

Processor Decarbonisation Pathway

Science Based Target initiative (SBTi) Processor
carbon abatement

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1.0 Executive summary

This report presents a comprehensive greenhouse gas (GHG) baseline, target-setting framework, and decarbonisation roadmap for a large Australian red meat processor, aligned with science-based climate targets and evolving national and industry climate expectations.

The study integrates Scope 1, Scope 2 and Scope 3 emissions accounting, consistent with the Greenhouse Gas Protocol and the Science Based Targets initiative (SBTi), including application of the Forest, Land and Agriculture (FLAG) guidance for land-based emissions.

Emissions Profile and Hotspot Identification

The total emissions profile is dominated by Scope 3 sources, with approximately 50% of emissions attributable to FLAG-related activities, including livestock production, feed, and dairy inputs, and the remaining emissions arising from non-FLAG categories such as purchased goods and services, energy use, and transport .

Key emissions hotspots identified include:

- ◆ Enteric fermentation (ruminant livestock)
- ◆ Manure management (methane and nitrous oxide)
- ◆ Purchased livestock and dairy inputs
- ◆ Fertiliser use and feed production
- ◆ Stationary energy use and fuel combustion

This emissions distribution confirms that value chain interventions are essential, with Scope 3 emissions representing the majority of the decarbonisation challenge.

Science-Based Target Alignment

Emissions reduction targets have been established using SBTi target-setting tools and validated against the SBTi Corporate Net Zero Standard and FLAG guidance.

Near-term (2030) targets from a FY2021 baseline include:

- ◆ Scope 1 and 2 and Scope 3 (non-FLAG emissions):
Absolute emissions reduction of 37.8–42% by 2030, aligned with a 1.5°C pathway
- ◆ Scope 1 and Scope 3 FLAG emissions (land-based):
Absolute emissions reduction of 27.2% by 2030, consistent with SBTi FLAG sectoral pathways

Long-term (2050) targets include:

- ◆ Non-FLAG emissions:
~90% absolute reduction
- ◆ FLAG emissions:
~72% absolute reduction

These targets were selected using SBTi tools to ensure that absolute emissions decline under projected business growth, and were validated against the modelled emissions reduction roadmap to confirm alignment with required decarbonisation trajectories.

Decarbonisation Pathway

A detailed emissions reduction roadmap has been developed, incorporating both operational and supply chain abatement measures. These include:

Scope 1 and 2 (Operational)

- ◆ Fuel switching (natural gas to biogas and hydrogen)
- ◆ Electrification of plant and fleet
- ◆ Renewable electricity procurement
- ◆ Energy efficiency improvements

Scope 3 FLAG (Supply Chain)

- ◆ Feed additives to reduce enteric methane
- ◆ Improved livestock productivity and health
- ◆ Manure management (anaerobic digestion, solids separation)
- ◆ Regenerative agriculture and fertiliser optimisation
- ◆ Deforestation-free feed sourcing

Scope 3 Non-FLAG

- ◆ Transport and logistics optimisation
- ◆ Electrification of freight and distribution
- ◆ Supplier engagement and decarbonisation
- ◆ Infrastructure and energy system improvements

Despite the implementation of these measures, modelling indicates a **residual emissions gap**, particularly within Scope 3 categories such as purchased livestock, fertiliser, and upstream transport, requiring additional intervention and innovation.

Carbon Projects and Insetting Strategy

Carbon project development has been assessed as a complementary mechanism to support emissions reduction and removal, particularly for residual emissions that are difficult to abate.

Key project pathways include:

- ◆ **Animal effluent management (methane capture and avoidance)**
Including anaerobic digestion and solids separation, with estimated abatement potential of several thousand tCO₂e per annum per facility depending on system configuration

- ◆ **Soil carbon sequestration**
Through changes in land management practices
- ◆ **Environmental planting and vegetation-based removals**

These projects can generate Australian Carbon Credit Units (ACCU) under the Emissions Reduction Fund (ERF), subject to methodology compliance and monitoring requirements.

A key consideration identified is the distinction between:

- ◆ **Low-carbon commodity approaches** (inventory reductions aligned with SBTi), and
- ◆ **Certified carbon credits (ACCU)** (used for insetting or compensation)

The report highlights the importance of **avoiding double counting**, ensuring traceability, and aligning carbon project claims with emerging GHG Protocol Land Sector and Removals Guidance.

Strategic Implications

The analysis demonstrates that achieving net zero in the red meat processing sector requires:

- ◆ Deep supply chain engagement and data transparency
- ◆ Integration of emissions reduction and carbon project strategies
- ◆ Alignment with international frameworks (SBTi, GHG Protocol)
- ◆ Development of low-emissions supply chains and commodities

The transition pathway is characterised by high dependence on Scope 3 abatement, technological innovation, and coordinated action across producers, processors, and service providers.

Conclusion

This report provides:

- ◆ A validated and comprehensive GHG emissions baseline
- ◆ SBTi-aligned emissions reduction targets
- ◆ A detailed and technically robust decarbonisation roadmap
- ◆ A structured approach to carbon project development and insetting
- ◆ A scalable model for broader application across the Australian red meat industry

2.0 Introduction

The red meat processing sector is facing increasing pressure to reduce greenhouse gas (GHG) emissions in line with evolving regulatory, market and customer expectations. In Australia, this is shaped by legislated national climate targets, including a 43% reduction in emissions by 2030 (relative to 2005 levels) and net zero emissions by 2050, alongside emerging expectations for deeper reductions beyond 2030.

At the same time, global supply chains are increasingly requiring alignment with science-based emissions reduction pathways, particularly through the Science Based Targets initiative (SBTi) and its Forest, Land and Agriculture (FLAG) guidance. These frameworks impose specific requirements on companies to achieve absolute emissions reductions across Scope 1, 2 and 3, with additional rules governing land-based emissions, removals, and deforestation.

Within this context, red meat processors operate within a uniquely complex emissions profile. A significant proportion of total emissions occurs within the upstream supply chain, particularly from livestock production, feed systems and land management. These emissions are predominantly classified as Scope 3 FLAG emissions, and are characterised by biological processes such as enteric fermentation, manure decomposition and soil emissions, which present different abatement challenges compared to energy and industrial emissions.

This project has been undertaken to develop and demonstrate a real-world, processor-level decarbonisation pathway that is:

- ◆ Aligned with SBTi and SBTi FLAG requirements
- ◆ Consistent with Australia's national climate targets and policy direction
- ◆ Reflective of the Australian red meat industry's evolving role in contributing to national emissions reduction goals
- ◆ Practically implementable across both operations and supply chains

The work builds on a structured program of greenhouse gas accounting, target setting, and abatement modelling undertaken in earlier project milestones. A validated Scope 1, Scope 2 and Scope 3 emissions baseline has been established, including clear delineation between FLAG and non-FLAG emissions sources, providing the foundation for target setting and intervention modelling.

Using this baseline, emissions reduction targets have been developed in accordance with SBTi methodologies, and a detailed emissions reduction roadmap has been constructed. This roadmap integrates:

- ◆ On-plant operational decarbonisation (energy efficiency, electrification, fuel switching)
- ◆ Supply chain interventions targeting livestock, feed and land management emissions
- ◆ Carbon project development under the Emissions Reduction Fund (ERF), including soil carbon, environmental planting and animal effluent management.

A key focus of this project is the interaction between inventory-based emissions reductions (as required by SBTi) and project-based abatement and removals (as generated through ERF methodologies). These two approaches operate under different accounting frameworks and create both opportunities and risks, particularly in relation to double counting, additionality and the treatment of carbon credits.

The purpose of this report is to consolidate the outputs of the project into a single, technically robust document that:

- ◆ Defines the emissions baseline and key sources of emissions
- ◆ Presents SBTi-aligned emissions reduction targets

- ◆ Describes the emissions reduction pathway across Scope 1, 2 and 3
- ◆ Assesses the role of carbon projects and insetting strategies
- ◆ Demonstrates alignment with both SBTi requirements and national climate expectations

In doing so, the report provides a replicable model for the Australian red meat processing sector, illustrating how processors can navigate the dual requirements of science-based targets and national decarbonisation pathways, while maintaining operational and commercial viability.

3.0 Project objectives

The objective of this project is to develop and validate a comprehensive, science-aligned decarbonisation pathway for a large Australian red meat processor, integrating greenhouse gas (GHG) accounting, emissions reduction target setting, and implementation planning across both operations and the supply chain.

The project is designed to address the dual requirement of:

- ◆ Aligning with Science Based Targets initiative (SBTi) and SBTi FLAG (Forest, Land and Agriculture) requirements, and
- ◆ Contributing to Australia's national climate targets and the red meat industry's role in supporting these objectives

3.1 Establish a Verified Greenhouse Gas Emissions Baseline

- ◆ Quantify Scope 1 and Scope 2 emissions in accordance with the GHG Protocol and relevant Australian reporting standards
- ◆ Develop a comprehensive Scope 3 inventory, including upstream and downstream emissions sources
- ◆ Classify emissions into FLAG and non-FLAG categories, consistent with SBTi guidance
- ◆ Identify key emissions hotspots across operations and the value chain to inform prioritisation of abatement activities

3.2 Develop Science-Based Emissions Reduction Targets

- ◆ Apply SBTi target-setting methodologies, including the Corporate Net Zero Standard and FLAG guidance
- ◆ Establish near-term (2030) and long-term (2050) absolute emissions reduction targets for:
 - Scope 1 and 2 emissions
 - Scope 3 non-FLAG emissions
 - Scope 1 and 3 FLAG emissions

Ensure targets meet minimum coverage thresholds and reduction pathways required for a 1.5°C trajectory

Validate that target trajectories result in absolute emissions reductions under projected business growth scenarios

3.3 Design a Comprehensive Emissions Reduction Roadmap

- ◆ Develop a detailed, modelled decarbonisation pathway aligned with SBTi targets
- ◆ Identify and quantify abatement opportunities across:
 - On-plant operations (energy, fuel, refrigeration, processing)
 - Supply chain activities (livestock, feed, fertiliser, land use)
- ◆ Assess the contribution of key interventions, including:
 - Feed additives and livestock productivity improvements
 - Manure and effluent management systems
 - Renewable energy, electrification and fuel switching
 - Regenerative agriculture and land management practices
- ◆ Quantify the impact of each intervention on Scope 1, 2 and 3 emissions trajectories

3.4 Assess and Develop Carbon Project Opportunities

- ◆ Identify and evaluate Emissions Reduction Fund (ERF)-eligible projects across the value chain
- ◆ Quantify potential carbon abatement and Australian Carbon Credit Unit (ACCU) generation from:
 - Soil carbon sequestration
 - Environmental planting
 - Animal effluent management (methane capture and avoidance)
- ◆ Assess technical feasibility, costs, and integration with existing operations
- ◆ Evaluate the role of carbon projects in addressing residual emissions

3.5 Define an Insetting and Carbon Accounting Strategy

- ◆ Assess the interaction between:
 - Inventory-based emissions reductions (SBTi-aligned), and
 - Project-based abatement and removals (ERF/ACCUs)
- ◆ Identify risks and requirements related to:
 - Double counting
 - Additionality and permanence
 - Traceability and credit ownership
- ◆ Develop a framework for the use of carbon credits, including:

- Internal use (insetting)
- External sale (offset markets)
- ◆ Ensure alignment with emerging GHG Protocol Land Sector and Removals Guidance and SBTi expectations

3.6 Validate Alignment with National and Industry Climate Expectations

- ◆ Assess the emissions reduction pathway against:
 - Australia's legislated climate targets (2030 and 2050)
 - The red meat industry's evolving contribution to national net zero goals
- ◆ Evaluate how different abatement measures contribute to:
 - National emissions reduction priorities (e.g. methane reduction)
 - Industry-level expectations (e.g. emissions intensity improvements)
- ◆ Ensure the final roadmap represents a balanced portfolio that satisfies:
 - Policy expectations
 - Market and customer requirements
 - Operational feasibility

3.7 Document and Communicate a Replicable Industry Model

- ◆ Consolidate project findings into a transparent, technically robust final report
- ◆ Provide a clear description of:
 - Emissions baseline and methodology
 - Target-setting approach
 - Abatement pathway and project portfolio
- ◆ Demonstrate how a red meat processor can:
 - Align with SBTi and FLAG
 - Integrate ERF carbon projects
 - Contribute to national climate targets
- ◆ Enable knowledge transfer and replication across the Australian red meat processing sector

4.0 Methodology

The methodology applied in this project integrates internationally recognised greenhouse gas (GHG) accounting standards with detailed, project-specific modelling undertaken across multiple milestones and technical studies. The approach combines baseline development, emissions classification, science-based target setting, intervention modelling and carbon project assessment into a single, coherent analytical framework. This ensures that the resulting decarbonisation pathway is consistent with the requirements of the Greenhouse Gas Protocol, the Science Based Targets initiative (SBTi) and Australian carbon accounting frameworks, while remaining grounded in the operational and supply chain realities of the red meat processing sector.

The GHG inventory was developed in accordance with the GHG Protocol Corporate Accounting and Reporting Standard and the Scope 3 Standard, supported by Australian National Greenhouse and Energy Reporting (NGER) methodologies where applicable. The consolidated inventory, completed and validated in Milestone 3, provides full coverage of Scope 1, Scope 2 and Scope 3 emissions and forms the foundation for all subsequent modelling and target-setting activities. An operational control boundary was adopted, capturing direct emissions from processing facilities, indirect emissions from purchased electricity, and value chain emissions associated with livestock production, feed, transport and other upstream and downstream activities. Scope 3 emissions were quantified using a combination of primary data, industry emission factors and datasets derived from the National Inventory Report and peer-reviewed literature, supplemented by modelling inputs developed by South Pole. This analysis confirmed that approximately half of total emissions are attributable to land-based sources associated with livestock and feed systems, highlighting the material importance of supply chain emissions within the overall profile.

A critical methodological step was the classification of emissions into FLAG (Forest, Land and Agriculture) and non-FLAG categories, in line with SBTi FLAG guidance. FLAG emissions include enteric fermentation, manure management, feed production, fertiliser use and other land-based sources, and are characterised by biological processes and the predominance of methane and nitrous oxide emissions. Non-FLAG emissions include stationary energy, purchased electricity, transport, and other industrial and service-related sources, which follow more conventional energy decarbonisation pathways. This separation is essential, as SBTi imposes different target-setting requirements and decarbonisation trajectories for FLAG and non-FLAG emissions. The classification was undertaken using the validated GHG inventory and reviewed during Milestones 3 and 8 to ensure consistency with SBTi boundary definitions and reporting expectations.

Science-based emissions reduction targets were developed using the SBTi Corporate Net Zero Standard and FLAG guidance, supported by SBTi target-setting tools and sectoral pathways. As documented in Milestone 8, initial modelling using commodity-based FLAG pathways indicated that projected business growth could result in increasing absolute emissions, which would not meet SBTi requirements. To address this, sectoral decarbonisation pathways were adopted to ensure that emissions decline in absolute terms over time. From a FY2021 baseline, near-term targets were established at a 37.8–42% reduction in non-FLAG Scope 1, 2 and 3 emissions and a 27.2% reduction in absolute FLAG Scope 1 and 3 emissions by 2030, with corresponding long-term reductions of approximately 90% for non-FLAG emissions and 72% for FLAG emissions by 2050. These targets were validated against SBTi requirements for ambition, coverage and boundary definition, and were tested to ensure that they deliver absolute emissions reductions under projected growth scenarios.

The emissions reduction roadmap was developed using a detailed intervention-based modelling approach led by South Pole, building on the validated emissions baseline and target trajectories. This modelling framework integrates business-as-usual emissions growth with the quantified impact of individual abatement measures across operations and the supply chain. Interventions were assessed across key emissions sources, including livestock methane reduction through feed additives, improvements in manure and effluent management, optimisation of feed and fertiliser use, and adoption of regenerative agricultural practices. Operational measures such as energy efficiency

improvements, electrification, renewable energy procurement and fuel switching were also modelled, alongside Scope 3 interventions including transport optimisation and supplier engagement. The outputs of this modelling are presented through scenario analysis and waterfall charts, which illustrate the contribution of each intervention to emissions reduction and identify residual emissions after implementation. These results were used to confirm that the combined portfolio of measures is sufficient to meet SBTi-aligned targets and to highlight areas where additional action will be required.

Carbon project opportunities were assessed in parallel using the Australian Emissions Reduction Fund (ERF) framework, with a focus on soil carbon sequestration, environmental planting and animal effluent management. Initial identification and quantification of these opportunities were undertaken in early project milestones, with further technical development supported by detailed South Pole studies. In the case of effluent management, modelling of methane capture and avoidance technologies, including anaerobic digestion and solids separation, was undertaken in accordance with the ERF Animal Effluent Management methodology. This included the application of methane conversion factors, biogas yield assumptions and project emissions adjustments to estimate net abatement potential for each system configuration. Soil carbon and environmental planting projects were assessed based on land management practices and sequestration potential, with early estimates indicating significant Australian Carbon Credit Unit (ACCU) generation across multiple properties as project scale increases.

A key methodological consideration throughout the project has been the interaction between inventory-based emissions reductions, as required under SBTi, and project-based abatement and removals generated through ERF methodologies. As highlighted in Milestone 8, these frameworks operate under different accounting rules and require careful management to avoid double counting and ensure compliance with emerging guidance on additionality, permanence and traceability. The methodology therefore includes an explicit assessment of how carbon credits may be used, distinguishing between credits that are sold externally and those that may be retained to support internal decarbonisation objectives. This distinction is critical to maintaining the integrity of reported emissions reductions and ensuring alignment with both SBTi expectations and national carbon accounting frameworks.

Overall, the methodology applied in this project combines rigorous GHG accounting, science-based target setting, detailed intervention modelling and carbon project assessment into a single integrated framework. This approach ensures that the resulting decarbonisation pathway is scientifically robust, aligned with policy and market expectations, and capable of practical implementation within the operational and supply chain context of the Australian red meat processing industry.

5.0 Project outcomes

5.1 Emissions Profile (Baseline)

5.1.1 Overview of Emissions Baseline

A comprehensive greenhouse gas (GHG) emissions baseline was developed for the business, covering Scope 1, Scope 2 and Scope 3 emissions, in accordance with the GHG Protocol and validated through Milestone 3. This baseline forms the foundation for target setting, intervention modelling and overall decarbonisation planning.

The emissions profile confirms that the organisation operates within a highly Scope 3-dominated value chain, with approximately half of total emissions attributable to land-based (FLAG) sources, including livestock production, feed systems and fertiliser use. The remaining emissions are associated with energy use, industrial processes and other non-FLAG activities.

This distribution is characteristic of the red meat processing sector, where upstream agricultural emissions significantly exceed direct operational emissions.

5.1.2 Emissions by Scope

The baseline emissions profile can be summarised by scope as follows.

Table 5-1: Emissions Profile by Scope

Scope	Description	Relative Contribution	Key Sources
Scope 1	Direct operational emissions	Low–Moderate	Fuel combustion, refrigeration gases, on-site processes
Scope 2	Purchased electricity	Low	Grid electricity consumption
Scope 3	Value chain emissions	Dominant (~80–90%)	Livestock, feed, fertiliser, transport, purchased goods

Scope 1 and 2 emissions represent a relatively small proportion of total emissions, reflecting the fact that processing operations are not the primary emissions source. In contrast, Scope 3 emissions dominate, driven primarily by biological emissions associated with livestock and land use.

5.1.3 FLAG vs Non-FLAG Emissions

A key analytical step in the baseline development was the separation of emissions into **FLAG (Forest, Land and Agriculture)** and **non-FLAG categories**, in line with SBTi requirements.

Table 5-2: Emissions by Classification

Category	Approximate Contribution	Key Sources
FLAG emissions	~50%	Enteric methane, manure management, feed production, fertiliser use
Non-FLAG emissions	~50%	Energy use, fuel combustion, transport, purchased services

FLAG emissions are dominated by methane (CH₄) from enteric fermentation and manure, and nitrous oxide (N₂O) from fertiliser and soils. These emissions are inherently more difficult to abate due to their biological nature and dependence on supply chain practices.

Non-FLAG emissions follow more conventional decarbonisation pathways and are generally more directly controllable through operational changes.

5.1.4 Emissions Hotspot Analysis

Detailed hotspot analysis was undertaken to identify priority areas for intervention across the value chain.

Table 5-3: Key Emissions Hotspots

Emissions Source	Scope	Classification	Relative Impact	Abatement Complexity
Enteric fermentation	Scope 3	FLAG	Very High	High

Purchased livestock	Scope 3	FLAG	Very High	High
Feed production & fertiliser	Scope 3	FLAG	High	Medium–High
Manure management	Scope 3	FLAG	High	Medium
Stationary energy (fuel use)	Scope 1	Non-FLAG	Moderate	Low–Medium
Electricity use	Scope 2	Non-FLAG	Low	Low
Transport & logistics	Scope 3	Non-FLAG	Moderate	Medium

The analysis highlights that enteric methane and livestock-related emissions are the single largest contributors, reinforcing the importance of supply chain engagement and livestock-focused interventions.

5.1.5 Emissions Distribution (Figure Representation)



Figure 5-1 Emissions Distribution

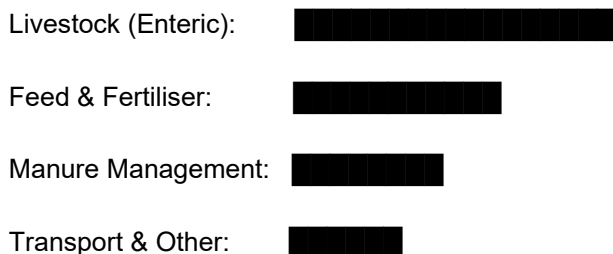


Figure 5-2 Scope 3 Breakdown

5.1.6 Key Insights from Baseline

The baseline emissions profile provides several critical insights that inform the overall decarbonisation strategy.

First, the dominance of Scope 3 emissions confirms that meaningful emissions reduction cannot be achieved through operational changes alone. While Scope 1 and 2 interventions are necessary, they will only deliver a relatively small proportion of total abatement.

Second, the near-equal split between FLAG and non-FLAG emissions highlights the need to manage two fundamentally different decarbonisation pathways. FLAG emissions require biological and land-based interventions, while non-FLAG emissions can be addressed through energy transition and efficiency measures.

Third, the concentration of emissions in a small number of hotspots, particularly livestock, feed and manure, enables prioritisation of interventions with the highest potential impact.

Finally, the emissions profile reinforces the importance of integrating supply chain engagement, carbon project development and operational improvements into a single, coordinated decarbonisation strategy.

5.1.7 Implications for Decarbonisation Strategy

The baseline results directly inform the structure of the emissions reduction roadmap by:

- ◆ Prioritising livestock and feed interventions for FLAG emissions
- ◆ Targeting energy and fuel switching for Scope 1 and 2
- ◆ Identifying manure and effluent management as a key cross-cutting opportunity
- ◆ Highlighting the need for supplier engagement programs

These insights underpin the modelling of abatement pathways presented in subsequent sections.

5.2 Science-Based Emission Reduction Targets

5.2.1 Overview

Following completion of the greenhouse gas baseline, science-based emissions reduction targets were established to provide a clear pathway for reducing emissions in line with climate science and evolving market expectations. Target development was undertaken in collaboration with South Pole using the Science Based Targets initiative (SBTi) Corporate Net Zero Standard and SBTi FLAG guidance, with validation completed as part of Milestone 8.

The objective of the target-setting process was to ensure that Midfield's emissions reduction pathway delivers absolute emissions reductions consistent with limiting global warming to 1.5°C while recognising the unique characteristics of agricultural and land-based emissions. Particular attention was given to ensuring that both FLAG and non-FLAG emissions are addressed through separate but complementary reduction pathways.

The resulting targets establish a framework for emissions reduction across operational emissions (Scope 1 and 2), supply chain emissions (Scope 3), and land-based emissions associated with livestock and agricultural production systems.

5.2.2 SBTi Validation Process

The validation process involved reviewing Midfield's emissions inventory against the requirements of the SBTi Corporate Net Zero Standard and FLAG guidance. This included confirming baseline emissions, reviewing the distribution of FLAG and non-FLAG emissions, testing target trajectories using SBTi tools, and assessing whether the proposed emissions reduction roadmap could achieve the required reductions.

Initial modelling using commodity-based FLAG pathways indicated that projected business growth could result in increasing absolute FLAG emissions over time. As absolute reductions are required under SBTi, sectoral decarbonisation pathways were subsequently adopted to ensure compliance with target-setting requirements and to deliver declining emissions trajectories under future growth scenarios.

The final targets were then tested against the intervention modelling developed through the emissions reduction roadmap to confirm that the proposed portfolio of actions could deliver the required reductions.

5.2.3 Near-term Targets

Near-term targets were established using FY2021 as the baseline year and aligned with SBTi requirements for a 1.5°C pathway.

For non-FLAG emissions, the target requires an absolute reduction of between 37.8% and 42% across Scope 1, Scope 2 and Scope 3 emissions by FY2030. For FLAG emissions, the target requires a 27.2% reduction in absolute Scope 1 and Scope 3 FLAG emissions by FY2030. These targets were derived using SBTi-approved methodologies and reflect the different decarbonisation trajectories available to biological and industrial emissions sources.

Table 5-4: Near-Term Emissions Reduction Targets (2030)

Emissions Category	Target Reduction	Baseline Year
Scope 1 & 2 Non-FLAG	37.8–42%	FY2021
Scope 3 Non-FLAG	37.8–42%	FY2021
Scope 1 & 3 FLAG	27.2%	FY2021

The difference between FLAG and non-FLAG targets reflects the greater technical and biological constraints associated with reducing methane and nitrous oxide emissions from agricultural systems compared with energy and industrial emissions.

5.2.4 Long term Targets

Long-term targets were developed to align with the SBTi Net Zero Standard and Australia's legislated net-zero objective.

The long-term pathway requires approximately 90% absolute reduction of non-FLAG emissions by 2050 and approximately 72% reduction in FLAG emissions over the same period. Residual emissions that remain after implementation of all feasible abatement measures are expected to require management through carbon removals and sequestration projects consistent with emerging SBTi guidance.

Table 5-5: Long-Term Emission Reduction targets (2050)

Emissions Category	Target Reduction	Baseline Year
Scope 1 & 2 Non-FLAG	~90%	FY2021
Scope 3 Non-FLAG	~90%	FY2021
Scope 1 & 3 FLAG	~72%	FY2021

The long-term targets recognise that some agricultural emissions are likely to remain difficult to eliminate completely due to biological constraints associated with livestock production systems.

5.2.5 Alignment with National Climate Targets

A key component of This study was assessing how the SBTi-aligned pathway interacts with Australia's national climate objectives and the red meat industry's role in contributing to those objectives. Australia's Climate Change Act establishes a target of reducing emissions by 43% below 2005 levels by 2030 and achieving net-zero emissions by 2050. More recently, the Climate Change Authority has advised a 2035 reduction range of 62–70%.

The modelling undertaken demonstrates that the emissions reduction pathway developed for Midfield is compatible with these broader national objectives. While SBTi targets focus on company-level inventory reductions, national climate targets focus on economy-wide emissions outcomes. The roadmap therefore serves both purposes by delivering measurable reductions within Midfield's inventory while also contributing to Australia's broader decarbonisation trajectory.

Importantly, the analysis undertaken concluded that national climate objectives and SBTi requirements are not competing frameworks. Rather, they influence different aspects of the decarbonisation strategy and together provide a robust framework for decision-making and prioritisation.

5.2.6 Implications for Emissions Reduction Roadmap

The target-setting process has significant implications for the design of the emissions reduction roadmap.

The lower FLAG reduction target relative to non-FLAG emissions does not imply that FLAG emissions are less important. On the contrary, FLAG emissions remain one of the largest contributors to the overall inventory and therefore represent a major focus area for intervention. The target simply reflects the slower rate at which biological emissions can currently be reduced using available technologies.

Achieving the required reductions will require coordinated implementation of interventions across:

- ◆ livestock production systems;
- ◆ feed and fertiliser management;
- ◆ manure and effluent management;
- ◆ energy and fuel systems;
- ◆ transport and logistics networks; and
- ◆ carbon sequestration and removal projects.

The next section examines how these interventions were modelled and combined to create a practical emissions reduction roadmap capable of delivering the required reductions by 2030 and 2050.

5.3 Emissions Reduction Roadmap

The emissions reduction roadmap translates the science-based targets into a practical implementation pathway by identifying and quantifying the interventions required across operations and the supply chain. The roadmap was developed by South Pole through detailed modelling of both FLAG and non-FLAG emissions sources and provides the foundation for long-term decarbonisation planning.

The roadmap considers emissions growth under a business-as-usual scenario and evaluates the contribution of individual interventions to reducing emissions over time. Separate pathways were developed for FLAG and non-FLAG emissions to reflect the differing emissions sources, technologies and abatement opportunities associated with each category.

The following sections present the key intervention categories and their contribution to achieving the required emissions reductions. Subsequent sections examine carbon project opportunities and their role in addressing residual emissions that remain after implementation of the primary abatement measures.

5.3.1 Overview

The emissions reduction roadmap was developed to demonstrate how Midfield can transition from its FY2021 baseline emissions profile to its near-term and long-term science-based targets. The roadmap integrates operational decarbonisation measures, supply chain interventions and carbon project opportunities into a single pathway that aligns with SBTi requirements while supporting Australia's broader climate objectives. The modelling was undertaken by South Pole using a combination of baseline emissions data, intervention-specific abatement assumptions and projected business growth scenarios. The resulting pathway was subsequently reviewed and validated during Milestone 8 to confirm consistency with SBTi requirements and target trajectories.

A key finding of the roadmap development process was that emissions reductions cannot be achieved through operational improvements alone. While significant opportunities exist within processing operations, the majority of emissions occur within the upstream supply chain. Consequently, the roadmap adopts a whole-of-value-chain approach that combines on-plant emissions reductions with interventions targeting livestock production, feed systems, land management and manure management.

5.3.2 Roadmap Structure

The roadmap was developed around two distinct but interconnected emissions pathways:

1. Non-FLAG emissions pathway, covering Scope 1, Scope 2 and non-FLAG Scope 3 emissions.
2. FLAG emissions pathway, covering land-based and livestock-related Scope 1 and Scope 3 emissions.

This separation reflects the different emissions sources, technologies and reduction rates applicable to each category. Non-FLAG emissions are primarily associated with energy consumption, fuel use, transport and industrial activities and generally have access to mature decarbonisation technologies. FLAG emissions are predominantly biological in nature and are therefore dependent on improvements in livestock systems, manure management and agricultural practices.

The roadmap modelling demonstrates that both pathways are required to achieve the overall emissions reductions necessary to align with a 1.5°C trajectory.

5.3.3 Operational Decarbonisation (Scope 1 and Scope 2)

The operational component of the roadmap focuses on reducing emissions associated with processing activities through improvements in energy efficiency, fuel use and energy sourcing.

The first stage of operational decarbonisation involves the implementation of energy efficiency measures across processing facilities. These measures include optimisation of refrigeration systems, heat recovery, process efficiency improvements and equipment upgrades. Energy efficiency projects provide immediate emissions reductions while also reducing operating costs and improving facility performance.

The second stage involves the transition from fossil fuels to lower-emissions energy sources. This includes the progressive replacement of natural gas with renewable alternatives such as biogas. Electrification of suitable plant processes is also expected to contribute significantly to long-term emissions reductions as the electricity grid continues to decarbonise.

Renewable electricity procurement represents a further opportunity to reduce Scope 2 emissions. As electricity-related emissions are relatively straightforward to address compared with biological emissions, the roadmap assumes that a significant proportion of Scope 2 emissions can be eliminated over time through a combination of renewable electricity sourcing and electrification of fossil fuel-based processes.

Table 5-6: Key Operational Decarbonisation Measures

Intervention Category	Primary Scope	Expected Contribution
Energy efficiency	Scope 1 & 2	Immediate emissions reduction and cost savings
Refrigeration optimisation	Scope 1 & 2	Reduced electricity consumption
Renewable electricity procurement	Scope 2	Significant reduction in purchased electricity emissions
Electrification	Scope 1	Long-term elimination of combustion emissions
Biogas substitution	Scope 1	Reduced reliance on fossil natural gas
Hydrogen readiness	Scope 1	Future decarbonisation opportunity

5.3.4 FLAG Emissions Reduction Pathway

The FLAG component of the roadmap focuses on reducing emissions associated with livestock production systems and agricultural inputs. As identified in the baseline assessment, these emissions represent approximately half of total emissions and are dominated by methane and nitrous oxide.

Enteric methane reduction was identified as the most significant abatement opportunity within the FLAG category. Feed additives capable of reducing methane production within the rumen offer one of the largest single opportunities to reduce livestock-related emissions. However, widespread adoption across supply chains remains dependent on commercial availability, producer acceptance and verification systems.

Improvements in livestock productivity also contribute to emissions reductions by reducing emissions intensity per unit of production. Better genetics, animal health, reproductive performance and feed conversion efficiency all reduce emissions associated with producing livestock and dairy inputs.

Feed production and fertiliser management were also identified as important intervention areas. Improved fertiliser management, precision agriculture and regenerative feed production systems reduce both direct and indirect emissions while also delivering broader environmental benefits.

Table 5-7: Key FLAG Reduction Measures

Intervention Category	Primary Emissions Source	Reduction Mechanism
Feed additives	Enteric methane	Reduced methane production
Livestock productivity	Livestock systems	Lower emissions intensity
Fertiliser optimisation	Feed production	Reduced N ₂ O emissions
Regenerative agriculture	Land management	Reduced emissions and improved carbon outcomes
Feed sourcing improvements	Supply chain	Lower embedded emissions

5.3.5 Manure and Effluent Management

Methane emissions from manure and effluent management were identified as a significant source of abatement potential and a key area where inventory reductions and carbon project development intersect.

South Pole's methane capture and emissions avoidance studies assessed both anaerobic digestion systems and solids separation technologies under the Australian Emissions Reduction Fund (ERF) Animal Effluent Management methodology. The analysis demonstrated that anaerobic digestion systems have the potential to deliver substantial methane abatement while simultaneously producing biogas that can displace fossil fuels. Similarly, solids separation systems can significantly reduce methane formation by removing volatile solids before anaerobic decomposition occurs.

The roadmap therefore incorporates manure management improvements as a priority intervention because they contribute simultaneously to:

- ◆ FLAG emissions reductions;
- ◆ renewable energy generation;
- ◆ operational fuel substitution; and
- ◆ Australian Carbon Credit Unit (ACCU) generation.

This dual benefit makes effluent management one of the most strategically valuable intervention categories within the overall roadmap.

5.3.6 Transport and Logistics

Transport and logistics emissions contribute to the non-FLAG Scope 3 inventory and represent an important area for long-term decarbonisation.

The roadmap identifies opportunities through:

- ◆ fleet efficiency improvements;
- ◆ route optimisation;
- ◆ increased use of lower-emissions fuels;
- ◆ progressive fleet electrification; and
- ◆ supplier engagement programs.

While transport emissions represent a smaller proportion of total emissions than livestock-related sources, they remain important due to their visibility within customer sustainability requirements and supply chain reporting frameworks.

5.3.7 Residual Emissions and Remaining Gap

Despite the substantial reductions achieved through the intervention portfolio, the roadmap indicates that residual emissions remain under both the 2030 and 2050 scenarios. This is particularly evident within FLAG emissions, where biological processes limit the extent to which methane and nitrous oxide emissions can currently be eliminated. Similar residual emissions remain within non-FLAG Scope 3 categories such as purchased goods and services, upstream transport and capital goods.

These residual emissions highlight the importance of complementary carbon sequestration and removal activities. Consequently, the roadmap incorporates a portfolio of carbon projects designed to provide additional emissions reductions and removals while supporting broader sustainability objectives.

Table 5-8: Conceptual Emissions Reduction Pathway

Stage	Description
Baseline (FY2021)	Validated Scope 1, 2 and 3 emissions inventory
Business-as-usual growth	Increased emissions associated with production growth
Operational interventions	Energy, fuel and process reductions
FLAG interventions	Livestock, feed and manure reductions
Carbon projects	Soil carbon, environmental planting and effluent projects
Residual emissions	Remaining hard-to-abate emissions requiring long-term management

5.3.8 Strategic Implications

The roadmap demonstrates that no single intervention is capable of delivering the required emissions reductions. Instead, success depends on coordinated implementation across operations, suppliers, producers and land managers.

The modelling confirms that achieving SBTi-aligned reductions requires simultaneous investment in operational efficiency, energy transition, livestock emissions reduction, manure management and carbon sequestration. The roadmap also highlights the strategic importance of engaging suppliers and producers, as a significant proportion of emissions occur outside Midfield's direct operational control.

Most importantly, the roadmap demonstrates that science-based targets can be achieved through a practical combination of available technologies, emerging innovations and carbon project development, providing a credible pathway for decarbonisation across the red meat processing value chain.

5.4 Carbon Project Development and Insetting Strategy

5.4.1 Overview

Carbon project development has been a core component of this project since its inception and serves two important functions within the overall decarbonisation strategy. Firstly, carbon projects provide additional emissions reductions and removals that complement direct inventory reductions achieved through operational and supply chain interventions. Secondly, they create opportunities to generate Australian Carbon Credit Units (ACCUs), which may provide an additional revenue stream or contribute to long-term insetting strategies, depending on how credits are managed and accounted for.

Throughout the project, multiple Emissions Reduction Fund (ERF) methodologies were assessed to determine their suitability for implementation across the business and its supply chain. The assessment focused on identifying projects that were technically feasible, commercially viable and capable of delivering measurable emissions reductions or carbon sequestration outcomes.

The analysis undertaken identified three primary project categories with strong potential for implementation:

1. Soil carbon sequestration;
2. Environmental planting; and
3. Animal effluent management.

Together, these project types provide a diversified portfolio of carbon abatement opportunities that align with both emissions reduction objectives and broader environmental outcomes.

5.4.2 Soil Carbon Sequestration

Soil carbon sequestration was identified as one of the most significant long-term opportunities available within the supply chain. Soil carbon projects increase the amount of carbon stored within agricultural soils through changes in land management practices such as grazing management, pasture improvement, reduced soil disturbance and improved ground cover management.

Early project assessments undertaken by South Pole identified substantial opportunities across the property portfolio. Initial modelling estimated approximately 65,000 ACCUs could be generated from the first group of assessed properties over the project permanence period, with total potential increasing significantly as additional properties are incorporated into the program. Milestone 8 reported that this opportunity could increase to approximately 180,000 ACCUs as project scale expands across the broader landholding portfolio.

Beyond carbon sequestration, soil carbon projects deliver several co-benefits that align with broader sustainability objectives. Increased soil organic carbon can improve water holding capacity, pasture productivity, drought resilience and overall soil health. These outcomes support both emissions reduction and agricultural productivity objectives, making soil carbon one of the most strategically attractive opportunities identified during the project.

5.4.3 Environmental Planting

Environmental planting was assessed as a complementary sequestration pathway capable of delivering long-term carbon removals while generating biodiversity and landscape benefits.

The environmental planting assessment focused on identifying areas suitable for revegetation and native vegetation establishment under approved ERF methodologies. Initial project modelling estimated approximately 20,000 ACCUs could be generated from identified planting opportunities.

While the carbon sequestration potential of environmental planting is generally lower than that of large-scale soil carbon programs, these projects provide important co-benefits including biodiversity enhancement, habitat creation, improved water quality and landscape resilience. As a result, environmental planting contributes not only to emissions reduction objectives but also to broader environmental stewardship outcomes.

5.4.4 Animal Effluent Management

Animal effluent management represents one of the most significant emissions avoidance opportunities identified through the project. Detailed technical assessments were undertaken by South Pole through the Methane Capture and Emissions Avoidance Strategy and subsequent solids separation studies.

The assessment examined two primary pathways:

- Methane capture through anaerobic digestion systems; and

- Methane avoidance through solids separation and manure management improvements.

Under anaerobic digestion systems, methane generated from manure decomposition is captured and combusted, significantly reducing greenhouse gas emissions while creating opportunities for renewable energy generation through biogas utilisation. South Pole's analysis demonstrated that methane capture projects can generate several thousand tonnes of carbon dioxide equivalent (tCO₂e) abatement annually depending on facility size, biogas production rates and system configuration.

Solids separation systems were also assessed as a means of reducing methane generation by removing volatile solids before anaerobic decomposition occurs. Additional analysis undertaken on farm confirmed the technical feasibility of this approach and quantified potential emissions reductions associated with solids separation and subsequent treatment pathways.

A particularly important finding from this work was that effluent management projects provide multiple benefits simultaneously. In addition to generating ACCUs, these projects contribute directly to Scope 3 FLAG emissions reductions and can also support operational decarbonisation through biogas production and fossil fuel displacement.

5.4.5 Carbon Credits, Insetting and Accounting Considerations

A significant focus was understanding the interaction between carbon projects and science-based emissions reduction targets. While ERF projects generate ACCUs, SBTi requires that companies prioritise direct inventory reductions before relying on carbon removals or offsets. This creates important accounting considerations regarding how carbon credits are used and reported.

Where ACCUs are sold externally, the associated emissions reductions cannot also be claimed as contributing to the organisation's own emissions reduction targets. Doing so would create a double-counting risk and undermine the integrity of emissions reporting. Conversely, where credits are retained and retired internally, they may contribute to residual emissions management, subject to evolving SBTi and Greenhouse Gas Protocol guidance relating to removals, permanence and traceability.

The analysis undertaken throughout the project indicates that a balanced approach is likely to provide the greatest long-term value. Some projects may be used to generate revenue through ACCU sales, helping finance future decarbonisation investments. Others may be retained to support long-term net-zero objectives and management of residual emissions that cannot be eliminated through direct abatement measures.

5.4.6 Strategic Role within the Decarbonisation Pathway

The carbon project portfolio developed through this project should not be viewed as a substitute for direct emissions reductions. Rather, it represents a complementary mechanism that supports the broader decarbonisation strategy.

The emissions reduction roadmap demonstrates that the majority of required reductions must come from operational improvements, energy transition and supply chain interventions. Carbon projects provide additional flexibility by delivering removals, generating ACCUs and supporting management of residual emissions. They also create opportunities to engage producers and landholders directly in the decarbonisation process, extending emissions reduction activities beyond processing operations and into the broader supply chain.

Collectively, the soil carbon, environmental planting and animal effluent management projects identified through this project establish a scalable platform for long-term carbon management. They also provide an important example of how inventory reductions, carbon sequestration and emissions avoidance can be integrated into a single, coherent strategy that aligns with SBTi requirements, Australia's national climate objectives and emerging customer expectations

5.5 Validation of the Emissions Reduction Roadmap Against SBTi Requirements

A key outcome of this project was the validation of the emissions reduction roadmap against the requirements of the Science Based Targets initiative (SBTi), including both the Corporate Net-Zero Standard and Forest, Land and Agriculture (FLAG) guidance.

The review confirmed that the roadmap is consistent with a science-based 1.5°C pathway and incorporates separate reduction trajectories for FLAG and non-FLAG emissions. The selected targets were tested using SBTi tools and sectoral pathways to ensure that absolute emissions reductions are achieved under projected business growth scenarios. The assessment also confirmed that the proposed intervention portfolio addresses the major emissions hotspots identified within the baseline inventory and provides a credible pathway towards achieving both near-term and long-term emissions reduction targets.

Importantly, the validation exercise demonstrated that alignment with SBTi requirements can be achieved while also supporting Australia's national climate objectives and the red meat sector's contribution to those objectives. The roadmap combines operational decarbonisation, supply chain interventions and carbon project development within a single framework, ensuring that emissions reductions are driven primarily through direct abatement while maintaining a role for carbon sequestration and removals in addressing residual emissions.

The validation process therefore provides confidence that the emissions reduction pathway developed through this project is technically robust, aligned with recognised international frameworks and capable of supporting long-term decarbonisation across the red meat processing value chain.

6.0 Industry Implications and Key Learnings

A central objective of this project was to understand how science-based target frameworks influence emissions reduction decision-making within the Australian red meat processing sector and to demonstrate how processors can balance customer-driven climate requirements with broader national and industry expectations. The project has shown that while these frameworks are often perceived as competing priorities, they are largely complementary and can be integrated into a single decarbonisation strategy when supported by robust emissions data, science-based target setting and a structured portfolio of abatement measures.

One of the most significant findings is that the adoption of SBTi and FLAG fundamentally changes how emissions reduction opportunities are prioritised. Historically, emissions reduction strategies within the red meat sector have often focused on operational emissions, such as energy efficiency, fuel switching and renewable electricity procurement. While these measures remain important, the emissions baseline developed through this project confirms that the majority of emissions occur within the supply chain, particularly through livestock production, feed systems and manure management. As a result, alignment with SBTi requires organisations to prioritise interventions that target these material Scope 3 emissions sources rather than focusing solely on emissions that occur within direct operational control.

The separation of emissions into FLAG and non-FLAG categories further influences project selection and investment priorities. Non-FLAG emissions can generally be reduced through well-established technologies such as energy efficiency, electrification and renewable energy procurement. In contrast, FLAG emissions require interventions that address biological processes, including feed additives, livestock productivity improvements, manure management and regenerative agricultural practices. This distinction means that processors seeking to align with SBTi must increasingly engage with producers and suppliers to achieve meaningful reductions across their value chains. The

project demonstrates that successful decarbonisation is therefore dependent not only on operational improvements but also on the ability to influence emissions outcomes beyond the processing facility boundary.

The project also highlights the importance of distinguishing between inventory-based emissions reductions and project-based carbon abatement. SBTi places primary emphasis on reducing emissions within the greenhouse gas inventory, whereas carbon projects developed under the Emissions Reduction Fund generate Australian Carbon Credit Units (ACCUs) through sequestration or emissions avoidance activities. While both approaches contribute to climate outcomes, they are accounted for differently and must be carefully managed to avoid double counting and maintain reporting integrity. The work undertaken through this project demonstrates that carbon projects are most effective when viewed as complementary to direct emissions reductions rather than as substitutes for them. Soil carbon, environmental planting and animal effluent management projects provide important opportunities to address residual emissions and support long-term net-zero objectives, but they do not remove the need for substantial reductions across livestock, feed and energy systems.

Another key learning relates to the role of methane reduction within the sector. The emissions baseline and roadmap modelling consistently identified enteric methane and manure-related emissions as among the largest contributors to the overall inventory. Consequently, interventions targeting methane provide some of the most significant opportunities for achieving near-term reductions. This finding is particularly relevant given the increasing focus of national and international climate policy on methane as a short-lived climate pollutant. Technologies and management practices that reduce methane emissions are therefore likely to become increasingly important components of future decarbonisation strategies across the red meat industry.

The project further demonstrates that achieving science-based targets requires a long-term perspective. Many of the interventions required to reduce FLAG emissions, including changes to livestock systems, soil carbon projects and environmental planting, deliver benefits over extended timeframes and require ongoing participation from producers and landholders. Similarly, transitions to electrification, renewable fuels and low-emissions transport systems are dependent on technology development and supporting infrastructure. The roadmap therefore reinforces the need for staged implementation pathways that combine currently available solutions with emerging technologies that are expected to become commercially viable over time.

Importantly, the analysis undertaken demonstrated that science-based targets and Australia's national climate objectives are not competing frameworks but rather operate at different levels. National climate targets establish the overall direction of emissions reduction across the economy, while SBTi provides a framework for determining the contribution expected from individual organisations. By aligning emissions reduction pathways with both frameworks, processors can satisfy customer expectations, contribute to national emissions reduction goals and position themselves favourably within increasingly carbon-conscious domestic and export markets.

Overall, this project provides a practical example of how a red meat processor can develop a scientifically credible, commercially relevant and operationally achievable decarbonisation pathway. The findings demonstrate that meaningful emissions reductions are achievable through a combination of operational improvements, supply chain engagement and carbon project development, and that the integration of these approaches provides a robust foundation for long-term climate action across the Australian red meat sector.

7.0 Conclusions / Recommendations

This project has demonstrated a practical and technically robust pathway for a large Australian red meat processor to align its greenhouse gas management framework with both science-based climate targets and Australia's broader climate policy objectives. Through the integration of greenhouse gas accounting, emissions reduction target setting,

intervention modelling and carbon project development, the project has established a comprehensive framework for managing emissions across Scope 1, Scope 2 and Scope 3 sources.

A key outcome of the project was the development and validation of a complete greenhouse gas baseline that distinguishes between FLAG and non-FLAG emissions. The baseline confirmed that supply chain emissions dominate the overall inventory and that approximately half of total emissions are associated with livestock production, feed systems, manure management and other land-based activities. This finding reinforces the importance of addressing emissions beyond the processing facility and highlights the critical role of producers and suppliers in achieving long-term emissions reduction objectives.

The project further demonstrated that science-based targets can be successfully applied within the red meat processing sector. Validation undertaken confirmed that the emissions reduction roadmap is consistent with the requirements of the Science Based Targets initiative (SBTi), including both the Corporate Net-Zero Standard and FLAG guidance. The resulting pathway establishes credible near-term and long-term reduction trajectories for both FLAG and non-FLAG emissions while maintaining alignment with Australia's legislated emissions reduction targets and the industry's broader contribution to national net-zero objectives.

A significant insight from the work is that meaningful emissions reductions cannot be achieved through operational improvements alone. While energy efficiency, electrification and renewable energy procurement remain important components of the roadmap, the majority of long-term abatement potential lies within livestock systems, feed production, manure management and land management practices. Consequently, future emissions reductions will depend on strong engagement across the value chain and the successful adoption of emissions reduction practices by producers and suppliers.

The project also confirmed the strategic value of carbon projects as part of a broader decarbonisation portfolio. Soil carbon sequestration, environmental planting and animal effluent management projects all demonstrated potential to contribute to long-term emissions reduction objectives while generating Australian Carbon Credit Units (ACCUs). However, the project highlighted that these initiatives should be viewed as complementary to direct emissions reductions rather than replacements for them. Effective management of carbon credits, removals and inventory accounting will be critical to maintaining alignment with evolving SBTi and Greenhouse Gas Protocol requirements.

Importantly, the project has shown that science-based targets, carbon project development and national climate objectives can be integrated into a single, coherent strategy. Rather than creating competing priorities, these frameworks collectively encourage a balanced approach that combines operational efficiency, supply chain transformation and carbon sequestration. The resulting roadmap provides a practical example for the broader Australian red meat processing sector and demonstrates how processors can respond to increasing customer, regulatory and market expectations while maintaining commercial viability.

Based on the outcomes of this project, several recommendations have been identified to support successful implementation of the emissions reduction roadmap and to strengthen long-term alignment with science-based climate objectives.

The first recommendation is to formalise governance arrangements for emissions reduction and climate strategy implementation. While the project has established a comprehensive roadmap, successful delivery will require clear accountability, executive oversight and integration of emissions reduction objectives into business planning and investment decisions. Establishing formal governance structures will help ensure that emissions reduction activities remain aligned with operational priorities and evolving market expectations.

The second recommendation is to prioritise implementation of the highest-impact emissions reduction opportunities identified through the roadmap. Particular focus should be placed on interventions that address enteric methane, manure management and feed-related emissions, as these represent the largest emissions sources within the

inventory. Early adoption of these measures will maximise progress towards both near-term and long-term emissions reduction targets and help reduce future implementation risks.

A third recommendation is to strengthen supply chain engagement programs. Given the significance of Scope 3 emissions, meaningful reductions cannot be achieved without active participation from producers, suppliers and service providers. Future work should focus on building emissions reporting capability, supporting adoption of low-emissions production practices and improving the availability of primary emissions data across the supply chain. Greater transparency and data quality will improve emissions accounting accuracy and enable more effective targeting of abatement activities.

The fourth recommendation is to continue progressing carbon project development across the identified project portfolio. Soil carbon, environmental planting and animal effluent management projects have demonstrated strong potential to contribute to long-term emissions reduction objectives while creating additional environmental and commercial benefits. Continued development and registration of these projects will help establish a pipeline of sequestration and avoidance opportunities capable of supporting future net-zero objectives.

A fifth recommendation is to establish a formal carbon credit and insetting policy. As carbon projects progress and ACCUs are generated, it will become increasingly important to define how credits are managed, whether credits are sold or retained, and how they contribute to organisational emissions reduction objectives. Clear internal policies will reduce the risk of double counting and ensure consistency with future SBTi and Greenhouse Gas Protocol guidance.

The sixth recommendation is to maintain periodic review and updating of the emissions baseline and reduction roadmap. Emissions factors, technologies, climate policies and SBTi requirements are expected to continue evolving over time. Regular review cycles will ensure that targets remain relevant, opportunities for additional abatement are identified, and progress can be tracked against established milestones.

Finally, the project recommends that the lessons learned through this work be shared more broadly across the Australian red meat processing sector. The methodology, target-setting approach and intervention framework developed through this project provide a practical model for other processors seeking to align with science-based targets while contributing to Australia's long-term climate objectives. Wider adoption of similar approaches would support sector-wide emissions reductions and strengthen the industry's ability to respond to future customer, market and regulatory requirements.

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