Expressions of Interest

Quarterly Call for Co-investment in Sustainability Projects – MLA Donor Company

Summary

The Sustainability (On Farm) program invests in research, development and adoption activities to foster the natural capital base, improve grazing land stewardship and resource use intensity with beneficial impacts on global climate, food security and farm profitability. The program also assists the supply chain on emerging sustainability requirements, opportunities and frameworks.

This includes a focus on farming system efficiency to lower operational costs, income diversification opportunities, and improvements of the natural capital base that improves capital asset value.

Meat & Livestock Australia (MLA) via the MLA Donor Company is seeking expressions of interest from organisations (or partnerships of organisations) to co-invest with MLA in research for the following areas:

- Novel land management and development strategies that directly enhance the resilience, productivity and capital value of soil and landscape assets, while reducing operational risk and improving environmental outcomes or reporting.
- Practical solutions that improve resource use efficiency and reduce costs by enhancing the measurement and application of inputs and decisions, at both/or the animal and whole-property scale
- Biogenic carbon cycle program - building the complete farm system carbon cycle including low-cost approaches to model carbon sequestration/fluxes.

The program prioritises opportunities that reduce the timeframe to adoption with maximum attributable environmental and profitability outcomes for Australian red meat producers.

Background

Novel land management and development strategies that directly enhance the resilience, productivity and capital value of soil and landscape assets, while reducing operational risk and improving environmental outcomes or reporting.

(including measurable improvements to soil condition, water retention, pasture resilience or whole-of-property asset performance)

Australian red meat producers manage over half of Australia's land mass, operating under an increasingly variable climate. Climate resilience depends on sustainable and reliable access to quality forage, water, and soils; supporting livestock growth, reproduction, and supplementation efficiency.

Water security and quality are critical, not just for livestock health, but for sustaining landscape function and downstream catchment health. Practices such as ground cover retention, dam and watering point design, and protection of riparian corridors play a key role in maintaining these values.

Sustainable forage access relies on maintaining soil structure, fertility and water-holding capacity, alongside appropriate pasture composition, fire, weed, and grazing pressure management. Soils underpin pasture resilience, and improving soil condition can create compounding gains in biomass production, carbon retention, and drought buffering capacity.

Through pasture renovation (including sowing legumes and deep-rooted perennials) producers can influence water infiltration, nutrient cycling and landscape hydrology. These interventions build soil organic carbon, improve aggregate structure and can enhance the productive capacity and long-term value of the land asset.

Fencing, both traditional and virtual, is increasingly used to manage total grazing pressure. Strategic grazing not only improves pasture utilisation and recovery but is also a key mechanism to regenerate soil condition and reduce erosion risk.

Decision support tools, including satellite-based systems and weather forecasting, can help producers manage total grazing pressure and align stocking rates with feed availability, while also supporting decisions that protect soil and landscape function.

Forage conservation methods and confinement feeding of livestock are important tools to manage climatic risk. These practices can reduce pressure on pasture and soil during vulnerable periods, while creating feed buffers and flexibility.

Vegetation management, including control of regrowth and invasive weeds, or establishment of shelter belts and timber assets, can enhance ground cover, reduce erosion risk, and support soil function. Invasive species and pests elevate total grazing pressure, reducing desirable forage and exposing soils to degradation.

Fire remains a critical land management tool across many ecosystems. Flexible and regionally appropriate fire strategies are essential to maintain landscape health, protect infrastructure, and support native species recovery.

Increasingly, producers must demonstrate sustainable land and soil stewardship to access premium markets, finance, and supply chain programs. Cost-effective, nationally consistent methods for tracking changes in soil condition, carbon balance and ground cover will empower producers and create a level playing field for value chain participation.

MLA seeks co-investment in innovative land management strategies that enhance the long-term value of soil and landscape assets, improve operational resilience and profitability, and deliver measurable environmental outcomes. Solutions should be scalable, outcome-focused, and aligned with red meat industry (RMI) climate and market goals.

Practical solutions that improve resource use efficiency and reduce costs by enhancing the measurement and application of inputs and decisions, at both/or the animal and whole-property scale

Australian producers can improve livestock resource use efficiency through best-practice management. Efficiency is directly linked to cost of production, cost of gain, and enterprise profitability.

Numerous on-farm strategies can increase weight-for-age, reduce the proportion of unproductive animals, and optimise the mix of livestock classes for greater efficiency.

Examples include aligning calving and lambing with seasonal feed availability, optimising watering point placement to influence grazing distribution, and matching weaning times to local conditions. Further opportunities exist through the use of genetics for growth and fertility, targeted supplementation (energy, minerals, protein), health management (parasites, viruses, bacteria), use of feed additives such as ionophores, and, where appropriate, effective HGP or lot-feeding strategies.

Novel feed additives and vaccines are emerging to reduce energy losses from rumen fermentation, where methane alone can represent 6–8% of gross energy intake. Research into the rumen microbiome, methane suppression, and maximising return on investment from supplements remains a strategic priority.

Efficiency is not limited to individual animals, property-scale decision-making is equally critical. Technologies that integrate livestock, forage, and input data can optimise stocking rates, grazing rotations, pasture utilisation, and input timing at scale. Efficiency gains are amplified when property-wide systems – such as fencing, water infrastructure, supplementation, and animal flow – are managed holistically to align inputs with landscape variability and enterprise goals.

MLA seeks co-investment in novel technologies, practices, and systems that accelerate efficiency gains for the Australian red meat industry, improving both/or animal-level productivity and whole-of-property performance.

Biogenic carbon cycle program – building the complete farm system carbon cycle

Grazing livestock are part of a whole farm system and carbon cycle. Net greenhouse gas emissions of the grazing system is the balance between the **emissions** (from livestock, lime application, fertiliser, pasture residues, vegetation or soil carbon loss due to conversion or management of grazing land) and **sequestration** in the farming environment (soils and vegetation). Establishing a net emissions position versus a direct emission position acknowledges the role grazing livestock have in the environment and the biogenic nature of ruminant derived greenhouse gas.

At a farm systems level there are other parts of the carbon cycle that may be able to be incorporated into emissions and sequestration calculations, but further R&D is required to establish measurement technology and frameworks for adequate calculation of these fluxes.

Currently, an unaccounted pool is the annual change in above and below ground carbon stocks of perennial pastures. The Australian National Inventory report (2022) currently assumes an IPCC Tier 1 approach to grassland above and below ground biomass (no net gain or loss), despite soil carbon changes being modelled under grasslands. The IPCC (2006) Guidelines in Section 6.2.1 (Grassland Remaining Grassland - Biomass), discusses allowance for use of Tier 2 & Tier 3 approaches for estimations of changing carbon stocks in grassland where management changes are occurring over time (e.g. through introductions of silvopastoral systems, tree/brush removal for grazing management, improved pasture management or other practices), to account for potentially significant carbon stock changes. The IPCC (2006) states it is *good practice* for countries to strive to improve inventory and reporting approaches by advancing to the highest tier possible given national circumstances.

To enable a framework for inclusion of Biomass in the National Inventory will rely on establishment of measurement technology that can precisely and accurately measure forage across diverse pastures in Australia at an affordable cost.

The flux of methane into soil (by methanotrophic bacteria) and out of soil (under anaerobic conditions) remains to be studied at scale across the diverse grazing lands of Australia. Global methane budgets published in IPCC AR6 Chapter 5 globally indicates soil uptake of methane between 2008-17 of between 30-37 Tg CH_4/yr, while enteric methane and manure emissions are reported at 109 Tg CH_4/yr. Further research is needed to understand how methane flux on grazing land occurs across different soils and rainfalls and if human management can influence its flux (e.g. grazing in wetlands, or stocking rate).

Finally, an atmospheric nitrogen cycle also exists, albeit across much longer timeframe, and the roles of legumes, biocrusts, soil types and rainfall in soil nitrogen flux over diverse landscapes requires further research.

MLA continues to invest and support development of soil carbon and vegetation sequestration models. Low-cost methods are required that can predict changes in these carbon pools and fluxes (soil, woody vegetation, pasture biomass) across diverse grazing environments with evaluation of their accuracy and precision relative to current gold standards for measurement.

Expressions of Interest

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Please register what project area you are expressing interesting in:

☐ Novel land management and development strategies that directly enhance the resilience, productivity and capital value of soil and landscape assets, while reducing operational risk and improving environmental outcomes or reporting

☐ Practical solutions that improve resource use efficiency and reduce costs by enhancing the measurement and application of inputs and decisions, at both/or the animal and whole-property scale

☐ Biogenic carbon cycle program - building the complete farm system carbon cycle including low-cost approaches to model carbon sequestration/fluxes

Business Name

Name	
ABN	
Street Address	
Postal Address	

Name of Applicant

Name	
Mailing Address	
Phone Number	
Email Address	

Background & Activities Proposed

In less than 1 page explain the background and proposed activities proposed

Objectives

Outline the projects objectives. Use verbs when starting objectives e.g. Determine, Develop, Evaluate

Technology readiness level

Outline the Technology readiness level of your solution/opportunity. See Table of TRL 1 to 9 in Appendix.

Timeframe

Outline the development cycle and timeframe to commercial adoption. Use items such as tables or Gantt charts to demonstrate.

Cost and Benefit

Outline the projected cost of the technology or model at market adoption, along financial beneficial benefits (e.g. ROI, Net Present value, payback periods).

Unique selling proposition

What makes your proposed offering unique and why would producers want to adopt it?

Adoption Pathways

Outline the current level of adoption and total addressable market (producers or hectares). Outline the potential serviceable market, who are the competitors in the market, and the likely obtainable market (producers or hectares). What are the existing or proposed commercial pathways for adoption? Please see appendix for definitions of addressable, serviceable and obtainable markets.

Safety or Regulatory Issues

Outline any expected safety or regulatory issues

Indicative Budget

Outline a total indicative budget for fees, expenses and capital for the project (AUD, Excl. GST).

Confidentiality

By submitting an expression of interest, the applicant will disclose information in the expressions of interest form to MLA's employees, agents, contractors and advisors, for the purposes of the expressions of interest process and any legal or MLA policy requirement. Applicants must identify any information that they consider should be protected as confidential information and provide reasons for this. Confidential IP should not be divulged by the applicant as part of the expressions of interest process.

Process

MLA will review the expression of interest. Proposals will be ranked on expected techno-economic feasibility including timeframe to commercial adoption and obtainable impact change. MLA will contact parties to indicate if their expression of interest has been prioritized.

- **Techno-economic feasibility** – Are the technical claims realistic and deliverable within budget and time constraints? Is the cost structure proportional to the expected outcome?
- **Timeframe to commercial adoption** – How soon can outcomes be applied in industry with measurable return or benefit?
- **Obtainable impact change** – What is the real, addressable impact (not just TAM) based on the sector's ability to adopt, the project's scope, and the percentage of the RMI it benefits?

Project proposal submissions:

The expressions of interest form contained in this document must be lodged electronically as Word document to: tenders@mla.com.au

Expressions of interest must be received by 1700 AEST on Tuesday 30th September.

Strict adherence to the time deadline for applications will occur.

Further information:

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+614 47 264 341
Meat & Livestock Australia

Authorised Person (Signatory) In submitting this form, I warrant:

(a) I have the authorisation to make this warranty on behalf of the Applicant Organisation.

(b) that the information in this application is accurate, and the project will be performed in accordance with all statutory, professional and ethical standards and practices.

(c) in relation to any personal information provided to MLA in this application, before providing any personal information to MLA, notified all individuals to whom the personal information relates that it will be disclosing their personal information to MLA for the purposes of this application/ the project and obtained any required consent to such disclosure; and (ii) provided those individuals with information about where they may find MLA's Privacy policy.

Name:

Title:

Signature:

Date:

Appendix

	Technology Readiness Level Definition
TRL 1	**Basic Research:** Initial scientific research has been conducted. Principles are qualitatively postulated and observed. Focus is on new discovery rather than applications.
TRL 2	**Applied Research:** Initial practical applications are identified. Potential of material or process to solve a problem, satisfy a need, or find application is confirmed.
TRL 3	**Critical Function or Proof of Concept Established:** Applied research advances and early stage development begins. Studies and laboratory measurements validate analytical predictions of separate elements of the technology.
TRL 4	**Lab Testing/Validation of Alpha Prototype Component/Process:** Design, development and lab testing of components/processes. Results provide evidence that performance targets may be attainable based on projected or modeled systems.
TRL 5	**Laboratory Testing of Integrated/Semi-Integrated System:** System Component and/or process validation is achieved in a relevant environment.
TRL 6	**Prototype System Verified:** System/process prototype demonstration in an operational environment (beta prototype system level).
TRL 7	**Integrated Pilot System Demonstrated:** System/process prototype demonstration in an operational environment (integrated pilot system level).
TRL 8	**System Incorporated in Commercial Design:** Actual system/process completed and qualified through test and demonstration (pre-commercial demonstration).
TRL 9	**System Proven and Ready for Full Commercial Deployment:** Actual system proven through successful operations in operating environment, and ready for full commercial deployment.

Market Size Definitions

Total addressable market (TAM) represents the number of producers, hectares or revenue for an opportunity that could be solved by a R&D solution.

The total serviceable market (TSM) is the portion of the addressable market that could be serviced considering factors like geographic reach and distribution.

The total obtainable market (TOM) is the proportion of the serviceable market that you can realistically capture and will actually adopt your R&D solution based on historical performance, awareness of your company or solution and competition.