion & diversity	0%	8%	15%	20	3.0%
First Nations engagement & partnership	2%	7%	14%	19	2.9%
Antimicrobial stewardship	2%	8%	14%	19	2.9%
Responsible supply chain and supply chain resilience	2%	8%	14%	18	2.7%
Circular economy	1%	4%	11%	15	2.3%
Farm biosecurity	0%	5%	11%	14	2.1%
Air quality	4%	6%	10%	13	2.0%
Data & Data use	2%	5%	8%	10	1.5%
Innovation & technology	0%	4%	7%	9	1.4%
Modern slavery	0%	2%	4%	5	0.8%
Product safety & quality	1%	3%	4%	5	0.8%
Nutrition & food security	0%	1%	1%	1	0.2%

Total sample; Unweighted; base n = 133

Respondents included 'missing' topics in the free text field of the survey. The number of times the topic was mentioned was included in a secondary analysis (see '**free text mentions**' column) and the overall topic rankings revaluated – considering these additional mentions. The % change in where the topic ranked is provided in the final column.

Topics	Raw #	Free Text Mentions	New Raw #	% Ranking in Top 5	% Change
GHG emissions	69	4	73	10.0%	0.4%
Animal care	51		51	7.0%	0.7%
Water	49		49	6.7%	0.7%
Waste	49		49	6.7%	0.7%
Climate risk & resilience	47	2	49	6.7%	0.4%
Biodiversity & land management	44	12	56	7.7%	-1.0%
Soil and nutrient management	37		37	5.1%	0.5%
Economic viability of businesses	35	2	37	5.1%	0.2%
Employment practices	32	8	40	5.5%	-0.7%
Public policy & advocacy	30	1	31	4.2%	0.3%
Workplace health, safety & wellbeing	30		30	4.1%	0.4%
Energy	24	4	28	3.8%	-0.2%
Deforestation	20	3	23	3.1%	-0.1%
Inclusion & diversity	20	1	21	2.9%	0.1%
First Nations engagement & partnership	19	3	22	3.0%	-0.2%
Antimicrobial stewardship	19	2	21	2.9%	0.0%
Responsible supply chain and supply chain resilience	18	4	22	3.0%	-0.3%
Circular economy	15	5	20	2.7%	-0.5%
Farm biosecurity	14		14	1.9%	0.2%
Air quality	13	6	19	2.6%	-0.6%
Data & Data use	10		10	1.4%	0.1%
Innovation & technology	9		9	1.2%	0.1%
Modern slavery	5	6	11	1.5%	-0.8%
Product safety & quality	5		5	0.7%	0.1%
Nutrition & food security	1	3	4	0.5%	-0.4%

Total sample; Unweighted; base n = 133

6.3.2.2 For each material topic, respondents were asked to select their top positive and negative impact

For the top five material topics identified - animal care, nutrition and food security, GHG emissions, biodiversity and land management and product safety and quality – the following tables outline the most frequently selected impacts.

Animal Care
Top positive impact:
Dairy farmers are known to practice high levels of animal care whilst producing quality highly nutritional product.
Top negative impact:
Ethical concerns and poor public perception associated with early life slaughter of surplus calves.

GHG emissions
Top positive impact:
Climate change mitigation due to emissions reduction across the value chain included reduced enteric methane, reducing unproductive stock numbers, use of more efficient fertilisers and better practices, and effective use of energy in processing and manufacturing activities.
Top negative impact:
GHG emissions are not reduced, resulting in industry contribution to climate degradation; for example from increased emission of enteric methane, release of nitrous oxide, use of fossil fuels, etc.

Biodiversity and land management
Top positive impact:
Dairy adds value to communities through well regarded practices of protection of waterways, nutrient run off mitigation, revegetation and biodiversity plantings.
Top negative impact:
Dairy negatively impacts the community through poorly managed practices leading to contamination of waterways, nutrient runoff, deforestation, and loss of biodiversity.

Climate risk and resilience

Top positive impact:

Ongoing economic opportunities for communities in dairy industry regions, such as increased job opportunities through climate mitigation and resilience practices in the dairy value chain.

Top negative impact:

Loss of livelihoods for communities in dairy regions, such as through farm closures/ logistics disruptions/ asset damage because of climate-related events (droughts, flooding, bush fires).

Nutrition and food security

Top positive impact:

The dairy industry continues to supply the market with safe nutritional products, maintain food security and contribute to public health through high quality nutrition.

Top negative impact:

Increased health disparities related to lack of access to nutritious dairy industry products.

6.3.2.3 The variation in significantly rated material topics and their positive and negative impacts across dairy regions was evaluated

To evaluate the rating of material topics and their impacts by dairy region, data was evaluated by the respondent's location. The following tables summarise the responses by dairy region. Note, responses are only provided below where there was more than 4 responses, with the final row presenting an aggregate of the remaining responses by dairy region. These four regions have not been presented individually as the data from 3 responses is too low to infer a trend. Where there is a similarity, responses have been highlighted in purple.

Location		Positive Rated Topics	Negative Rated Topics
All responses (n=133)	1	Animal care	GHG emissions
	2	Economic viability of businesses	Animal Care
	3	Nutrition and food security	Water & Waste (equally)
Western Australia (n=13)	1	Animal care	Climate risk and resilience
	2	Nutrition and food security	Economic viability of businesses
	3	Soil and nutrient management	GHG emissions
Murray Region, Northern Vic, Southern NSW (n=9)	1	Animal care	Climate risk and resilience
	2	Workplace health, safety and wellbeing	GHG emissions
	3	Nutrition and food security	Employment practices, responsible supply chain
Gippsland (n=16)	1	Animal care	Waste
	2	Economic viability of businesses	Soil and nutrient management
	3	Nutrition and food security	Public policy and advocacy

Continues next page.

Location		Positive Rated Topics	Negative Rated Topics
Western Vic (n=8)	1	Animal care	Animal care
	2	Biodiversity and land management	Water
	3	Nutrition and food security	Public policy and advocacy
SA, Subtropic QLD, other NSW & Tas* (n=	1	Animal care	Climate risk and resilience
	2	Nutrition and food security	Economic viability of businesses
	3	Soil and nutrient management	GHG emissions

*these groups had lower response rates, so have been analysed as a combined group

6.3.2.3 What did comparing material impacts by dairy regions and non-dairy regions reveal?

The top three rated topics based on positive impacts and negative impacts for all respondent's, non-dairy regions and dairy regions is outlined in the table below. Where there is a similarity, answers have been highlighted in purple.

The following was observed:

1. Dairy region located respondents align closely with the aggregate dataset for all positive impacts, but **not** for negative impacts. This highlights a possible difference in perception of negative impacts related to topics between dairy and 'all' regions.
2. Economic viability of businesses is seen to have both positive and a negative impacts in dairy regions, emphasising the importance of, and reliance upon the industry, of those located in these areas.
3. That non-dairy region respondents aligned on nearly all positive and negative impacts in the 'all responses' data set, despite the sample size of each being relatively equal. This indicates that non-dairy regions were more likely to select the same positive and negative impact topics, while in the dairy regions, respondents were likely selecting a more diverse range of impacts – especially negative impacts.

		Positive Impacts	Negative Impacts
All responses	1	Animal care	GHG emissions
	2	Economic viability of businesses	Animal Care
	3	Nutrition and food security	Water & Waste (equally)
Dairy Regions (respondents n = 61)	1	Animal care	Public policy and advocacy
	2	Economic viability of businesses	Economic viability of businesses
	3	Nutrition and food security	Climate risk and resilience
Non-Dairy Regions (respondents n= 72)	1	Animal care	GHG emissions
	2	GHG emissions	Animal care
	3	Nutrition and food security	Water

It should be noted that data outlined in **6.3.2.2 and 6.3.2.3** (location of respondents) was not used in any of the topic shortlisting activities outlined in the main body of this report. This additional analysis has been included for the benefit of the reader to have access to information on the variance in responses.

7.0

Methodology overview:

Approaching Double Materiality Assessments

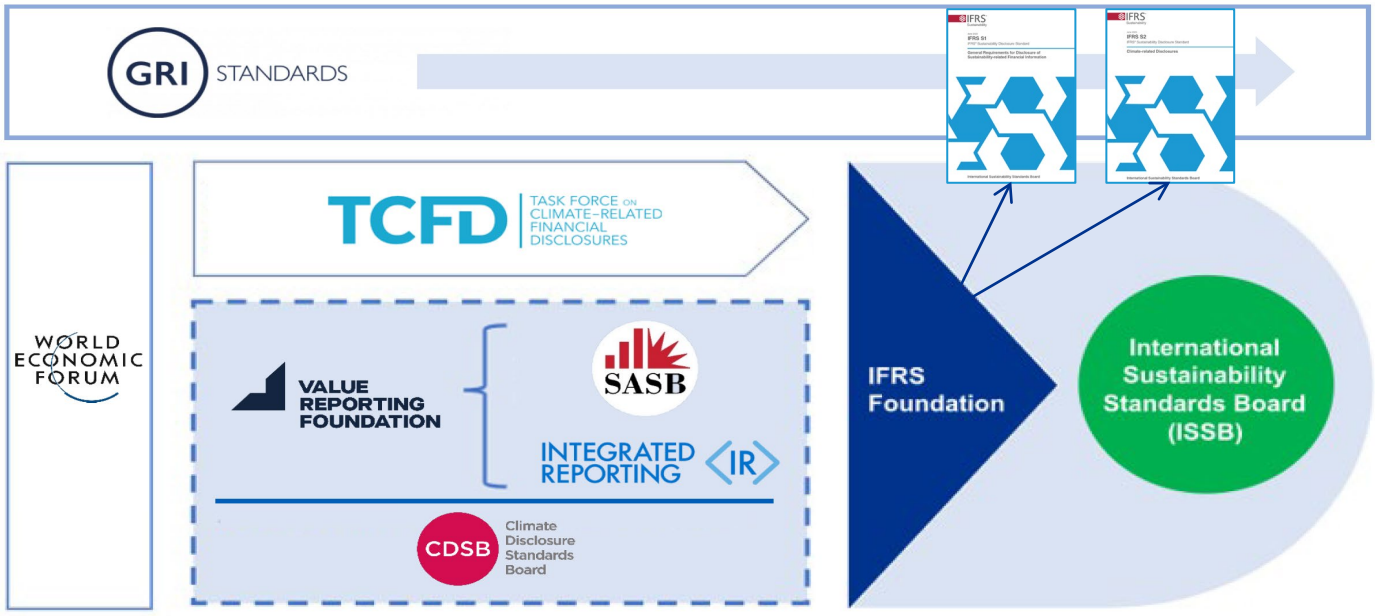
7.1 Overview of relationships between sustainability frameworks and standards

The following provides the reader with a brief overview of the relationship between global sustainability frameworks and standards.

The Australian Accounting Standards Board (AASB) released exposure drafts for three Australian Sustainability Reporting Standards (ASRS) in October 2023[1]. Two consultation papers have also been released by Federal Treasury,[2] including a three-phased implementation approach (based on company size), which will require reporting of climate related financial disclosures. The commencement date for reporting is now proposed to be financial years beginning on or after 1 January 2025 (or later).

The ISSB, IFRS Sustainability Disclosure Standards, IFRS S1 and IFRS S2, were released in June 2023. The [draft] ASRS represents the jurisdictional adoption of IFRS S1 and IFRS S2, including some differences that are intended to be fit for purpose in the Australian context. The main difference is that [draft] ASRS 1 refers to General Requirements for Climate-related Financial Disclosures, whereas IFRS S1 has an expanded scope of General Requirements for Sustainability-related.

The ISSB will become the global baseline for sustainability reporting and is built off the foundation of existing frameworks and standards, such as SASB and TCFD.[3] The ISSB takes a *financial materiality* lens, with an investor focus, and establishes minimum sustainability reporting requirements. The GRI complements the ISSB and takes an *impact materiality* lens. The EU adopts *double materiality* principles, aiming to report on all significant impacts by considering both the investor and wider stakeholder lens. Standards such as the European Sustainability Reporting Standards (ESRS), have also been considered in the approach to the DMA.



1 Exposure Draft ED SR1 Australian Sustainability Reporting Standards – Disclosure of Climate-related Financial Information (aasb.gov.au)
2 Climate-related financial disclosure: exposure draft legislation | Treasury.gov.au
3 IFRS - International Sustainability Standards Board

7.2 How financial materiality was approached

Due to the complexity of conducting a double materiality assessment at an industry level, prioritising material topics through a financial lens needed to be defined in a way that is flexible to the varied scale, scope and severity of each material topic in the context of the industry.

Normally, financial materiality of topics is ranked against a single entities financial risk threshold (set for example, by the Board of the entity). In the case of undertaking financial materiality at an industry level, a rating framework was devised. The below rating framework, endorsed by the SSC, was used as a frame of reference by which to evaluate the financial materiality of each topic during the prioritisation activities outlined in detail in section 3.4, pages 28-34.

	Low Financial Impact	Medium Financial Impact	High Financial Impact
'Industry' wide	An event or issue that may cause minor production disruptions, but the industry is more likely to be able to control or withstand • e.g. milk vat contamination or power outage resulting in the need to dump milk for several days; e.g. lack of supplementary feed for > 1 week due to supplier shortages	An event or issue that may cause moderate production disruptions • e.g. biosecurity outbreak resulting in regional scale quarantine of animals for several weeks • e.g. inability to source short-term on-farm labour	An event or issue that may cause extreme production disruptions • e.g. the wellbeing of operators declines resulting in an increase in rate of suicide or mental health issues • e.g. biosecurity outbreak resulting in significant scale animal destruction
Processing inc. pre/post processing	An event or issue that may cause minor processing or production delays • e.g. minor flooding prevents milk truck access to processing sites for several days • e.g. blackout causes unexpected down-time on site for several days	An event or issue that may cause moderate processing or production delays • e.g. high number of staff vacancies at processing or manufacturing site for more than 1 month, reducing throughput • e.g. change in labelling requirements, requiring new product development	An event or issue that may cause processor shut-down [temporary/ permanent] • e.g. packaging requirements are amended, and all virgin plastics are banned • e.g. carbon price is imposed resulting in dramatic increase in cost of doing business
On farm	An event or issue that may cause minor industry impact • e.g. a change in animal welfare regulation requires practice change on farm	An event or issue that may cause moderate industry impact • e.g. a major factory breakdown, milk and other products cannot be produced and sent to market, • e.g. supply drops affecting milk processing factory throughput	An event or issue that may cause extreme industry impact • e.g. a cyber hack exposes industry data & results in communication of personal info • e.g. consumers / government launch bobby calf campaign resulting in industry shut-down [e.g. sheep live-ex]
	LOCALISED	REGIONAL	INDUSTRY-WIDE

CATASTROPHIC FINANCIAL IMPACT (Industry shutdown)

It should be noted that this framework was designed to help facilitate prioritisation of topics; and is not exhaustive, but illustrative.

08

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Contacts

Duncan Stevens

Partner, Climate Change and Sustainability

T +61 488 000 410
E dstevens1@kpmg.com

Georgie Aley

Partner, Consumer & Industrial Markets

T + 61 447 680 359
E email@kpmg.com

Evie Murdoch

Associate Director

M +61 401 713 206
E emurdoch@kpmg.com.au