



# Sustainability

*Impact* Report

2023

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**Key contact:** Edwina Clowes  
Manager – Sustainability Frameworks and Stakeholders  
Email: [eclowes@mla.com.au](mailto:eclowes@mla.com.au)

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# Foreword *from the Minister*

Aussie producers work in some of the harshest environments and most variable conditions on Earth – but conditions are getting harder.

Producers are feeling the impacts of climate change, through violent storms, intense flooding and prolonged drought. Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) modelling shows changing seasonal conditions due to climate change have reduced the average Australian farm's profitability by 23% over the past 20 years.

Climate change is hitting producers' bottom line and the need for sustainable production has never been greater. To maintain and grow new markets overseas, we must also demonstrate the best possible sustainability practices to meet consumer expectations. Our international markets are increasingly demanding sustainable practices and, in some cases, are willing to pay a premium for it.

During my trade talks in Europe earlier in the year, I was struck by how vital promoting our sustainable credentials is to the future of Australian agriculture.

I had many discussions with European agriculture ministers and industry players about the need to remember that a one-size-fits-all approach to sustainability won't work across the world. We all aspire to high environmental sustainability standards, but of course the way that Australia needs to tackle these is going to be very different to the way they're tackled in Europe, which has very different climate and farming systems.

Fortunately, many producers in Australia are already doing great work in this space, but we will need to do more and promote what we're doing.

Whenever I'm on-farm, no matter where in Australia, I'm impressed by the efforts of producers and industry to understand and reduce on-farm emissions, adapt to our new climate landscape, and share and adopt sustainable practices.

MLA's commitment to being carbon neutral by 2030 is just one key example of an Australian agriculture industry taking the front foot on climate action. I am always proud to promote MLA's commitment to Australians and the world.

The Albanese Government is keen to support this work. In the May Budget, we allocated over \$300 million to the Natural Heritage Trust to invest in new programs that build climate resilience and increase market access and agricultural growth, while supporting sustainability outcomes.

We are also investing \$38.3 million in boosting our collection and analysis of climate data to support a sustainable agriculture sector. ABARES will be funded to increase our understanding of the risks and opportunities of adopting new technologies and to help identify emerging issues as we transition to a lower emissions future.

Managing soil is a critical part of a climate-smart, productive and sustainable agricultural sector and that's why we have committed \$20 million to partner with states and territories to drive the implementation of the National Soil Action Plan, in addition to \$36 million for soil monitoring through the Natural Heritage Trust.

I commend the work of MLA's Australian Beef Sustainability Framework and Sheep Sustainability Framework, which both prioritise livelihoods, wellbeing, animal welfare and reducing environmental impact. These frameworks enable MLA to plan a sustainable Australian red meat future and I look forward to supporting that further.



**Senator the Hon Murray Watt**

**Minister for Agriculture, Fisheries and Forestry and Minister for Emergency Management.**

**“MLA's commitment to being carbon neutral by 2030 is just one key example of an Australian agriculture industry taking the front foot on climate action.”**

# Foreword *from the MD*

I am pleased to present MLA's *Sustainability Impact Report 2023*.

Sustainability is a critical part of the discussion when it comes to Australian red meat and livestock – both within our industry and more broadly through the community.

We know the Australian community has increasingly high expectations when it comes to agriculture and food production. At the same time, primary producers are also dedicated to improving – and to demonstrating – their sustainability credentials.

Transparent demonstration of commitments around environment, social and governance (ESG) is an increasing expectation of investors, multi-nationals and listed companies, driven by the information needs of shareholders and the broader community.

In that context, this report is a valuable resource that highlights the ongoing sustainability achievements of our industry, focusing on specific issues such as climate, animal welfare, natural resource management and much more.

Some of the highlights from MLA investments over the last year are:

- A new digital carbon calculator that provides a significant advancement on current static excel spreadsheets, enabling producers to calculate a baseline carbon account for their enterprise and product.
- The Australian Feedbase Monitor, which is a game-changer in enabling producers to accurately measure their feedbase status weekly and seasonally, and adjust their carrying capacity and grazing management practices in response to feed availability/seasonal changes.

- The release of the eNVD Livestock Consignments app by Integrity Systems Company (ISC). The app is overcoming connectivity barriers and enabling the transfer of livestock consignment information to be captured digitally and seamlessly, independent of location and connectivity.
- The Australian Beef Sustainability Framework has set the blueprint for the *Greenham Beef Sustainability Standard*.

We are also continuing our commitment to being carbon neutral by 2030 (CN30). To date, we have already invested over \$140 million into the CN30 initiative and plan for significant further investment over the next few years. Much more will be required, but we can already see that the industry is making progress.

The Australian red meat and livestock industry has lowered its greenhouse gas (GHG) emissions by 64.8% since the 2005 baseline year. Current emissions have dropped from 145.8Mt CO<sub>2</sub>e to 51.3Mt CO<sub>2</sub>e (per annum). This means that industry's contributions to national emissions have dropped from 22% in 2005 to 10.3% in 2020.

This report tells some of that story, diving deeper into the production of livestock in a way that demonstrates that we are environmentally, socially and financially responsible, with respect for our people, our animals and our natural resources today and for future generations. It tells the story of how MLA's sustainability programs have delivered impacts and outcomes over the last 12 months, especially when it comes to supporting our stakeholders to demonstrate their sustainability credentials.



A stylized, handwritten signature in black ink, appearing to read 'J Strong'.

**Jason Strong**

**Managing Director  
Meat & Livestock Australia**

“This report is a valuable resource that highlights the ongoing sustainability achievements of our industry, focusing on specific issues such as climate, animal welfare, natural resource management and much more.”

# About this report

As global markets, customers and investors accelerate their climate change and biodiversity commitments, Meat & Livestock Australia (MLA) – as a service provider to the Australian red meat and livestock industry – is strongly focused on providing our stakeholders with the science, technology and adoption practices they need to meet changing market expectations.

This report’s purpose is to highlight MLA’s sustainability-focused programs and projects that have achieved significant outcomes over the past 12 months and have supported our stakeholders’ progress in:

- demonstrating their sustainability performance
- unlocking supply chain pathways and opportunities.

MLA takes its strategic direction from *Red Meat 2030*, our industry’s 10-year strategic plan, which holds the red meat industry to the key objectives: to double the value of Australian red meat sales; to be the trusted source of the highest quality protein; and to achieve carbon neutrality by 2030.

MLA’s *Strategic Plan 2025* charts our strategic direction and the investment priorities that will contribute to the sustainability, profitability and global competitiveness of the Australian industry. Currently at the halfway mark of the plan, the imperatives of sustainability, traceability and biosecurity, as well as extension and adoption, are crucial going forward.

For sustainability investments to be impactful and to be valued by the supply chain, they must improve our stakeholders’ financial performance, the stewardship of their land and the natural resource base, and their resilience to climate change impacts and extreme weather events.

Above all else, our sustainability investments must be scientifically proven and evidence-based, and our practice pathways must be focused on building capacity and capability in our sector and our people to meet evolving market opportunities.

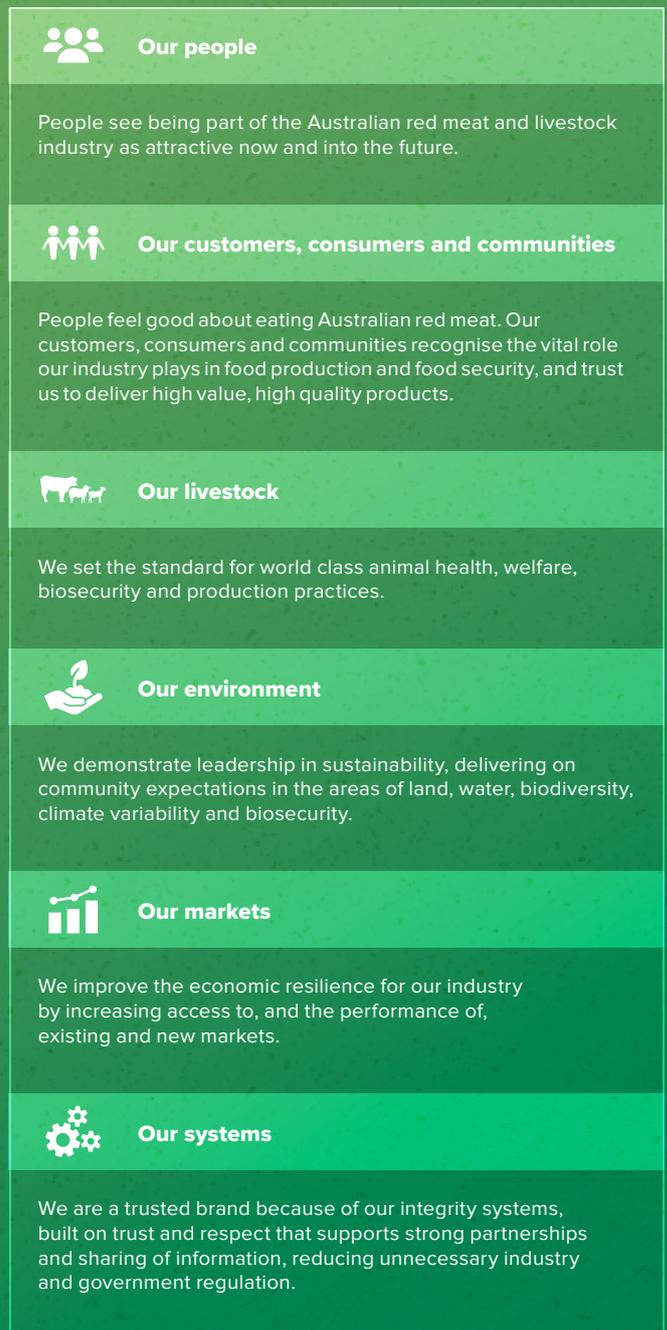
As custodians to over half the nation’s land mass, producers are more exposed than most to the vagaries of drought, extreme weather and climate change, so our sustainability investments must focus on our livestock and our environment. Positive impacts from our livestock and environment investments contribute to meeting the needs of our customers, consumers and community, and to building trade access and robust markets for our products.

This report cannot do justice to the breadth and depth of sustainability investments across MLA’s programs, priorities and projects. Rather, it seeks to highlight those initiatives that have achieved significant impact regarding sustainability over the past 12 months.

📖 Read MLA’s *Strategic Plan 2025* at [mla.com.au/strategic-plan-2025](https://mla.com.au/strategic-plan-2025)

📖 Read *Red Meat 2030* at [rmac.com.au/red-meat-2030](https://rmac.com.au/red-meat-2030)

Figure 1: The six industry priorities outlined in *Red Meat 2030*



# Sustainability highlights 2022–23



In 2020, the Australian red meat sector

**reduced CO<sub>2</sub>e emissions by 64.8%**

since the 2005 baseline. This is a reduction in industry's proportion of national greenhouse gas emissions from 22% in 2005 to 10.3% in 2020.

The Australian Beef Sustainability Framework (ABSF) set the blueprint for the **Greenham Beef Sustainability Standard**.

The **Sheep Sustainability Framework** garnered **strong support at its inaugural stakeholder engagement events** – the industry forum and external stakeholder consultative committee forum.



**New and improved MERINOSELECT Indexes**

incorporating key sustainability traits were developed.



The Australian beef industry **announced new sustainability goals**.



First **Australian beef collagen supplements shipped** to the United States.

**68.5%**



**of Australian natural resource management regions are achieving above healthy ground cover thresholds**, protecting soil health and ecosystem services.

MLA invested in Australia's **first mRNA vaccine**, enabling rapid mass production of a vaccine for lumpy skin disease (LSD) once registered for use in Australia (if a vaccine is required).





## A digital carbon calculator

to help producers set up carbon accounts was released.



**Carbon eLearning modules are now available** to boost producers' understanding of carbon accounts and markets.

## Australia remains free of all exotic diseases



and has escalated its responsiveness to foot-and-mouth disease and lumpy skin disease.

Integrity Systems Company released its **eNVD Livestock Consignments app**, overcoming connectivity and improving transparency and traceability of livestock movements.



The **world-first Australian Feedbase Monitor tool was launched**, now supporting more than 1,900 producers (covering 2,400 farms) with their grazing management decisions.



## Bioenergy overtook on-site coal use

as the third largest source of energy in the Australian red meat processing sector.



**CN30 Co-Innovation Program** supply chain partners completed their initial carbon baselines.

# 43.7%

**of cattle producing land managed for biodiversity through active management,**

including weed and pest management, prescribed burning, revegetation and soil remedy work.



# Overview

## International policy environment

International markets and governments, investors and customers have made significant progress over the past 12 months in their commitments to a sustainable future.

World leaders and policy makers met at both COP27 (the 27th United Nations Climate Change Conference in Sharm El-Sheik, Egypt in November 2022) and COP15 (the United Nations Biodiversity Convention in Montreal, Canada in December 2022).

### 27th United Nations Climate Change Conference (COP27)

COP27 highlighted the vulnerability of food systems to climate-induced catastrophic events and the potential consequences of displaced people and diminished food production.

The conference delivered a historic breakthrough agreement, with member countries agreeing to a loss and damages fund for vulnerable countries hardest hit by climate disasters and to work through the necessary funding arrangements. The conference also acknowledged that the global transition to a low-carbon economy will require a comprehensive transformation of the financial system and substantial financial resources.

In reaffirming their commitment to limiting the global temperature rise to the Paris Agreement of 1.5°C above pre-industrial levels, COP27 member countries further defined the mitigation work program required to scale up implementation. This will enable countries to step up their mitigation of greenhouse gas emissions, adapt to climate change impacts and improve transparency and accountability of commitments by businesses and institutions.

For more information about COP27 visit [cop27.org](https://cop27.org)

### 2022 UN Biodiversity Conference (COP15)

COP15, the 2022 UN Biodiversity Conference, also reached a landmark agreement – the signing of the Kuming-Montreal Global Biodiversity Framework (GBF) by participating nations. The Framework aims to halt extinction of known threatened species, significantly reduce extinction risk and reduce the rates of introduction and establishment of invasive species by at least 30% by 2030.

Participating nations agreed to ensure at least 30% of terrestrial, inland water and marine resources are conserved and managed by 2030, to reduce the impact of climate change on biodiversity and to mainstream biodiversity into government and business decision making.

For more information about the UN Biodiversity Conference (COP 15) visit [unep.org/un-biodiversity-conference-cop-15](https://unep.org/un-biodiversity-conference-cop-15)

## The European Union

### The European Green Deal

The European Green Deal is an ambitious plan to transform the EU into a modern, resource-efficient and competitive economy and become the first climate-neutral continent.

Policies developed under the EU Green Deal include the Sustainable Finance Strategy (SFS), the Farm to Fork Strategy, the Carbon Border Adjustment Mechanism (CBAM) and regulations including a Corporate Sustainability Reporting Directive and a proposed EU deforestation-free supply chain regulation. While Australian agriculture is currently exempt from the CBAM, the EU deforestation regulations hold potential implications for market access for Australian agricultural exports.

For more information about the European Commission Green Deal visit [commission.europa.eu/european-green-deal](https://commission.europa.eu/european-green-deal)

### Regulation to curb EU-driven deforestation and forest degradation

The EU deforestation regulation will require specific commodities placed on the EU market, including beef, to demonstrate that they have been produced in accordance with relevant legislation of their country of production and without deforestation or forest degradation after December 2020. The new regulation sets strong mandatory due diligence requirements, including the demonstration of geographic location where the goods have been sourced and evidence the produce is deforestation-free.

For more information about the Regulation to curb EU-driven deforestation and forest degradation visit [environment.ec.europa.eu/topics/forests/deforestation/regulation-deforestation-free-products\\_en](https://environment.ec.europa.eu/topics/forests/deforestation/regulation-deforestation-free-products_en)

## United States Inflation Reduction Act

The United States government has committed to an emissions reduction target of 50–52% below 2005 levels by 2030 and net zero by 2050. The US administration has recently signed into law the *Inflation Reduction Act*, aimed at accelerating the decline in greenhouse gas emissions through the development and deployment of clean energy technologies and investments to decarbonise the US economy. The administration also recently released the National Capital Accounting Strategy to embed nature into the nation's balance sheet, while the US Securities and Exchange Commission is expected to release a final position on climate risk disclosure rules this year.

For more information about the *Inflation Reduction Act* visit [whitehouse.gov/cleanenergy/inflation-reduction-act-guidebook](https://whitehouse.gov/cleanenergy/inflation-reduction-act-guidebook)

## Australian policy environment

### Nationally Determined Contributions commitment

As part of its commitment to address climate change, the Albanese Government has updated its Nationally Determined Contributions with the United Nations Framework Convention on Climate Change Secretariat. The Nationally Determined Contributions commit Australia to a more ambitious emissions reduction target of 43% below 2005 levels by 2030 and net zero by 2050, which has now been enshrined in legislation. The government established the new Department of Climate Change, Energy, the Environment and Water to oversee the Government's *Climate Change Bill* and commitments.

Major emissions commitments and priorities include the Rewiring the Nation initiative, a \$20 billion investment to rebuild and modernise Australia's electricity network; the National Electric Vehicle Strategy to support the rapid transition to electric vehicles and required infrastructure; and the National Reconstruction Fund to build Australia's industrial base towards clean energy investment.

📄 To read about Australia's Nationally Determined Contributions commitment visit [dcceew.gov.au/about/news/australia-submits-new-emissions-target-to-unfccc](https://dcceew.gov.au/about/news/australia-submits-new-emissions-target-to-unfccc)

### Clean Energy Regulator

The Clean Energy Regulator is tasked with managing key programs aimed at accelerating carbon abatement. These include the large-scale renewable energy target to encourage investment in large-scale renewable power stations; the small-scale renewable energy scheme to encourage the adoption of small-scale/household renewables; and the safeguard mechanism requiring Australia's largest greenhouse gas emitters to keep their net emissions below a prescribed baseline.

📄 Clean Energy Regulator [cleanenergyregulator.gov.au](https://cleanenergyregulator.gov.au)

### COP26 Global Methane Pledge

In the past 12 months, the Australian Government became a signatory to the COP26 Global Methane Pledge, the collective ambition to reduce methane emissions by 30% from 2020 levels by 2030. It also became a signatory to the Kuming-Montreal Global Biodiversity Framework to protect 30% of Australia's lands and seas by 2030, work towards zero new extinctions and to develop a nature repair market, aligned to the climate active carbon neutral market.

📄 For more information about the Global Methane Pledge visit [iea.org/reports/global-methane-tracker-2022/the-global-methane-pledge](https://iea.org/reports/global-methane-tracker-2022/the-global-methane-pledge)

### Nature Positive Plan

Through the Department of Climate Change, Energy, the Environment and Water, the Australian Government released its *Nature Positive Plan* – a response to the independent review of the *Environment Protection and Biodiversity Conservation Act 1999* and the *2021 State of the Environment Report*, which highlighted the confronting deterioration of Australia's natural environment and its vulnerability to current and emerging threats.

The Plan commits to three essential principles:

1. Better environment and heritage outcomes
2. Better, faster decision-making and clear priorities
3. Accountability and trust.

📄 To read the *Nature Positive Plan* visit [dcceew.gov.au/sites/default/files/documents/nature-positive-plan.pdf](https://dcceew.gov.au/sites/default/files/documents/nature-positive-plan.pdf)

## Reporting and disclosure

Delivering on sustainability targets and reporting on environmental and social impacts is acknowledged as increasingly important to meeting societal expectations and to future investment and market access across major markets, investors, customers and their supply chains. Companies need to consider how they identify and collect sustainability-related information and build their capacity to include this information in their decision making. Specifically, governance, strategy and risk management processes need to reflect this capacity, while robust and verifiable data is needed to substantiate commitments and claims.

### Global Reporting Initiative

The Global Reporting Initiative (GRI) is the most widely used sustainability reporting standard. It is focused on how organisations communicate and demonstrate accountability for their impacts on the environment, economy and people.

During the past year, GRI's Global Sustainability Standard Board released a sector standard – *GRI 13: Agriculture, Aquaculture and Fishing Sectors*. GRI13 lists the specific topics relevant to agriculture such as food security, animal health and welfare, soil health and pesticide use, that require consideration as potential material topics for disclosure by reporting organisations.

📄 For more information about the Global Reporting Initiative sustainability reporting standard visit [globalreporting.org/about-gri](https://globalreporting.org/about-gri)

## EU Corporate Sustainability Reporting Directive

Earlier this year, the European Union's Corporate Sustainability Reporting Directive came into force, strengthening rules concerning the social and environmental information companies have to report. This applies to approximately 50,000 companies and the first reports are expected in 2025.

For more information about the EU's Corporate Sustainability Reporting Directive visit [finance.ec.europa.eu/corporate-sustainability-reporting](https://finance.ec.europa.eu/corporate-sustainability-reporting)

## International Sustainability Standards Board

Transparent reporting on environmental, social and governance outcomes is becoming an increasing expectation of listed companies, driven by the information needs of investors and shareholders. This is beginning to translate into corporate financial reporting. The International Sustainability Standards Board has released two sustainability standards – general disclosure requirements and climate-related financial disclosures, which are based on the recommendations of the Taskforce on Climate-related Financial Disclosures. Federal Treasury and the Australian Accounting Standards Board are developing a response for the Australian jurisdiction and a draft Australian standard for climate-related financial disclosures is expected to be released for consultation before the end of 2023.

For more information about the International Sustainability Standards Board visit [ifrs.org/groups/international-sustainability-standards-board](https://ifrs.org/groups/international-sustainability-standards-board)

## Taskforce on Climate-related Financial Disclosures

The recommendations of the Taskforce on Climate-related Financial Disclosures were released in 2017 and have since been adopted into global reporting standards. They include reporting on governance, risk, strategy and metrics and targets by organisations.

Another topic flagged for attention is nature and biodiversity. The Taskforce on Nature-related Financial Disclosures is focused on supporting a shift in global financial flows away from nature-negative and towards nature-positive outcomes, to support and enable more resilient business operations and opportunities for the financial and investment sector. The Taskforce released a final beta version this year and is hoping to follow a similar path to the Taskforce on Climate-related Financial Disclosures in finding an expression in financial and sustainability reporting standards in future.

For more information about the Taskforce on Climate-related Financial Disclosures visit [fsb-tcf.org/about](https://fsb-tcf.org/about)

For more information on Australia's response, visit [treasury.gov.au/consultation/c2023-402245](https://treasury.gov.au/consultation/c2023-402245)

## Target setting

In releasing the Forest, Land and Agriculture guidance, the Science Based Targets initiative has set the world's first standard methodology for companies in land-intensive sectors to set science-based targets that include land-based emissions reductions and removals to meet the ambition of the Paris Agreement.

In demonstrating their sustainability commitments, many multinational entities with subsidiaries based in Australia, as well as Australian companies, have committed to the Science Based Targets initiative by setting relevant targets and accounting for impacts.

Key requirements include setting long and short-term science-based targets and accounting for impact against targets, which include setting a zero-deforestation target for no later than 2025, as well as a target for emissions from use of fossil fuels.

For more information about the Science Based Targets initiative visit [sciencebasedtargets.org](https://sciencebasedtargets.org)

✔ David Allen's south-western Victorian grazing business is proof reducing on-farm emissions doesn't have to come at a price – 'Boorook', Mortlake, Victoria.



*Report to*  
**stakeholders**



# International markets

**MLA's international markets program fosters prosperity for the Australian red meat and livestock industry by measurably improving economic and technical market access and helping make Australia the preferred choice of customers and consumers globally.**

## Outcomes

### Trade agreements

Australia enjoys access to over 100 export markets and continues to forge new market opportunities via the Australia-UK Free Trade Agreement and the Australia-India Economic Cooperation and Trade Agreement.

The Australia-UK Free Trade Agreement (FTA) entered into force from May 2023, commencing the phasing out of red meat tariffs and the return of a historically significant market for Australian beef, sheepmeat and goatmeat. MLA initiated in-market advocacy, working closely with the Australian High Commission to supply evidence to support the UK parliamentary scrutiny process.

The Australia-India Economic Cooperation and Trade Agreement (ECTA) entered into force in December 2022. The ECTA will see the elimination of the 30% tariff applicable to Australian sheepmeat, placing Australian red meat in a pivotal position to capitalise on one of the world's fastest growing populations.

### Stepping up support for biosecurity measures

Australia is currently free of foot-and-mouth disease (FMD) and lumpy skin disease (LSD) and it remains industry's top priority to remain this way. The arrival of FMD and LSD in Indonesia in 2022 served as a salient reminder that biosecurity is critical to the overarching sustainability of the Australian red meat industry.

An outbreak of either disease in Australia would be devastating to our livestock and associated industries through international trade losses, market disruptions, animal health impacts and production losses. Ongoing biosecurity threats require industry

to constantly review and improve its biosecurity preparedness and actions. Robust preparations and plans are already in place or underway to protect the red meat industry.

The Australian red meat and livestock industry assisted in significantly escalating FMD and LSD biosecurity measures over the past year. Working closely with government and industry, MLA:

- committed up to \$1.3 million in funding to reimburse exporters for the costs of vaccinating Australian cattle entering Indonesian feedlots
- invested in the development and testing of mRNA vaccines that could be rapidly mass produced in Australia to protect against exotic disease outbreaks
- supported the development of an improved livestock identification and traceability system in Indonesia, targeting 14 million cattle
- contributed to the FMD and LSD Industry Taskforce set up under the red meat industry's crisis response process and its five skills-based committees, covering overseas in-country support; trade and protocols; diagnostic capability and vaccine development; domestic containment strategies; and communications
- joined with leaders from Australia's livestock industries to inspect the increased biosecurity measures in place at airports, from plane arrival through to baggage collection and exit
- provided an additional \$50,000 for the provision of six sets of portable yards to support vaccination of Indonesian cattle through local government vaccination programs
- communicated updates and developments to industry through a range of channels and partnerships, including a series of industry webinars.



UK Prime Minister Rishi Sunak and Australian Prime Minister Anthony Albanese welcoming the historic Australia-UK Free Trade Agreement coming into force. Image: Department of the Prime Minister and Cabinet.



AMIC CEO Patrick Hutchinson and MLA Managing Director Jason Strong inspect with Customs and Border Protection, the increased biosecurity measures at Sydney International Airport. Image: Department of Agriculture, Fisheries and Forestry.

# Australia's *Lumpy Skin Disease Action Plan* launched by Minister Murray Watt

An Australian-first plan to defend the cattle industry against lumpy skin disease (LSD) was launched by Minister for Agriculture, Fisheries and Forestry, Senator Murray Watt in Darwin in October 2022.

Minister Watt launched the *National Lumpy Skin Disease Action Plan* when he met with representatives from the cattle industry in Darwin, including MLA Chair Alan Beckett.

The Plan improves surveillance for the disease and increases the focus on LSD within the region. Its eight objectives include:

1. Strengthen collaboration and engagement within the region to strategically address the risks of LSD
2. Augment industry/government collaboration and communication on the border biosecurity risks of LSD to Australia and strategically address technical market access barriers
3. Ensure Australia's national diagnostic network provides reliable LSD testing capability and capacity
4. Optimise government and industry investment in LSD surveillance
5. Enhance LSD preparedness and emergency response capacity and capability of industries and governments, and clearly define roles and responsibilities
6. Facilitate stronger engagement between governments, industry and communities through a comprehensive and adaptable LSD communication strategy



MLA Chair Alan Beckett and Minister for Agriculture, Fisheries and Forestry Senator Murray Watt, at the launch of the *National Lumpy Skin Disease Action Plan* in Darwin, October 2022.

7. Improve Australia's LSD preparedness and response targeting research driven by industry and government priorities, and ensure new knowledge is freely accessible
8. Mitigate the economic and social effects of an outbreak of LSD by developing options for a recovery strategy.

Twenty-seven activities have been outlined to address the above objectives and improve Australia's preparedness for a potential incursion of LSD.

The Plan was developed with extensive consultation between the federal, state and territory governments, industry groups and non-governmental stakeholders. Representatives from the federal, state and territory governments and industry peak bodies will share responsibility for the implementation of the Action Plan.

To read the *National Lumpy Skin Disease Action Plan* visit [mla.com.au/nlsdap](http://mla.com.au/nlsdap)

# Animal wellbeing



**MLA's investment in animal wellbeing research, development and adoption safeguards Australia's livestock biosecurity and prioritises the wellbeing and proper care of our livestock. This, in turn, contributes to industry's economic and environmental sustainability.**

The principles guiding the animal wellbeing program include increased efficiency of animal production, improvements in on-farm animal welfare and consumer perceptions of animal welfare, and higher profits for producers.

The main two pillars of investment in the program are:

1. The development of safe, effective, long-acting vaccines and therapeutics. Investment in this pillar focuses on the development of vaccines and therapeutics utilising modern technology (novel delivery systems/antigens, sustained release formulations). The key focus is on endemic and exotic diseases, as well as vaccines that will prevent fertility in cattle in pastoral systems.
2. The mitigation of the impact of, and need to perform, surgical husbandry procedures. Investment in this pillar focuses on managing the downside risk of adverse consequences associated with either poor animal welfare outcomes or shifts in public sentiment related to red meat production welfare. Investments in this pillar are a continuation of the search for effective analgesia (efficacy and duration of effect) for unavoidable painful procedures like castration, tail docking and dehorning. The program continually seeks 'replacement' as the preferred strategy (particularly for invasive operations), although 'refinement' or 'relief' (from pain) may be required in the short and medium term. Solutions are assessed in terms of the 'average consumer' because consumer perceptions and perspectives are pivotal to continued social licence and to continued production and consumption of red meat.

## Outcomes

### mRNA vaccines

MLA's investment in the production and testing of mRNA vaccines, once proven, will enable the rapid mass production of the vaccine in the event of exotic disease outbreak. MLA has partnered with NSW Department of Primary Industries (Elizabeth McArthur Agricultural Institute) to develop vaccines for exotic (lumpy skin disease and foot-and-mouth disease) and endemic (border disease and pestivirus) diseases using mRNA technology. The project will develop vaccine constructs that have been tested for efficacy and safety, and submit these to the Australian Pesticide and Veterinary Medicine Authority to be registered for emergency in the case of exotic diseases, as well as commercial purposes.

The development of these vaccines, as well as the scientific platform that provides a sovereign capacity to produce vaccines for potentially several other endemic diseases, will help protect the Australian industry from the impact of a disease incursion or costly endemic disease.

The project will also increase Indonesian lot feeders' capacity to manage exotic disease incursions and their ability to meet Indonesian Government requirements for safe livestock production, transport and processing.

### Biosecurity support for Indonesia

MLA, in partnership with the Australian Government, commenced the delivery of a \$2 million, 18-month biosecurity support project in Indonesia.

The goal of this project is to protect Indonesian feedlots and facilities from lumpy skin disease (LSD) and foot-and-mouth disease (FMD) incursions and subsequent trade disruptions through the provision of technical biosecurity support. This will allow the continued purchase and sale of livestock to sustain livelihoods and avoid large financial loss.

The project will deliver two key outcomes:

1. Develop appropriate tools, resources and strategies to enable local commercial operators to effectively manage disease challenges within their businesses
2. Develop and implement a data collection and reporting system that traces feedlot cattle movements, vaccination roll-out progress and compliance with the Indonesian Government's disease management regulations and requirements.

The project is progressing well, with:

- 26 facilities receiving in-depth biosecurity consultancy from Ausvet
- 32 facilities visited by Ausvet biosecurity experts
- 26 facilities participating in training workshops on cost-effective biosecurity measures
- 15 technical manuals and materials developed to support Indonesia in combatting LSD and FMD outbreaks.

MLA's objective is to embed long-term strategies and measures that help secure continuity of the Australian live trade and assist in mitigating spread of the diseases more broadly.

## Demonstrating the benefits of transitioning to a polled herd

With support from MLA's Producer Demonstration Site (PDS) program, the Australian Agricultural Company (AACo) Breeding and Genetics team has developed a breeding program to breed polled cattle through the targeted selection of breeders that will produce calves without horns. While this is a medium-term program, AACo is starting to see preliminary results in their Wagyu and Composite herds – a trend that is predicted to continue moving forward.

Dehorning is the process of removing or stopping the growth of horns in livestock. It is a necessary practice to improve animal welfare by reducing the likelihood of livestock injuries as well as injuries to people, making livestock easier and safer to handle.

Wagyu cattle have traditionally been bred with horns, so dehorning is currently a necessary procedure within AACo operations. However, significant time, investment and resources are being directed into finding a solution to eliminate dehorning altogether.

AACo has developed a strict set of guidelines on the best approach to dehorning in their business, namely striving to do this when animals are as young as possible to minimise pain and stress, and by providing pain relief medication where required.

This PDS project will provide insights and motivation for northern enterprises who are considering moving towards selection of polled animals in their herd. The costs and benefits of this will be carefully characterised and extended to producers.

## Transport Hub development

MLA has begun developing an online Transport Hub to become the one-stop shop for information on transporting livestock. The hub will ensure greater transparency of livestock transport throughout the supply chain, to identify risks, opportunities and challenges as well as gaps in research and extension.

Countless thousands of livestock are moved nationally each year. Work is underway to report on the numbers moved and bring that into the Australian Beef and Sheep Sustainability Frameworks to:

- demonstrate a high level of transparency and best practice by the industry
- communicate responsibilities of all entities throughout the supply chain.

The Transport Hub is the latest hub to be developed following the recent launches of the:

- **Grazing Land Management Hub**, which provides in one place the relevant tools and calculators available to assist producers make the most of the feedbase and grazing land management strategies. These include the Australian Feedbase Monitor, the feedbase planning and budgeting tool, the stocking rate calculator, the pasture improvement calculator and pasture paramedic.  
👉 Visit the Grazing Land Management Hub at [mla.com.au/grazing](https://mla.com.au/grazing)
- **Healthy Soils Hub**, which assists producers in getting their soils into shape to optimise pasture and feedbase production. The hub provides information on how to undertake a soil test and interpret the results. It assists producers in identifying signs of soil deficiencies visible from indicators in plants and pasture.  
👉 Visit the Healthy Soils Hub at [mla.com.au/healthy-soils](https://mla.com.au/healthy-soils)



👉 AACo has developed a strict set of guidelines on the best approach to dehorning – Brunette Downs, NT.

# Environmental sustainability



**MLA's environmental sustainability program focuses on improving stewardship of environmental resources and enhancing economic value propositions. Investments prioritise research, development and adoption activities that demonstrate leadership in the management of animals, land, biodiversity, water, waste, energy, climate variability and biosecurity through scientifically proven methods and effective adoption pathways.**

The Australian red meat and livestock industry has set an ambitious target to be carbon neutral by 2030 (CN30). This target means that by 2030, the industry will make no net releases of greenhouse gas (GHG) emissions into the atmosphere. This is a key point of difference for Australian red meat in a competitive global protein market.

In 2020, the industry had already lowered its net greenhouse gas (GHG) emissions by 64.8% since the 2005 baseline year. Current emissions total 51.3Mt CO<sub>2</sub>-e/year, down from 145.3Mt CO<sub>2</sub>-e/year in 2005. This means that industry's contributions to national emissions dropped from 22% in 2005 to 10.3% in 2020.

MLA is aiming to reduce net greenhouse gas emissions by a further 5% by 2025 with an associated 20% improvement in livestock productivity. In addition, MLA aims to support the industry to:

- integrate trees into farming systems to improve livestock productivity (through provision of shade and shelter)
- store another 15 million tonnes of CO<sub>2</sub>
- generate additional co-benefits such as improved biodiversity, water holding capacity and soil health across 10 million hectares of Australian grazing land within the next three years.

The majority of net emissions reduction to date is from increased carbon storage in vegetation. A reduction in sheep flock numbers and gradual improvements in herd efficiency have also contributed. It is anticipated that from 2025 onwards, the adoption of methane-reducing feed additives across feedlot and grazing management regimes, along with vegetation and grazing management to enable higher carbon sequestration in soils and vegetation, will further accelerate reductions in industry's net emissions.

📖 Read the Final report: *Greenhouse Gas Footprint of the Australian Red Meat Production and Processing Sectors 2020*, MLA (2022) at [mla.com.au/ghg-2020-report](https://mla.com.au/ghg-2020-report)

## The road to carbon neutrality by 2030

In striving to meet industry's carbon neutral by 2030 (CN30) target, MLA has committed significant investment to conduct the research and development necessary to enable widespread adoption of:

- methane-reducing feed additives
- low-methane genetic technologies
- high-performing pasture mixes

- practices that result in improved carbon storage in trees and soil
- carbon accounting to enable participation in multiple existing and emerging market opportunities.

These investments are in alignment with the *CN30 Roadmap* and comprise of collaborative partnerships with federal and state government departments, universities and other research organisations, private organisations and industry stakeholders.

The *CN30 Roadmap* sets out the four key work areas representing important issues industry must address to achieve CN30 and captures the key technologies that industry and enterprise can use:

### 1. Leadership building

The 'Leadership building' work area recognises that building leadership capability and competency across the industry is vital to enabling carbon neutrality by 2030. This includes developing science communication initiatives to ensure shared understanding of how carbon flows through red meat production systems and the on-farm practices and technologies that maximise carbon capture and minimise carbon loss.

In addition, it involves developing resources to build capability among red meat industry stakeholders in collecting on-farm data and using it to:

- demonstrate sustainability performance
- make decisions about participating in carbon market and/or supply chain opportunities.

### 2. Emissions avoidance

The 'Emissions avoidance' work area focuses on developing and bringing to market technologies that drive emissions (mainly enteric methane) reductions from the red meat industry. An Emissions Avoidance Partnership (EAP) conducts research to realise the aim of 10% improvement in livestock productivity and 50% reduction in enteric methane in 5% of the herd and flock by 2025. Research included in the partnership – which is a collaboration using MLA Donor Company and partner funds – is built around three groups:

1. Animal genetics and husbandry practices to increase production efficiency and reduce methane emissions intensity
2. Livestock supplements that improve livestock productivity and lower enteric methane emissions
3. Pasture shrubs and legumes that improve livestock productivity and lower enteric methane emissions.

📖 Key work areas continued on page 16.

# Reducing emissions a win-win for business

**The Allens' south-western Victorian grazing business is proof reducing on-farm emissions doesn't have to come at a price.**

"There's nothing to lose by reducing your carbon footprint and improving productivity," David Allen said.

"It's a real win-win for producers to increase efficiency.

"You're not only increasing productivity and profitability, but you're also supporting the environment by reducing emissions."

The family takes a long-term view to ensure a successful and sustainable business for future generations.

"We're ensuring the next generation are leading the way," David said.

"My son Nick has complete control of the farm and is production-focused, whereas I focus on sustainability, carbon and emissions – it's a very holistic view of the entire operation."

The Allens focus on two key management areas to ensure their carbon reduction goals feed into their broader business management plans.

These are:

- Carbon sequestration through on-farm efficiencies such as maintaining ground cover, rotational grazing, tree planting and a soil carbon project registered with the Clean Energy Regulator.
- Emissions reductions through renewable electricity and improved feed efficiencies through genetic selection. This leads to improved turn-off rates, which reduces total methane production.

The Allens use estimated breeding values (EBVs) and advice from their bull breeder to select cattle which are quick growing, efficient and fertile.

"With improved nutrition, feed efficiency and genetics, we're turning cattle off earlier," David said.

"Our conception rates are now 94.5% for cows and 92% for heifers."

They've also shortened the time cattle are on-farm – pulling the previous turn-off age of 24–30 months back to 14–20 months.

"This has a big impact on emissions as we're achieving quicker returns, a lower emissions output, and a stronger long-term financial baseline."

The Allens manage a rotational grazing system, with high-density stocking rates that see cattle regularly moved between paddocks – sometimes daily – providing rest periods for pastures of 30–60 days.

"We aim to have 100% ground cover, 100% of the time. Our 150 paddocks are grazed 25.8% of the time and rested for 74.2%.

"All this is lowering our carbon footprint in one way or another.

"Everything is interconnected. If you have healthy soil, you have healthy pasture. If you have healthy pasture, you have healthy waterways. If you have healthy pasture and water, you have healthy stock. Nothing works in isolation."

Baselining their carbon footprint was the first step to reduce carbon emissions.

"Simply identifying opportunities to improve efficiencies will help deliver a smaller carbon footprint and savings," David said.

"The carbon framework allows us to market our product as a carbon neutral or low carbon status. It's opened up opportunities for new revenue streams and sustainable management practices."

These can include supplying grassfed cattle to carbon neutral or low carbon supermarket brands.

"We've used various tools over the years – such as the Sheep and Beef Greenhouse Accounting Framework (SB-GAF) and, more recently, the new Australian Feedbase Monitor – to understand and use refined data that's relative to our production."

David is keen to use the new MLA Carbon Calculator (see outcome on page 16) to measure and monitor changes in their business' emissions.

"As an industry, and personally as a producer, we're in the fortunate position to be able to mitigate emissions and influence climate change by sequestering carbon into the soil or vegetation."

■ Nick and David Allen on their farm 'Boorook', Mortlake, Victoria.



■ MLA Carbon Calculator [mla.com.au/carbon-calculator](https://mla.com.au/carbon-calculator)

■ Australian Feedbase Monitor [mla.com.au/afm](https://mla.com.au/afm)

### 3. Carbon storage

The 'Carbon storage' work area focuses on building capacity for red meat producers to store carbon in trees and soils. The Carbon Storage Partnership (CSP), a collaborative partnership similar to the EAP, has been developed to conduct research in this work area. The CSP aims for 10% improvement in livestock productivity in 5% of the herd and flock through research and adoption of products and practices resulting in increased carbon storage. Research being conducted in the CSP includes:

- legumes, pastures and shrubs that build feedbase and carbon stocks above and within soils
- trees and shrubs that improve carbon storage, animal health and biodiversity
- methods to optimise carbon storage in dead woody biomass in grazing land
- methods to improve accounting of woody thickening in grazing lands
- dung beetles to improve carbon storage
- feedbase production and livestock productivity.

### 4. Integrated management systems

The 'Integrated management systems' work area aims to align and connect research outputs from all CN30 work areas. Knowledge and data generated through the systems is being used to build frameworks which enable supply chains to report on net emissions reductions achieved through practice change and improved management. This includes:

- enabling technical and economic analysis of farming systems to determine appropriate combinations of emissions avoidance, carbon storage technologies and practices
- incorporating emissions avoidance and carbon storage practices into existing extension and adoption programs
- developing resources and tools to support adoption of emissions avoidance and carbon storage practices.

👉 Read the *CN30 Roadmap* at [mla.com.au/cn30-roadmap](https://mla.com.au/cn30-roadmap)

## Outcomes

### Digital carbon calculator

MLA's Carbon Calculator enables sheep and beef producers to calculate their net emissions on-farm and create a baseline carbon account for their enterprise, providing an advanced alternative to current tools and static excel spreadsheets.

A carbon account is an important tool for business planning. It enables producers to understand their current carbon position and emissions profile, then use this knowledge to identify strategies to reduce emissions and increase carbon storage on-farm.

Managing the flows of carbon into a livestock business helps producers understand how certain practices may benefit their carbon footprint, as well as productivity, profitability, biodiversity and drought resilience.

MLA's Carbon Calculator guides producers in how to collect and use necessary historical data (such as livestock inventory data, fertiliser and pesticide use, trees on-farm and energy use) to demonstrate their performance and ensure they're ready to access carbon market/supply chain opportunities as they emerge.

The calculator is based on the Sheep and Beef Greenhouse Accounting Framework (SB-GAF) tool developed by the University of Melbourne and aligns with the National Greenhouse Gas Inventory (NGGI). It allows users to optionally save data in their myMLA account.

👉 The MLA Carbon Calculator is available at [carbon-calculator.mla.com.au](https://carbon-calculator.mla.com.au)

### Carbon management eLearning modules

MLA has released the first three of its Carbon 101 eLearning modules, with the fourth and final module to be released in the second half of 2023.

Packed with practical advice, these self-paced online learning courses focus on the key concepts of carbon accounting and the actions producers can take on-farm to support their emissions reduction and carbon sequestration journey. The three modules currently available are:

1. **Carbon 101** provides information about carbon farming, greenhouse gases relevant to agriculture, the carbon cycle and the terminology required to develop a deep understanding of carbon in a livestock system.
2. **Measuring your own emissions** guides producers in using the SB-GAF calculator to estimate emissions and establish a baseline emissions profile. It uses custom-built videos to walk producers through using SB-GAF and demonstrates the data needed and how to estimate emissions.
3. **Carbon Sense** gives practical advice and tips on how to take action to reduce on-farm emissions.

Modules 2 and 3 were developed and funded in partnership with Australian beef processor, Greenham, with technical support from Pinion Advisory.

👉 Access the modules through MLA's eLearning hub, 'The toolbox' or at [mla.com.au/elearning-carbon](https://mla.com.au/elearning-carbon)

### Methane inhibitors delivered through water

A number of additives have now been screened and rated on their stability and solubility, which indicates suitability for water delivery.

Delivering additives through water is just one of the mechanisms being explored in the Emissions Avoidance Partnership (EAP) to ensure methane-reducing strategies can be adopted widely by all Australian livestock systems, including extensive, pasture-based grazing.



From left to right: Jacyntha Coffey, DAF technicians Tony Burridge, John Oostenbrink, senior research scientist and project leader Nahuel Pachas, DAF soil scientist Luke Danaher, DAF technician Tracey Menzies, and landholder Adam Coffey.

# Steak ‘n wood

The ‘Steak ‘n wood’ project, funded by MLA and led by the Queensland Department of Agriculture and Fisheries, is an important CN30 carbon sequestration collaborative partnership.

The project aims to quantify the productivity and ecosystem services of ‘silvopastoral’ systems (SPS) – the complementary management of livestock and trees as a pathway to improved natural capital and carbon neutrality by 2030. In SPS systems, native forests and planted trees are managed to co-exist with livestock and pasture in different settings, ranging from scattered trees to tree-corridors in grazing systems.

Steak ‘n wood connects beef and forest industries across 48 million hectares of SPS-suitable sub-tropical and tropical Queensland and northern NSW grazing land, and will examine the potential of SPS to:

- mitigate GHG emissions
- enhance income diversification and increased livestock productivity

- enhance land use
- improve animal welfare
- improve on-farm biodiversity.

One of the SPS project sites, a private native forest, is being used as part of a regrowth experiment. The experiment is investigating sustainable management practices that improve tree stand productivity by reducing competition between trees, while also enhancing pasture productivity.

Feedbase productivity under unmanaged native forest is traditionally very low, in terms of both quantity and quality. The experiment involves having an unmanaged forest control and treatments of thinned blocks where they will be monitoring the pasture productivity, soil carbon, carbon sequestration by trees

and biodiversity. It will help determine the best configurations of tree planting and thinning for beef producers who want to integrate trees with pastures.

Steak ‘n wood will provide the data required to develop decision support tools for producers on specific species, numbers, configurations and locations of trees on-farm to deliver a carbon benefit, while also delivering co-benefits such as productivity, profitability, improved biodiversity and other ecosystem services. The data will also be assessed using the carbon accounting framework (SB-GAF) and will inform the Environmental Credentials for Grassfed Beef (ECGB) project.

The project’s scheduled completion date is November 2026.

# Adam and Jacyнта Coffey

**Central Queensland commercial cattle producers, Adam and Jacyнта Coffey, 'Boreelum', Miriam Vale, are part of a group of 14 graziers and timber farmers who are testing the benefits of trees on-farm.**

The Coffeys are first-generation producers, having purchased and renovated a sterile hardwood plantation block and turning it into a commercial cattle operation seven years ago. They run 500 Brahman breeders and opportunistically trade cattle on their 2,500ha property.

"There were a number of potential financial and ecological incentives for joining the project," Adam said.

"Because our property was traditionally a hardwood plantation, it was relatively barren of native trees and forests – so we wanted to investigate integrating more trees in harmony with our livestock operations in a strategic and financially opportune way."

Boreelum has one trial site where a corridor of 1,700 spotted gum trees have been planted in 500m-long rows. The corridor is split between two paddocks and cattle are able to graze the paddocks using electric fencing to prevent livestock damage to trees during their early establishment stage. Tropical legumes, including stylos and progardes species, have been planted within the rows. It's expected the legumes will spread across the paddocks once a sufficient seed bank has been established.

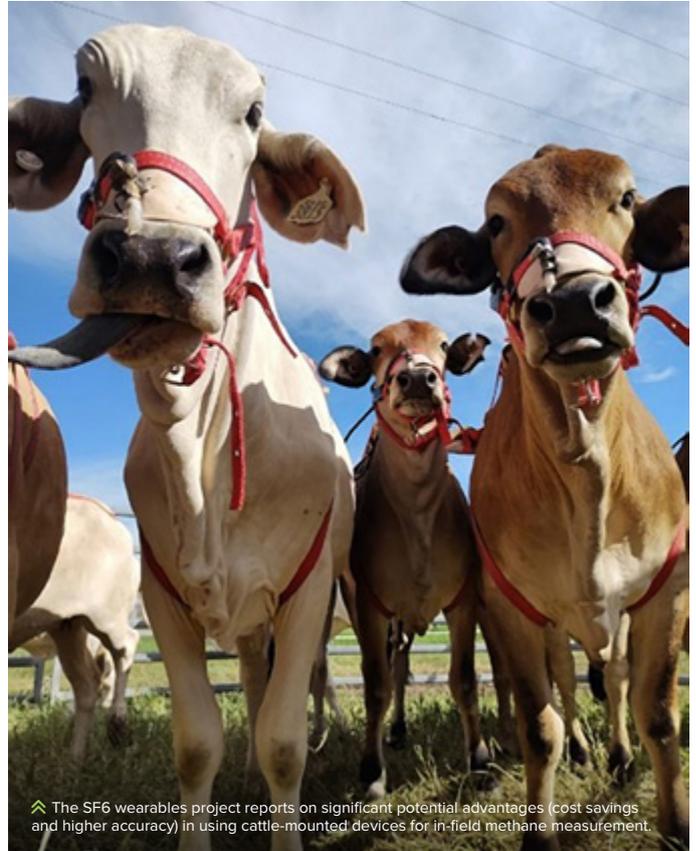
According to Adam, the learnings from this project will be extremely valuable, in terms of integrating trees into their grazing management and livestock business for financial and ecological gain.

"There could be a future income stream and alternate enterprise if we choose to harvest the timber for sale further down the track.

"It's about the bigger picture, business resilience and a solid long-term resource," he said.



Adam and Jacyнта Coffey, 'Boreelum', Miriam Vale Queensland.



The SF6 wearables project reports on significant potential advantages (cost savings and higher accuracy) in using cattle-mounted devices for in-field methane measurement.

## Measuring methane in the field

A new project has reported significant potential advantage (cost savings and higher accuracy) in using cattle-mounted devices for in-field methane measurement, compared with alternatives.

A herd of 38 heifers was acclimatised over a 60-day period to wear SF6 harnesses. These devices are strapped over the animal's back and connected to a sensor near the nose via a hose, enabling extrapolation of the amount of methane exhaled through the animal's breath. The project's first milestone report confirmed that SF6 wearables represent a promising and accurate alternative to more expensive methane measurement solutions such as GreenFeeds and Portable Accumulation Chambers.

## Trees reducing heat stress

'Reduced heat stress' was the major benefit of having trees on-farm, according to 44 producers who manage a mix of enterprises across southern Australia. Multiple wool producers also noted that paddock trees for shade were best for sheep carrying wool into summer.

## Australian Beef and Sheep Sustainability Frameworks

The Australian Beef Sustainability Framework (ABSF) and Sheep Sustainability Framework (SSF) were developed by the livestock industry to meet changing market expectations around sustainability and ensure industry's ongoing market advantage.

The ABSF was developed and is led by the Red Meat Advisory Council (RMAC). The SSF was developed and is led by the SSF Board representing Sheep Producers Australia (SPA) and Wool Producers Australia (WPA). The frameworks are delivered by independent Sustainability Steering Groups who represent the Australian beef, sheepmeat and wool value chains respectively.

The ABSF and SSF are industry-led but investor/customer-focused frameworks. They commit industry to a sustainability pathway of best practice and track performance through independent evidence against key sustainability indicators relevant to the four themes of:

- Animal welfare and wellbeing
- Environmental stewardship and climate change mitigation
- Economic resilience
- People, customers and community.

Within these themes, the most critical priorities and aligned indicators are defined, and their progress tracked using best available, verifiable metrics and data sources.

Key pillars of the frameworks include:

### Strategic Plan and Work Plan

The SSF *Strategic Plan* and ABSF *Work Plan* define the purpose, strategic priorities and specific activities of the frameworks to articulate industry's sustainability performance and progress, and to support stakeholders' evolving sustainability commitments, programs and pathways.

### Materiality assessments

The backbone of the frameworks is the regular and robust assessments of sustainability material topics. The assessments define the sustainability priorities from both an internal and external stakeholder perspective, to reflect industry's significant impacts and the influence of these impacts on customers and investors' decision making. These assessments are backed up by a stocktake of current sustainability data to support the ongoing refinement of indicators to reflect the assessments' most highly material issues.

Figure 2. Australian Beef and Sheep Sustainability Framework key sustainability indicators



# ABSF sets the blueprint for Greenham Beef Sustainability Standard

**By applying the Australian Beef Sustainability Framework (ABSF) to its grassfed supply chain, Victorian-based beef processor Greenham has delivered a new product to market that provides environmental stewardship and financial incentives back to cattle producers.**

The *Greenham Beef Sustainability Standard (GBSS)* represents the first time a commercial supply chain has applied the ABSF's four themes – environmental stewardship, animal welfare, economic resilience, and people and the community – at a farm level to deliver a new product to market.

The GBSS was developed in response to growing customer demand for products with scientifically-backed, robust and transparent environmental credentials. It builds on the Greenham-accredited grassfed NEVER EVER Beef Program and is endorsed by agricultural and environmental consultants, Integrity Ag & Environment, as well as US-based animal welfare program, Certified Humane®, for sale into the US premium beef market.

The Standard takes a holistic approach and provides a practical set of indicators and measures for producers to follow. It covers critical animal, environment and business priorities, including:

- healthy, nutrient-rich soils
- enhanced biodiversity
- healthy waterways
- improved climate resilience
- on-farm safety.

According to Greenham Supply Chain Manager, Jess Loughland, before rolling out the GBSS to the NEVER EVER supply chain, they first needed to put its practicality, value and efficacy to the test with the stakeholder group most pivotal to its success – their producers.

With support from project partner MLA, the third-party audited GBSS was piloted in 2022 with 21 cattle producers from a range of production systems across southern Australia.



Producers were audited against the standard to establish a baseline and identify relevant opportunities. They were onboarded via both a webinar and on-farm meeting, and given five months to implement the GBSS on-farm.

“Piloting the Standard was crucial to understanding what this program we’d spent years developing looked like in practise,” Jess said.

“It also helped us identify the unique challenges it posed to producers across different production systems and business types.”

Jess said the team at Greenham was extremely grateful to their pilot producers and those that gave their time and expertise as part of the initial working group.

“Their support and guidance were key to ensuring we delivered a meaningful Standard that will stand the test of time,” she said.

Key findings from the pilot included:

- 82% of producers said implementing GBSS on-farm was not cost-prohibitive, with some commenting that it value-added by providing structure and a timeline to already-planned activities and expenditure.
- 76% of producers rated the GBSS as 4–5/5 for practicality.
- Some requirements in the GBSS overlap with other industry accreditation programs across wool, cropping and dairy.

- The main drivers for accreditation were the benefits to farm productivity, market access, actionable steps towards CN30 and best practice management, farm resilience, and connection to end markets and consumers.
- The benefit of accessible and user-friendly training, tools and templates to support producers to measure and record activities and progress is key to adoption.

According to Jess, Greenham's goals were two-fold:

- deliver consistent, premium-quality beef raised in a manner that aligns with their customers' values
- support their producers in the adoption of best practice management to protect the land and communities in which Greenham operates for future generations.

"It was also important to us that our program aligned with broader industry priorities and provided producers with a clear path to contribute towards industry goals, including CN30," Jess said.

"GBSS is structured in three tiers – aiming to meet producers where they are today, providing them with an accessible starting point with clear opportunities for improvement and a focal point on the horizon to work towards."

Tier 1 prioritises education and planning and sets a baseline for sustainable management, while Tiers 2 and 3 focus on continuous improvement, striving for optimum ecological health, carbon neutrality and best practice financial, people and safety management. Beef from accredited Tier 2 and 3 properties is eligible for associated financial premiums under the GBSS.

With endorsement from Certified Humane®, beef produced from accredited Tier 2 and 3 properties is eligible for an on-pack Certified Regenerative® label, underpinning Greenham's suite of premium brands (including Cape Grim and Bass Strait Beef) in the US market.

The GBSS will be incrementally rolled out over the next two years, providing another sustainability opportunity for Greenham cattle suppliers.

**"It was also important to us that our program aligned with broader industry priorities and provided producers with a clear path to contribute towards industry goals, including CN30."**

📍 The Greenham Beef Sustainability Standard is available at [mla.com.au/gbss](https://mla.com.au/gbss)  
For more information about Greenham visit [greenham.com.au](https://greenham.com.au)

📍 Jess Loughland –  
Greenham Supply Chain Manager.

## Extensive stakeholder engagement

The frameworks place strong emphasis on building relationships through extensive engagement with internal and external stakeholders. This engagement takes the form of regular and ongoing Consultative Committee and Industry Forums. Reaching agreement between internal and external stakeholders on the highest priority sustainability topics and making commitments to progressing these topics is critical to building trust with investors, customers and government. It also enables industry to take leadership on sustainability nationally and internationally.

## Data collection and reporting

Robust and reliable metrics and data collection is imperative to transparently reporting industry's sustainability commitments and performance over time. Access to comprehensive datasets remains a constant challenge, as does ensuring the data is suitable and practical for producers' use to enable better decision making.

## Outcomes

In June 2023, the Australian Beef Sustainability Framework (ABSF) delivered its sixth *Annual Update* following its official launch in 2017. The Sheep Sustainability Framework (SSF) delivered its second *Annual Update* following its official launch as the first global sheepmeat and wool framework in April 2021. Here are some of the sustainability outcomes reported in the respective updates over the past 12 months:

### Commitment to beef industry's sustainability goals

At the launch of ABSF's 2023 *Annual Update*, the beef industry announced new national sustainability goals. This comes off the back of extensive consultation with industry and external stakeholders.

In addition to the CN30 target, the new goals cover the topics of:

- positive contribution to nature
- an environment where cattle can thrive in line with the five animal welfare domains
- a profitable and resilient industry
- an industry trusted and attractive to a diverse workforce.

### Greenham Beef Sustainability Standard

The Australian Beef Sustainability Framework has set the blueprint for the *Greenham Beef Sustainability Standard* (GBSS) and represents the first time a commercial supply chain has applied the framework's four sustainability themes at a farm level to deliver a product to market. See page 20 for case study.

## Global Reporting Initiative alignment

In 2023, the ABSF and SSF began the process of aligning their sustainability priorities and indicators with the Global Reporting Initiative – *GRI-13 Sector Standard for Agriculture, Aquaculture and Fishing*.

The process has demonstrated overall good alignment between the frameworks' most highly material issues and the GRI topics, with some differences in scope, language, terminology and topics. From 2024, the ABSF and SSF *Annual Updates* will start reporting with reference to GRI.

## Stocktake on animal husbandry practices

Through the ABSF and SSF, MLA and Australian Wool Innovation (AWI) facilitated the most comprehensive survey of animal husbandry practices across the beef, sheepmeat and wool industries. The survey will set new benchmark datasets from which to track trends in animal husbandry practices and performance going forward.

## SSF's first Consultative Committee and Industry Forums

The Sheep Sustainability Framework held its first external stakeholder-focused Consultative Committee Forum in October 2022 and its first internal stakeholder-focused Industry Forum in March 2023. Attracting strong attendances to both, the Consultative Committee Forum focused on the outcomes of key data gathering projects, while the Industry Forum provided industry with a review of the sheep industry's key sustainability topics as defined by the original materiality assessment.

## Data collection and reporting

Robust and reliable metrics and data collection is one of the key pillars of the frameworks and crucial to transparently tracking industry's sustainability commitments and performance over time.

In 2023:

- ABSF recorded data for 96% of its indicators
- SSF recorded data for 90% of its indicators.

👉 To read the ABSF's 2023 *Annual Update* visit [sustainableaustralianbeef.com.au](https://sustainableaustralianbeef.com.au) and to read the SSF's 2023 *Annual Update* visit [sheepsustainabilityframework.com.au](https://sheepsustainabilityframework.com.au)

## Grassfed beef capitalising on environmental credentials

The Environmental Credentials for Australian Grassfed Beef project aims to enable producers to capitalise on market opportunities by addressing the increasing expectation of sustainable production through product credentials.

The current challenge for grassfed beef producers is demonstrating their business' environmental performance at a property level and gaining recognition for continual improvement. This project involves the development of an online platform to enable measurement and reporting of sustainability credentials for the Australian beef industry in a way that is scalable, allows ongoing measurement of performance, delivers credibility and transparency, and supports progression into more advanced programs.

Key deliverables of the project will be to:

- develop an online platform for Australian grassfed beef producers that enables them to access current and emerging markets by verifying their environmental credentials
- support grassfed beef producers to implement practice change where required through self-directed learning
- improve the ability of the industry to provide national trends data for key environmental credentials that can be reported through the Australian Beef Sustainability Framework and used for monitoring and evaluation of future innovation programs
- align with the Australian Beef Sustainability Framework's environmental stewardship pillar.

The project is funded through a grant from the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF) through the National Landcare Program Smart Farming Partnerships program and involves a collaboration between MLA, the University of Queensland and World Wildlife Fund Australia.

## Outcomes

### Industry collaboration in the project co-design process

Crucial to industry ownership of the Environmental Credentials for Australian Grassfed Beef project and adoption of its outputs has been proactive collaboration between industry stakeholders. Participants from across the value chain, including producers, processors and customers, have been involved in the co-design process to develop the business model, platform design and structure, as well as the learning resources.

Based on their expertise, participants were divided into working groups consistent with the topics relevant to environmental stewardship in the Australian grassfed beef sector. These included tree cover; ground cover; biodiversity stewardship; carbon balance; and drought resilience. The co-design component of the project is now complete.

### Business sustainability scan

A business sustainability scan was undertaken to:

- define the project's triple bottom line impact and reporting deliverables
- define the value proposition for producers to develop sustainability principles and practices that support their customers' sustainability requirements.

The scan involved semi-structured interviews with key value chain stakeholders and in-depth interviews with producers.

▶ Find the report at [mla.com.au/beef-industry-business-scan](https://mla.com.au/beef-industry-business-scan)

### Platform piloting

Platform piloting by grassfed beef producers and industry stakeholders will commence in the second half of 2023 to ensure the platform meets the requirements of the supply chain.

The piloting will be conducted through online webinars in which producers will be taken through the platform and then provided with an opportunity to test-drive the platform themselves and give feedback on its usability and value.

# Integrity systems



**MLA's integrity systems program assists in fostering the prosperity of the Australian red meat and livestock industry by helping to protect its disease-free status and underpinning the marketing of Australian product as clean, safe and traceable. This, in turn, contributes to industry's economic and environmental sustainability.**

Australia enjoys continued market access to over 100 export markets, thanks to:

- robust integrity systems that underpin the traceability, safety and quality of our products
- an unrivalled exotic disease-free status
- a track record by the Australian industry in pursuing preferential trade agreements, in partnership with the federal government.

Key pillars of integrity systems include:

1. National Livestock Identification System (NLIS), which provides identification and lifetime traceability of cattle, sheep and goats, to guarantee industry's biosecurity and food safety.
2. Livestock Production Assurance (LPA), the on-farm assurance program covering food safety, animal welfare, traceability and biosecurity which provides evidence of livestock history and on-farm practices when transferring animals through the value chain.
3. National Vendor Declarations (NVDs) – the legal documents to declare necessary information about the health status and history of livestock being sold.

## Outcomes

### eNVD Livestock Consignments app launched

Integrity Systems Company's (ISC) new electronic National Vendor Declaration (eNVD) Livestock Consignments app is a game-changer in enabling the transfer of livestock consignment information, irrespective of location and connectivity.

The eNVD Livestock Consignments app has accelerated the digitisation of traceability for the red meat industry and is a key part of ISC's mission to simplify and streamline livestock movements.

The app is a completely offline solution and uses QR codes to transfer consignment data from producer to transporter, saleyard, feedlot and processor. Prior to the introduction of the eNVD web-based system in 2017, paper NVDs were the only way to communicate the food safety status of livestock moving through the supply chain.

NVDs are a critical compliance tool for Australia's market access and integrity system – but with only 30% of all consignments completed using the eNVD web platform, ISC developed the eNVD app to provide industry with an offline, mobile solution to accelerate digital adoption.

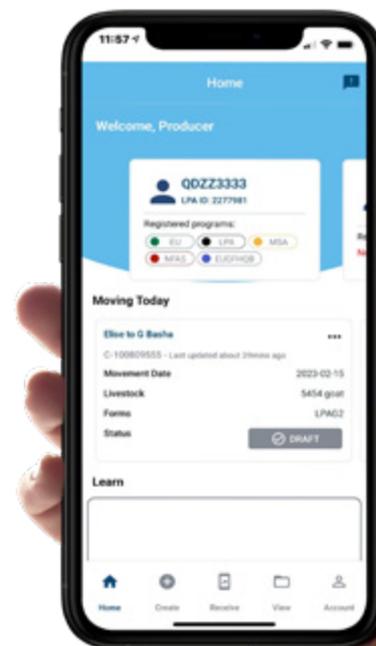
Key benefits of the eNVD app include:

- allowing transfer of a consignment from a producer's device to a transporter or receiver's device without mobile service
- saving time and costs by avoiding the need to transfer hard copy information
- increasing information accuracy
- tracking consignment progress ahead of arrival
- reducing costs of storing and retrieving consignment information
- improving data flow
- ensuring the latest versions of NVD are used.

Producers can create and complete all relevant consignment documents including LPA NVDs, Meat Standards Australia Vendor Declarations, National Health Declarations and National Feedlot Accreditation Scheme forms without mobile service or internet connection.

Once the eNVD has been submitted offline, the app will automatically submit the information to the eNVD system when the app is reactivated while in service. The app allows transfer of a consignment from a producer's mobile device to a transporter or receiver's mobile device using QR codes – all without mobile coverage.

The app also allows submitted livestock description and transporter details to be edited within 48 hours of the movement date and prevents users from continuing to the next section until all necessary questions are answered. This, along with the autofill feature, means that all questions will be answered and submitted accurately across multiple forms. For regular consignments, templates can be created to reduce repetition when moving livestock to the same destination.



👉 For more information about Integrity Systems Company visit [integritysystems.com.au](https://integritysystems.com.au)

# eNVD app a game-changer for producers

**For producer Tom Marriott, the eNVD app's ability to transfer a document from his phone to his livestock transporter without the need for reception radically streamlines the consignment process.**

Tom and Carly Marriott are sheep producers outside Barooga in southern NSW. They are early adopters of technology, with Tom being a recent winner of the Sheepvention's livestock invention awards.

"The app is a very streamlined way of filling out NVDs. You can search for your receiver's property identification code (PIC) with the app, and you don't have to worry about running out of paper NVDs or having an out-of-date NVD book," Tom said.

"What I think is most exciting about the app is the fast and easy traceability down the supply chain and the reduced amount of paperwork once digital consignments are adopted more widely across industry.

"My advice to anyone that is feeling a bit left behind by technology is to give the eNVD app a go. It took me a little bit of playing around to get my head around it, but I found the step-by-step process very user friendly," he said.

ISC Chief Executive Officer Jane Weatherley said releasing the eNVD app was just one milestone in ISC's vision to increase the use of digital consignments.

"Digital consignments are an opportunity for Australia's red meat industry to strengthen its integrity systems and reputation as a leader in biosecurity and food safety. However, the success of digital consignments relies on the whole of industry embracing the eNVD app and web system," she said.



Tom Marriott – Barooga, NSW.



**Download the eNVD app for free from the App Store or Google Play Store.**

# Product and packaging innovation



MLA's product and packaging innovation program explores new products, packaging and business model innovations, to transform commodity-based meat into higher value solutions, thereby contributing to industry's economic and environmental sustainability.

## Outcomes

### From hides to riches

A world-first certified organic collagen supplements range derived from low-value bovine inputs has been developed, with shipments of the first commercial supplement range arriving in the United States in May 2023.

Branded as 'Organic Collagen Australia', this first shipment follows the completion of the 'Hides to Riches' project, which resulted in the development of a scalable and efficient collagen extraction process through the application of freeze dry technology and organic certification by Australian Certified Organic.

Funded through the MLA Donor Company and led by Freeze Dry Proteins, the project's purpose was to discover and develop an all-natural method to process bovine hides to extract human food grade collagen, with measurable scientific results.

'Hides to Riches' sought to discover 3-to-5-fold value-adding opportunities for low-value bovine and ovine carcase inputs, such as hides, glands and organs, through the application of freeze-drying technology.

The project set out to accomplish four key goals:

1. Optimise the collagen extraction process.
2. Receive organic certification for the collagen.
3. Create three different grades of collagen: pet, food and cosmetics.
4. Commercialise the organic collagen under a new brand.

In optimising the collagen production process, three key factors were considered:

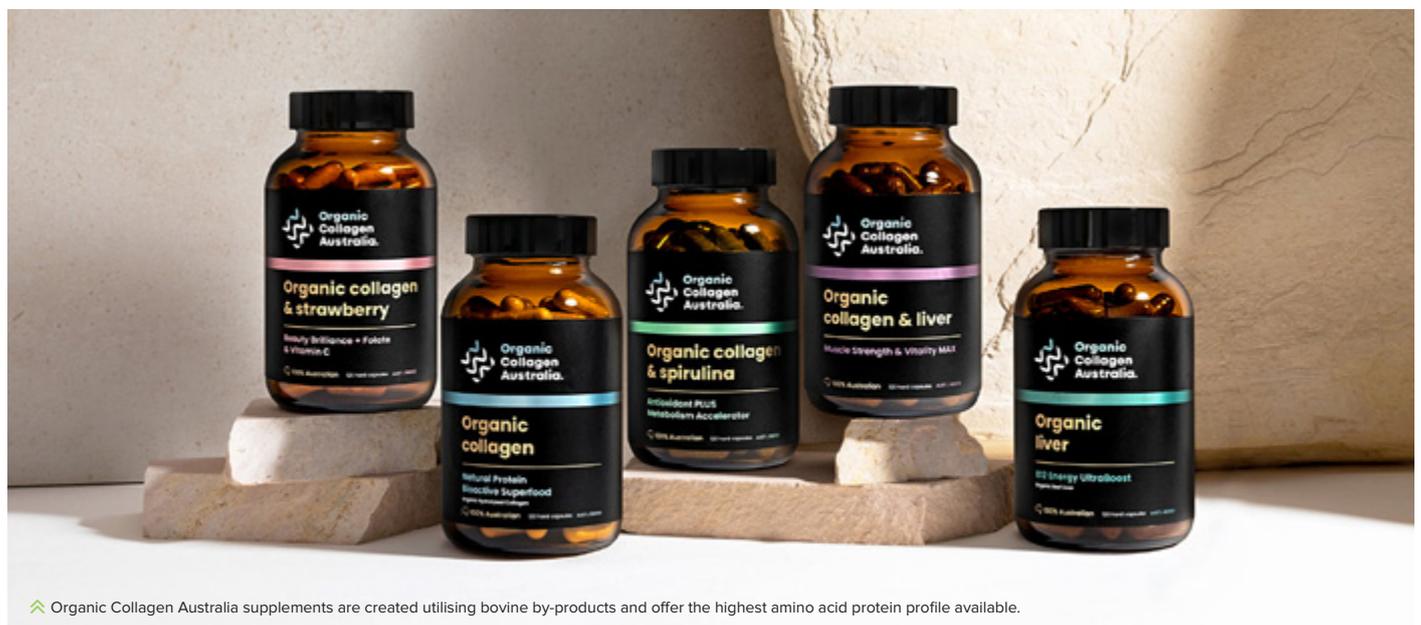
1. Creating a production process which was efficient, scalable and cost-effective.
2. Ensuring the process was suitable for organic accreditation.
3. Ensuring the quality of the product and process involved was NATA accredited.

The project has delivered some significant outcomes:

1. The development of a commercial-ready, clean organic process to extract collagen from bovine hides.
2. The extraction process receiving Certified Organic status.
3. The amino acid profile of the organic collagen produced from Australian hides is superior to the current market leader.
4. Growing demand by consumers for collagen that is ethically and sustainably produced.

Freeze Dry Proteins has engaged a distributor in Vietnam and is exploring opportunities to increase production capacity and further commercialise their collagen range.

📖 To read the *Hides to Riches* report visit [mla.com.au/hides-to-riches](https://mla.com.au/hides-to-riches)



👉 Organic Collagen Australia supplements are created utilising bovine by-products and offer the highest amino acid protein profile available.



⤴ Ally Hart, Stockyard Beef – Jondaryan, Queensland

# Productivity (on-farm)



**MLA's productivity (on-farm) program assists MLA to foster the prosperity of the Australian red meat and livestock industry by supporting new research which leads to increased productivity and profitability across the beef, sheepmeat and goat production sectors.**

**Sub-programs include:**

- Beef productivity
- Sheep productivity
- Goat productivity
- Livestock genetics
- Feedbase production
- Digital agriculture.

## Outcomes

### Australian Feedbase Monitor: World-first tool for better grazing management

#### Sub-program: Digital agriculture

Seeing the complete picture of what's happening across your property's feedbase to better plan for profitable pasture has become easier with the Australian Feedbase Monitor (AFM).

Since the AFM was launched in November 2023, more than 1,900 producers managing 2,400 farms have utilised the platform.

Based on satellite data, the AFM objectively measures pasture growth, biomass and ground cover using a 30-day rolling average. This enables producers to make informed decisions about the state of their pasture. The tool is free for MLA members who have linked their Livestock Production Assurance (LPA) accounts to their myMLA dashboard, or can be accessed by non-members via Cibo Labs' paid subscription service.

The AFM is designed to allow producers to become more objective in how they manage their feedbase. Cibo Labs National Extension and Adoption Manager, Alastair Rayner, said producers can use it to assess long-term averages and inform pasture management strategies.

"This is a great tool for everyone. The AFM will help you make decisions based on widespread data, as well as in-field assessments, to help make earlier decisions when it comes to the actuals of your pasture quantity and quality," Alastair said.

"You don't have to be a major landholder to use it – whether you run 100ha or one million hectares, you'll be able to use it and get a view of what is happening across your country. This tool allows you to see where your pastures are responding well during different seasonal conditions, and where they are not, so you can make more informed decisions for the health of your stock and land."

The AFM also provides comparative data, as far back as 2017, to help producers recognise trends and changes in the distribution of pasture.

Grazing advisor for Range IQ, Dionne Walsh, said the main way her clients used the AFM on a day-to-day basis was to check if the feed supply was likely to support the herd size and production targets for the year ahead.

"Producers usually know from experience what numbers they will allocate to their different paddocks. The AFM data can provide reassurance for these plans or highlight where these plans might need to be tweaked," she said.

Dionne said the AFM is particularly powerful for producers who cannot get across all their land easily – such as extensive pastoral enterprises – as well as producers who are not familiar with the feedbase history of recent property purchases.

"The AFM is also good for people who are just starting out in feed budgeting or fire management and want objective data for their planning," Dionne said.

"The imagery in the AFM clarifies what's happening on different parts of your property and can help you pinpoint areas where you should go and have a closer look so you can make more informed decisions for future planning. For example, there may be parts of your property that the imagery suggests are not responding well to rainfall and may need more time to recover. So, the AFM helps identify those areas and inform your management plans."

📍 For more information on the Australian Feedbase Monitor visit [mla.com.au/afm](https://mla.com.au/afm)

### New MERINOSELECT selection indexes

#### Sub-program: Livestock genetics

In June 2023, MLA released new and improved MERINOSELECT indexes which include key welfare and sustainability traits and will allow producers to make balanced genetic progress against profitability and sustainability goals.

Selection indexes are important tools to drive genetic improvement in breeding programs when there is a range of traits that are of functional and economic importance. They help to balance genetic improvement appropriately across a range of traits and can therefore be used to overcome economically antagonistic relationships between traits.

Sheep Genetics undertook a comprehensive review of ram breeders and commercial sheep producers. This was coupled with the development of a new bioeconomic model for developing indexes, completed by research scientists from the Animal Genetics and Breeding Unit. The new MERINOSELECT indexes now include several key updates including:

- updates to pricing and production data
- new traits such as wrinkle, dag and resilience traits
- sustainability traits such as methane and feed intake (due to be developed in 2024).

Overall the new MERINOSELECT indexes better balance profitability and sustainability goals of Merino production systems in Australia. These indexes include more sustainability traits to allow producers to make balanced genetic progress for both profitability and sustainability goals. The remodelling of the indexes will mean that this can be applied for other breeds with Maternal index development planned for 2024. It also means that Australian Sheep Breeding Values (ASBVs) for methane and feed intake can be included in indexes when they become available.

# Genetics a stalwart driver of progress

Faced with a challenging climate and the myriad of variables involved in breeding cattle, Queensland seedstock producers Tom and Marie Copley are leveraging genetics to map out a productive path for their herd.

Certain in the knowledge that their genetic inputs are entirely within their control, the couple has made gains with a data-driven focus on fertility at their property, 'Salty'. The result is a robust, well-adapted herd, capable of thriving in harsh conditions with minimal inputs.

Here's a look at how the Copleys' astute use of functional analysed genetics and dedication to the long game have been key to achieving their breeding objectives.

Fertility is the cornerstone of their breeding strategy.

"We have a fertility focus to create an efficient and productive cow herd," Marie said.

"We have a tight joining with all heifers joined and required to calve every year. Unproductive females are culled, no exceptions.

"The breeding herd will eat more than 70% of the annual grass budget, so we need a herd that's productive and fertile with minimal inputs."

Despite fertility requiring more time and effort to influence compared to a trait such as growth, which can be altered within a couple of generations, Tom and Marie have persisted with a fertility-first strategy and a balanced approach to growth.

The result is a low maintenance, tropically adapted and highly fertile herd. Their cattle don't require fly or tick management, a strategy which has reduced input costs.

"You need a consistent and measured long-term view as the gains are incremental," Tom said.

"In northern Australia, where the environment is harsher, the more important the fertility traits are.

"We're looking for data that demonstrates cow families with evidence of maternal success meaning numbers of generations of calves."

As early adopters of BREEDPLAN, the Copleys have fine-tuned their selection decisions over time.

The couple put their entire herd onto BREEDPLAN and conducted extensive genomic testing.

They use HerdMaster to transfer their data through to BREEDPLAN with genomic data and then review the herd's estimated breeding values (EBVs), plot the genetic gain across various traits, maintain quality assurance and review maternal performance.

EBV targets:

- **Days to Calving** – bulls with lower Days to Calving will produce daughters that conceive earlier in the joining period
- **Scrotal Size** – this is correlated with early puberty in bulls and thus in their sisters and daughters
- **Moderate, Early Growth** – for low maintenance, fertile females.

It was important for the Copleys to work with a seedstock producer who also uses BREEDPLAN, has a fertility focus, and operates under a similar management criterion.

"We're not after pampered cattle. With the seedstock bulls, we're looking for a lot of analysis, rather than bulls fed lots of grain so they look good," Tom said.

They attribute much of their success to finding a seedstock producer who analysed their herd, was able to influence and understand their system,



Marie and Tom Copley. Image: Marie Copley.

and had the data to demonstrate they were making progress.

"Selecting your seedstock producer is almost more important than selecting your bulls," Marie said.

"Once you have the right seedstock producer, they will have the range of genetics available to you to meet your breeding objectives."

This data-driven approach has certainly paid off. The Copleys contributed cattle to the MLA and University of Queensland Northern Genomics Project – analysis of their heifers showed strong fertility, well above industry average. More than 60% of the Copleys' group of heifers which were genotyped were in the top 40% for puberty and body condition score while being moderately framed.

The first group of bulls the Copleys measured in 1986 had an EBV of -1.5 for Days to Calving – which is close to the current breed average (-1.9). The Copleys have seen this plummet to -19.1 for their 2022 bull team – a testament to their breeding strategy.

These impressive results would not have been possible without Tom and Marie's dedication to extensive data collection and documentation.

"If you don't have data, it's just an opinion," Tom said.

"Good management and good record keeping go hand-in-hand."

For more information about BREEDPLAN visit [genetics.mla.com.au](https://genetics.mla.com.au)

# Capability building



The capability building program invests in current and emerging leaders, innovators, scientists and value chain participants to enhance professional leadership and business skills. This helps to accelerate industry adoption of research outcomes and positively contributes to holistic sustainability.

## Outcomes

### CN30 Co-Innovation Program

MLA's Co-Innovation program partners with leading supply chains to fast-track innovation development and commercialisation to solve key challenges for both the supply chain company and the broader industry.

Through the Co-Innovation program, MLA is supporting businesses within the red meat supply chain to explore, pilot and commercially scale greenhouse gas (GHG) management interventions, with the aim of demonstrating practical ways for industry to achieve its carbon neutral by 2030 (CN30) goal.

Australian Country Choice, Argyle Foods Group, Casino Food Co-operative, Hewitt Cattle Company and Paraway Pastoral Company have commenced strategic three-year programs with MLA. These five companies represent 965,000 cattle and 413,000 sheep over an area of 9.5 million hectares.

The group will trial different technologies and strategies aligned to the *CN30 Roadmap*, focusing on:

- Emissions avoidance
- Carbon storage
- Integrated management systems
- Organisational leadership building.

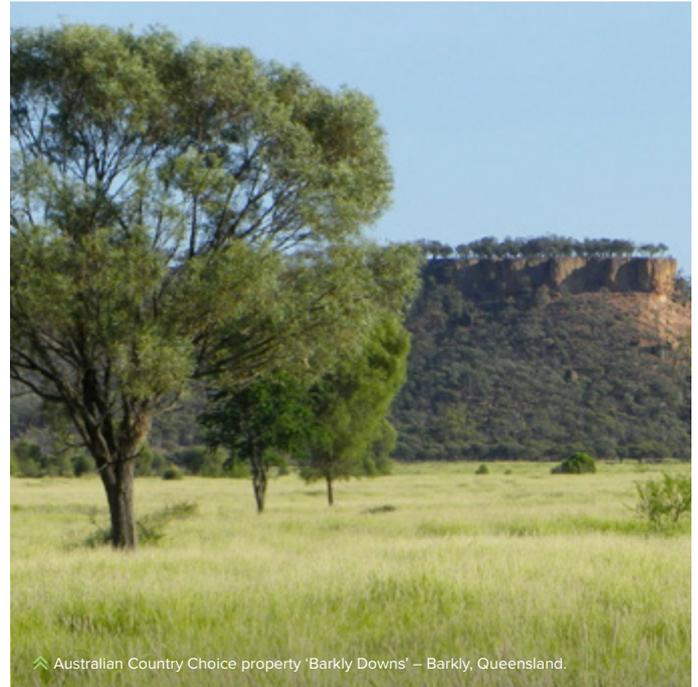
This year, all program partners completed their initial supply chain carbon baseline measurements as the major first tier activity within their program commitments.

### Australian Country Choice

The focus for Australian Country Choice is to better understand abatement and sequestration boundaries, as well as opportunities for their supply chain.

The company has:

- completed carbon account baseline calculations across breeding and background, feedlots and processing operations
- developed abatement and sequestration feasibility studies and investment proposals across various areas of the business, including soils, vegetation, feed additives, energy, and the development of beef herd management projects
- built internal capability systems for monitoring and reporting their carbon footprint going forward, including carbon accounting capability, development of emission and emission intensity reports, and natural capital monitoring and reporting.



^ Australian Country Choice property 'Barkly Downs' – Barkly, Queensland.

### Casino Food Co-operative

The priority for Casino Food Co-operative is to investigate and enable the generation of carbon credits from their producer members. The program includes the development of methods that support a practical and modelled approach to estimating soil organic carbon change to provide a cost-effective way for their producers to demonstrate positive impact to carbon markets.

The company has:

- reviewed all applicable soil and vegetation carbon methods and soil turnover models with the objective of determining the optimal soil carbon method and a suitable vegetation carbon method that can be applied across multiple farms within the Northern Rivers region
- completed a high-level carbon footprint of the Casino Food Co-operative supply chain
- piloted soil carbon change across a select group of member farms.

Through MLA's Co-Innovation program, Casino Food Co-operative will design a carbon sequestration program to extend to its producer members within the next 12 months.

### Hewitt Cattle Company

Hewitt Cattle Company is pursuing sustainability, regenerative agriculture and emission reduction opportunities for its supply chain, including the potential to certify performance for marketing outcomes.

To achieve these goals, an Australian-first collaborative partnership program was developed, encompassing both research and adoption. By design, this project is both a quantification program and an adoption program, aiming to deliver:

- emission reductions including insetting and offsetting
- biodiversity and natural capital improvements
- regenerative agriculture practice change.

Each of these outcomes will help lead the company into launching carbon and environmentally branded red meat products.

This partnership program will demonstrate how combined ESG actions (carbon, biodiversity, natural capital and regenerative agriculture) can be successfully implemented and monetised within red meat supply chains.

### Paraway Pastoral Company

Paraway Pastoral's focus is to explore, pilot and scale greenhouse gas management interventions. The company aims to achieve a net zero warming position, which includes a 30% reduction in methane intensity and net zero CO<sub>2</sub> emissions, providing key insights and case study learnings for wider industry.

Paraway operates 27 pastoral enterprises across a number of diversified climatic zones and a range of country types. Collectively, the portfolio of properties carries over 220,000 cattle and 250,000 sheep, and presents an important value chain partnership given the scale and regional diversity of the enterprise.

Achievements include:

- establishment of scope 1 & 2 baseline emissions for livestock and cropping enterprises
- station-specific emission reduction targets and mitigation strategies
- development of human-induced regeneration projects (environmental planting and biodiversity)
- development and registration of beef herd projects.



📍 Hewitt Cattle Company property 'Pegunny Station' Moura, Queensland.

# Collaborative partnerships



MLA continues its long history of collaborating with the Australian Government, research organisations, value chain partners, cooperative research centres and other research and development corporations by co-investing in projects and consortiums with mutual benefits.

## Rural R&D for Profit projects

### Forewarned is Forearmed

The 'Forewarned is Forearmed (FWFA): Managing the Impacts of Extreme Climate Events' project has delivered new tools that can forecast rainfall and temperature extremes for weeks to seasons in advance.

The project was a long-term collaborative project funded by the Australian Government's Department of Agriculture Fisheries and Forestry as part of the Rural Research & Development (R&D) for Profit (RRD4P) program, along with cash and in-kind contributions from MLA and other RDCs, the Bureau of Meteorology, universities, state governments and private companies.

FWFA's objective was to improve the forecasting of extreme weather events (weeks in advance and to seasonal timescales) to better equip producers with the information needed to mitigate the impact of these events.

The rural industries covered were red meat, dairy, grains, sugar and wine grapes, with support also provided to cotton, pork and rice industries.

The project involved four inter-related components. These were:

1. Understanding user (producer) needs and enhancements of the climate forecast system, led by the Bureau of Meteorology and Monash University.
2. Developing five new extreme event forecast products and their delivery, led by the Bureau of Meteorology.

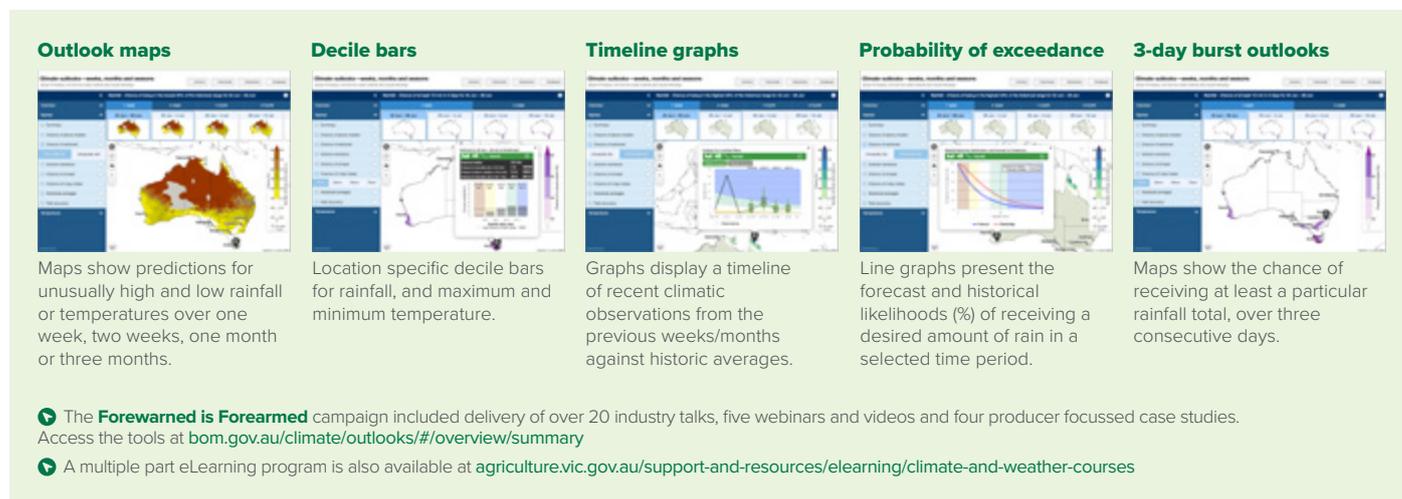
3. Testing experimental forecast products and developing sector risk management packages for climate extremes. Lead agencies were University of Melbourne (UoM), South Australian Research and Development Institute (SARDI) and University of Southern Queensland (USQ) in conjunction with Queensland Department of Agriculture and Fisheries (DAFQ).
4. Extension and training products led by BCG (previously known as Birchip Cropping Group) with support from University of Melbourne, Agriculture Victoria.

Following an assessment of producers' needs and examination of the existing forecast system, the Bureau of Meteorology developed a series of experimental extreme event forecast products and posted them to be tested by producer-led industry reference groups. The group members were asked to identify the past key climate extreme events of consequence and evaluate associated responses to these events, to help inform industry-specific risk management plans for these industries.

The ability to provide warning of extreme weather events increases the ability to manage climate risk. While the maps have helped many producers make decisions ahead of extreme weather (e.g. releasing water from large storages ahead of rains to reduce flooding), they have also been provided to emergency services managers, government and elected officials for events such as the 2022 *La Niña* flooding periods.

For more information about Forewarned is Forearmed visit [piccc.org.au/research/project/FWFA](https://piccc.org.au/research/project/FWFA)

Figure 3: The five new tools developed by the Forewarned is Forearmed project



## Wastes to Profits

The MLA-funded Wastes to Profits project has found new market opportunities for the livestock sector by exploring opportunities to convert waste into valuable new products.

Currently, 20% of a carcass delivers 80% of its value, with some parts of the carcass considered 'wastage' and attracting little or no value. Furthermore, Australia's animal industries also produce wastes from on-farm production and feedlots. The management of these wastes is a significant cost, exceeding \$100–200 million/year.

By creating new business models for the management of wastes, Wastes to Profits has unlocked new revenue streams for Australia's livestock industries.

The project team included around 20 partners from industry and universities, with over 60 researchers from across Australia helping to pursue opportunities in four key areas:

### Wastes assessments, business models and pathways to adoption

Key information gaps on waste composition and quantity, as well as predicted cost-benefits of new extraction technologies, were assessed and waste aggregation opportunities investigated. The project developed a new tool to assess the technical and economic value of anaerobic digestion (AD) projects called the AD Advisor Tool, which is now in use by stakeholders across the red meat industry.

👉 To use the Anaerobic Digestion Advisor Tool visit [adadvisor.info](http://adadvisor.info)

### Development of technologies for improved waste management

Anaerobic digestion is a fairly mature commercial technology for producing renewable energy (biogas) and nutrient-rich fertiliser (digestate) from wastes. However, it has had limited uptake across livestock industries in Australia. The project focused on improving the performance of anaerobic digestion of paunch wastes by improving processing rates and biogas yields and increasing the value of digestion residues. This resulted in the development of a new processing strategy and improvements to project profitability. To demonstrate these benefits, a pilot facility was built at a red meat processing plant to test the outcomes of the developed paunch AD technology under real-world conditions, with capacity to integrate multiple technologies for paunch digestion.

### Development of technologies for production of nutritionally advanced feeds

New animal feeds from processing wastes were tested by growing nutritionally valuable algae and microbial biomass containing high amounts of protein. Single cell protein production technologies were developed at laboratory scale and transferred at pilot scale for economic feasibility and safety/efficacy testing in livestock feeding trials. The feeding trials focused on assessing the feed performance to build a business case for their use. These products contribute to a sustainable feedbase for the sector and potential new revenue streams.



👉 An anaerobic digestion pilot facility was built at a red meat processing plant to test the outcomes of the developed paunch AD technology under real-world conditions.

### Development of technologies for production of fertilisers, chemicals, plastics, and energy products

New technologies were put to the test to produce new products, including:

- bioplastics and biocomposites from animal industry residues
- hydrothermal processing of organics to produce energy products
- use of residues for fertilisers, soil amendment and compost products.

The products developed were tested for feasibility in increasing profitability and new revenue streams. The project supported the development of Aduro Biopolymer's renewable, protein-based plastic made from bloodmeal as a by-product of red meat processing. Sheep Weasand clips made from the material were successfully trialled in a commercial red meat processing plant. The results of the trials demonstrated that these new processing aids could replace those made from petroleum-based plastics, reducing petroleum-based plastic use in red meat processing.

Wastes to Profits was supported by Meat & Livestock Australia through funding from the Australian Government's Department of Agriculture, Fisheries and Forestry as part of its Rural R&D for Profit program and the partners.

A significant project benefit for MLA has been the opportunity to collaborate on shared issues with the Australian Meat Processor Corporation (AMPC), Dairy Australia and Australian Pork Limited, as well as the productive interactions to address important issues including the reduction of production, processing and consumption wastes across all sectors.

👉 For more information about the Wastes to Profits project visit [research.qut.edu.au/cab/projects/wastes-to-profits](http://research.qut.edu.au/cab/projects/wastes-to-profits)

## Farming for the Future

The Farming for the Future program has made significant strides in the collection and verification of data over the past year, with the aim to better provide the evidence base, tools and resources for agricultural supply chains to better understand the value of natural capital assets in farm management and business operations.

Initiated by philanthropic organisation the Macdoch Foundation and supported by MLA, Farming for the Future is a research and change program that seeks to help producers realise greater productivity and profitability by considering natural capital assets in their farm business planning. The program also encourages banks and the wider supply chain to reward this shift.

Farming for the Future has engaged with more than 200 farms across Australia, focusing on livestock operations in NSW, Victoria, Tasmania, and southern WA. Findings from the current research phase are in the process of being consolidated.

Current priorities include the development of survey protocols, investigation of key statistical relationships and prototyping of the natural capital platform to define opportunities available to producers to invest in natural capital and improve farm business outcomes.

By defining natural capital indicators/metrics and providing the relevant assessment protocols and tools, Australian producers will be able to access a full suite of current and emerging natural capital opportunities at minimal cost.

By producing a natural capital benchmark, producers will be equipped to make strategic natural capital investment decisions. The benefit for industry and government will be defined by measuring and reporting on natural capital at both farm and landscape scales to meet environmental, social, and corporate governance standards, as well as national and international targets and commitments.

Farming for the Future is collaborating with an extensive network to achieve systemic change and improve the Australian agricultural sector's climate resilience. This includes farm advisors, agricultural industry bodies, ag-tech companies, supply chain stakeholders, the finance and investment sectors, Commonwealth and state government agencies and academics.

The program's next phase will expand to include 400 livestock, cropping and mixed farm enterprises across NSW, Victoria, Tasmania, WA, SA and Queensland. A future phase of research will expand further to incorporate 1,500 farm businesses in wheat-sheep and pastoral farming regions across all Australian states and territories.

Farming for the Future is an industry-led and industry-supported program. It is supported by the National Farmers Federation with funding support from philanthropists, industry bodies including Meat & Livestock Australia and Australian Wool Innovation, the NSW Government and members of the agricultural supply chain.

👉 For more information about the Farming for the Future program visit [farmingforthefuture.org.au](https://farmingforthefuture.org.au)



## Case study

# Putting natural capital on farm balance sheets

**For NSW Northern Tablelands sheep and cattle producer, Tim Wright, a holistic approach to farm management and protecting his natural capital has rewarded him with improved livestock productivity and business resilience.**

Tim and his wife Suzanne own and operate one of 200 farms across Australia connected with Farming for the Future's first on-farm research round, which focuses on livestock operations in NSW, Victoria, Tasmania, and southern WA.

The Wrights have implemented a grazing plan that places the majority of their property in a rest and recovery phase throughout the year, allowing stock to graze each paddock briefly and move on, leaving fertiliser in the form of manure and urine and mulch in the pastures.

Tim puts strong stock on data collection and analysis, and has experienced firsthand the value that data can provide to his business decisions.

"Farmers generally make decisions and manage their natural resources by instinct. If things are starting to look a bit dry, you think about destocking, or improving ground cover and shelter.

"We need to be able to show how natural capital impacts the bottom line – be it by building resilience or reducing risk. You have to factor all of that into your economic data," Tim said.

"Our bank discounted the margin on our lending facility because we could demonstrate sound, sustainable farming practices which meant we avoided incurring extra debt during the last drought.

"If you treat nature well, it will reward you. It's as simple as that, it's all about doing the right thing by the land," he said.

Dr Sue Ogilvy, Farming for the Future's Program Director, views the program as a potential game-changer in providing the evidence that will link natural capital to financial returns and non-financial benefits directly to the agricultural sector, including farming businesses and families.

Dr Ogilvy said while producers have long known that a farm's natural capital influences productivity and profitability, that relationship has yet to be properly quantified at scale.

"Farming for the Future is looking to change that, through research and development of tools that will enable producers to bring their natural capital onto their farm balance sheets and valuing it as a business asset," she said.

"Quantifying the value of biodiversity and soil health is an important – yet unanswered – question. With this insight, producers will be able to make more informed decisions about how to best manage their land for both its ecological health and farm profitability."

📍 To see how Farming for the Future is working towards a more financially prosperous, climate-resilient and decarbonising agriculture sector in Australia visit [farmingforthefuture.org.au](https://farmingforthefuture.org.au)



Tim Wright, 'Lana', Uralla, NSW.

**"We need to be able to show how natural capital impacts the bottom line – be it by building resilience or reducing risk."**

# Sustainability resource toolkit



## Industry resources

Red Meat 2030 Strategic Plan  
[rmac.com.au/red-meat-2030](http://rmac.com.au/red-meat-2030)

MLA's Strategic Plan 2025  
[mla.com.au/strategicplan](http://mla.com.au/strategicplan)

MLA's sustainability hub  
[mla.com.au/sustainability-hub](http://mla.com.au/sustainability-hub)

Carbon Neutral by 2030 (CN30)  
[mla.com.au/cn30](http://mla.com.au/cn30)

CN30 Roadmap  
[mla.com.au/cn30-roadmap](http://mla.com.au/cn30-roadmap)

Carbon neutral catalogue  
of products and services  
[mla.com.au/cn30-catalogue](http://mla.com.au/cn30-catalogue)

## MLA carbon accounting resources

Carbon Calculator  
[carbon-calculator.mla.com.au](http://carbon-calculator.mla.com.au)

Carbon 101 eLearning modules  
[mla.com.au/elearning-carbon101](http://mla.com.au/elearning-carbon101)

Carbon accounting training  
[piccc.org.au/education/carbonneutraltraining](http://piccc.org.au/education/carbonneutraltraining)

## Industry sustainability frameworks

Australian Beef Sustainability Framework  
[sustainableaustralianbeef.com.au](http://sustainableaustralianbeef.com.au)

Sheep Sustainability Framework  
[sheepsustainabilityframework.com.au](http://sheepsustainabilityframework.com.au)

## Grazing management and feedbase management resources

MLA Australian Feedbase Monitor  
[mla.com.au/afm](http://mla.com.au/afm)

MLA grazing land management hub  
[mla.com.au/grazing](http://mla.com.au/grazing)

MLA feedbase hub  
[mla.com.au/feedbase-hub](http://mla.com.au/feedbase-hub)

MLA soils hub  
[mla.com.au/healthy-soils](http://mla.com.au/healthy-soils)

MLA legumes hub  
[mla.com.au/legumes](http://mla.com.au/legumes)

Feedbase planning and  
budgeting tool  
[etools.mla.com.au/fbrp](http://etools.mla.com.au/fbrp)

Pasture improvement calculator  
[mla.com.au/pasture-improvement-calculator](http://mla.com.au/pasture-improvement-calculator)

Feedlot resources  
[mla.com.au/feedlot](http://mla.com.au/feedlot)

Stocking rate calculator  
[mla.com.au/stocking-rate-calculator](http://mla.com.au/stocking-rate-calculator)

Pasture health kit  
[mla.com.au/persistentpastures](http://mla.com.au/persistentpastures)

## MLA livestock management and animal wellbeing resources

MLA genetics hub  
[genetics.mla.com.au](http://genetics.mla.com.au)

Sheep Genetics  
[sheepgenetics.org.au](http://sheepgenetics.org.au)

Pain relief resources  
[mla.com.au/pain-relief](http://mla.com.au/pain-relief)

Animal welfare  
[mla.com.au/animal-welfare](http://mla.com.au/animal-welfare)

## MLA integrity resources

eNVD Livestock Consignments App – download  
from App Store and Google Play Store

National Livestock Identification System (NLIS)  
[integritysystems.com.au/nlis](http://integritysystems.com.au/nlis)

Livestock Production Assurance (LPA)  
[integritysystems.com.au/lpa](http://integritysystems.com.au/lpa)

Livestock Data Link (LDL)  
[integritysystems.com.au/ldl](http://integritysystems.com.au/ldl)

National Feedlot Accreditation Scheme (NFAS)  
[ausmeat.com.au/services/list/livestock/nfas](http://ausmeat.com.au/services/list/livestock/nfas)

## MLA community resources

Australian Good Meat  
[goodmeat.com.au](http://goodmeat.com.au)

Red Meat. Green Facts  
[redmeatgreenfacts.com.au](http://redmeatgreenfacts.com.au)

MLA Healthy Meals  
[mlahealthymeals.com.au](http://mlahealthymeals.com.au)

⌄ A Greenham Cape Grim producer property, Tasmania.





**Meat & Livestock Australia**

Level 1, 40 Mount Street, North Sydney NSW 2060  
Phone: 02 9463 9333 | Email: [info@mla.com.au](mailto:info@mla.com.au)

[mla.com.au](http://mla.com.au)