



MLA Red Meat Packaging Stewardship Framework

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Overview

The Australian red meat Industry relies on the convenience and functionality of plastic packaging to deliver its product to consumers both domestically and internationally. Plastic packaging plays a crucial role in minimising food waste by extending the shelf life of red meat products, providing suitable barrier protection, and ensuring retention of meat quality and food safety along the entire supply chain.

While plastic packaging has clear benefits in terms of maintaining product integrity, it faces challenges with its end-of-life management. Red meat packaging often ends up in landfill due to limited recycling options or challenges in recycling due to its specific design. There are constraints in collection processes, limited infrastructure suitable for recycling, and insufficient demand for recycled resins to create new packaging materials, hindering circularity efforts.

As new packaging alternatives emerge, there's a delicate balance between meeting sustainability goals and maintaining product quality and shelf life. This requires continued investment in research and development to identify innovative solutions that align with both environmental objectives and industry standards.

Product stewardship involves all stakeholders in the supply chain - from producers and manufacturers to brands and retailers - taking responsibility for minimising the environmental and health impacts of their products and packaging throughout their lifecycle. By promoting collaboration and shared responsibility, product stewardship can drive sector-wide initiatives to protect our Australian red meat product integrity, minimise waste generation, conserve natural resources, lower carbon emissions, and enhance packaging recovery and reuse.

By embracing a product stewardship approach, Meat & Livestock Australia (MLA) and its members, can demonstrate leadership in an evolving frontier of sustainable packaging and mandated packaging regulation under Commonwealth law. This proactive stance not only helps navigate emerging regulations but also fosters innovation and circularity within the industry, ensuring a more sustainable future for Australian red meat production and packaging.

Background

Most red meat packaging ends up in landfill due to challenges in recycling attributed to its specific design and required functionality. Government and co-regulatory bodies are focused on the position of problematic plastics with challenges acknowledged by industry bodies on collection, capacity and circularity.

In November 2023, Environment Ministers agreed that new national packaging regulation will be implemented under Commonwealth law and that the Commonwealth Government will be the regulator in the mandating of packaging design, will set minimum recycled content requirements and prohibit harmful chemicals being used in packaging.

The design requirements for packaging are scheduled to be finalised, in consultation with industry, by the end of 2024 and will come into effect under the new regulatory scheme commencing 1st January 2026.

Background reform milestones¹:

- Sept 2021 – Current co-regulatory arrangement review was found to be ineffective due to insufficient voluntary actions, inconsistency of definitions, goals and implementation, lack of state and territory government compliance monitoring and enforcement.
- Oct 2022 – Environmental Ministers Meeting (EMM) agrees to reform packaging regulation by 2025 to ensure all packaging available in Australia is designed to be recovered, reused, recycled and reprocessed safely in line with circular economy principles. Australia will not meet the current 2025 national plastic packaging target of 70% of plastic packaging being recycled or composted by 2025, with the recovery rate sitting at 18%.
- Jun 2023 - Feedback from wider industry for a proposal to mandate design for recyclability to assist with a strategic reset to strengthen regulation. Environmental Ministers decide to phase out harmful chemicals and other contaminants in plastics.
- Nov 2023 - EMM announces to regulate under Commonwealth laws on packaging design requirements, recyclability and labelling criteria, and recycled content underpinned by traceability and verification systems.
- Jun 2023 – Stakeholder engagement and consultation on regulation commences. Focus on reform process, engagement with peak bodies, state and territory governments, NGO's and international entities.
- Late 2024 – Legislative processes commence
- 1 Jan 2026 – New regulatory scheme commences

¹ [DCCEEW Pkg Reform](#)

What is product stewardship?

Product stewardship is a framework to actively manage and mitigate environmental and human health repercussions associated with products, packaging, and materials across their entire life cycle. Product stewardship may be voluntary, mandatory or a collaboration of industry stakeholders that take responsibility for²:

- recycling products, and their packaging
- designing products for easier recycling
- use more recycled materials and less resources to manufacture their products
- limiting hazardous materials their products may contain.

Product stewardship includes extended producer responsibility where organisations introducing products into the market – producers, distributors, importers, brands, or retailers, take actions to mitigate adverse impacts and bear the responsibility for associated costs. It offers a structured pathway for the Australian red meat industry to realise the principles and objectives of a circular economy, implementing packaging design that supports product integrity and fosters sustainability.

Product stewardship activities across the product and material life-cycle

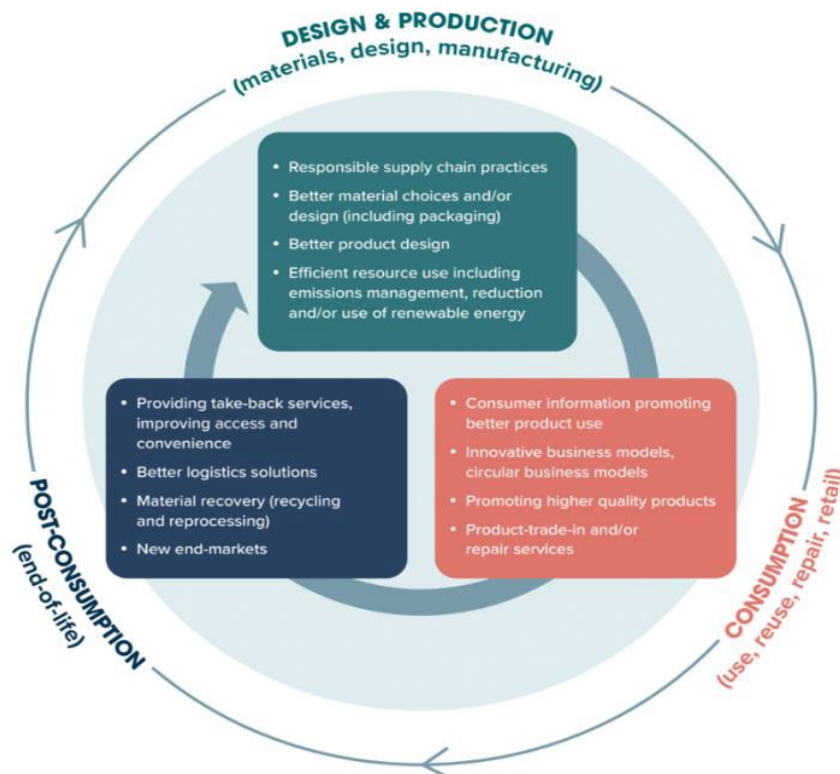


Figure 1: Product Stewardship Actions Across the Lifecycle: Product Stewardship Centre of Excellence.

² [DCCEEW Product Stewardship](#)

What are the challenges?

Material

Reliance on plastic packaging for both domestic and export markets, posing sustainability challenges.

Current packaging is effective in ensuring product integrity but has low recyclability.

Increasing awareness and understanding of designing packaging materials in line with circularity principles.

Addressing sector-specific food health and safety issues.

Regulatory

Domestic and export markets, increasing sustainability and circularity of plastic packaging, and navigating a complex array of domestic and international regulations.

Supply chain and infrastructure

Achieving whole-of-supply-chain cooperation to address the industry's packaging challenges effectively.

Brand

Managing public perception of plastic packaging that may influence the sector's response to industry challenges.

Red meat packaging stewardship objectives

- To support the red meat supply chain to prosper in an evolving frontier of new legislation and governance.
- To address the need for increased awareness and education of the challenges the red meat industry will face and to remain informed of potential market access barriers.
- Enable collaboration across the packaging supply chain to contribute to ideas and feedback in the maintenance of product integrity, shelf life and food safety to ensure Australian producers, processors and value adders are satisfying domestic and international packaging regulatory requirements.
- To make red meat packaging more sustainable and circular by:
 - avoiding use of harmful substances
 - phasing out problematic plastics, replacing non-recyclable plastics with recyclable materials and increasing the use of recycled plastics
 - educating consumers on packaging use and disposal
 - increasing bulk packaging reuse in closed pool supply streams.

How will we get there?

Product Stewardship within the Australian red meat industry engages all stakeholders along the supply chain - from producers and manufacturers to brands and retailers - in the shared responsibility of mitigating the environmental and health impacts of their products and packaging across their entire lifespan. Through fostering collaboration and collective accountability, product stewardship serves as a catalyst for sector-wide initiatives aimed at safeguarding the integrity of Australian red meat products, designing out hazardous substances, reducing waste generation, conserving resources, mitigating carbon emissions, and increasing the recovery and reuse of packaging materials.



Red Meat Packaging Stewardship Forum – collaboration and engagement:

- The Red Meat Packaging Stewardship Forum seeks an informed approach to packaging decisions that may impact or impede market access or threaten our industry’s reputation as ‘clean green’ quality red meat that can be communicated to our red meat industry peak bodies.
- The Red Meat Packaging Stewardship Forum is a multi-stakeholder forum to facilitate collaboration and knowledge-sharing among producers, manufacturers, packaging suppliers, retailers, industry associations, government bodies and environmental organisations.
- Engagement will be supported through awareness campaigns, surveys and feedback mechanisms to understand preferences and concerns regarding red meat packaging sustainability.
- Seeks to source industry investment and the allocation of resources for research and development projects to explore novel packaging concepts, new material formulations (e.g. biodegradable, compostable or recyclable alternatives), innovative packaging designs (e.g. smart packaging, reduced material usage) and advanced packaging technologies.

Current red meat packaging formats

There are many packaging applications and material substrates identified within the red meat supply chain from processor to retailer. Packaging requirements in the red meat industry play an important functional role in food safety, operational serviceability, product integrity and shelf-life extension. Packaging components identified within the Australian red meat industry fall into four categories: thermoformed trays, soft plastics, packaging accessories and secondary components.

Thermoformed trays:

Meat trays are a reliable and functional consumer facing packaging component adopted across the retail sector. The plastic meat packaging tray industry is steadfastly embracing sustainability as a guiding principle. Manufacturers are cognisant of their ecological footprint, leading the charge sustainably with the inclusion of recycled raw materials and resins. This strategic shift addresses concerns regarding plastic waste accumulation, positioning the meat tray as recycle ready.

Additional to plastic trays, new formed fibre packaging is starting to enter the retail sector internationally. Interest in this format is driven by retailers seeking a reduction in total plastic volume within their supply chains.

Thermoformed trays

PET Clear trays

PP Clear trays

PP Black trays

Moulded Fibre Trays

Soft plastics

Soft plastic is used for meat and remains essential under the current retail model due to its crucial role in preservation and preventing food waste. MLA's report *V.MFS.0005 Meat Packaging - The State of Play In An Evolving Market*³ provides a detailed analysis of Australia's challenges in soft plastic recycling. Plastic meat packaging is often composed of several layers, including barriers to prevent gas from moving through the film and causing meat spoilage (MLA, 2016). Prime cuts are placed on retail-ready trays, flushed with a mixture of gases to remove the oxygen and covered with plastic film. The packs are impermeable and retain the modified gas atmosphere around the meat, preserving quality and shelf life by restricting bacteria growth. The plastic used is often a polyolefin blend (consisting of polyethylene and polypropylene) although with increased focus of international recycling regulations (CEFLEX), some mono-polymers are starting to enter the domestic red meat market. Differing barrier film structures deliver different performance ratings according to shelf-life and quality. Seal strength and puncture resistance remains critical (MLA, 2021).

³ [v.mfs.0005 Meat Packaging-The State of play in an evolving market](#)

Soft plastics

PVC Overwrap
 PE Overwrap
 PVdC Barrier vacuum shrink bags
 EVOH Barrier vacuum shrink bags
 EVOH Horizontal Form Fill Barrier film
 EVOH Barrier vacuum bags (non-shrink)
 EVOH Barrier vacuum skin Packaging (VSP)
 Polyolefin >80% EVOH <10% Nylon <10%
 Barrier tray lidding films
 Polyolefin >80% EVOH <10% Nylon <10%

Packaging accessories

Packaging red meat does not come without its challenges. Product integrity remains paramount. Food safety measures are needed to be implemented along the entire supply chain to avoid microbial spoilage. Purge and yield loss also needs to be minimised. Packaging accessories have been designed and incorporated into operations to eliminate or reduce the challenges that may arise in storage, transportation or on the retailer shelf. Bone guards are widely used to avoid punctures to plastic film, soaker pads help with the absorption of blood and purge, and oxygen scavengers can be utilised to reduce aerobic spoilage. There are challenges in the ability to replicate the performance levels of these products in sustainable alternatives and the lack of ability to recycle these products deeming them termed as 'problematic' plastics.

Accessories

Waxed Cloth Bone Guard protectors
 PP Bone Guard protectors
 Cellulose/Polymer Soaker pads
 Barrier Inter-liners
 Polymer Oxygen scavengers
 Polyester Cotton Netting
 Labels - plastic (PE &PP)
 Labels – paper

Secondary components

Transporting our Australian red meat via a safe and efficient supply chain requires appropriate secondary packaging for product protection and load securement during transit. Paperboard cartons are widely used, and some retailers have adopted the usage of a closed pool of plastic injection moulded swing bar crates. Slip sheets, pallet wraps and top caps are all utilised to ensure goods are transported securely and avoid any possibility of cross contamination. Mega bin liners are used as a hygiene barrier between the container and the meat product. These secondary packaging components are mostly considered commodity items and novel sustainable alternatives are

currently not cost comparative. Operational cost challenges remain a consideration for meat processors when exploring sustainable options.

<p>Secondary components</p> <p>Paper board cartons</p> <p>PP Plastic crates - reusable</p> <p>LLDPE Pallet Wrap</p> <p>LDPE or HDPE Mega Bin Liners</p> <p>HDPE Pallet Slip Sheets</p> <p>HDPE Pallet top caps</p>

Red meat packaging product stewardship pathway to sustainability

By following the waste hierarchy, the Australian red meat industry can enhance sustainability practices, reduce waste sent to landfill and contribute to a more circular economy where resources are used more efficiently and responsibly. This approach not only benefits the environment but also supports long-term viability and resilience throughout the supply chain.

WASTE MANAGEMENT HIERARCHY	PATHWAY FOR AUSTRALIAN RED MEAT PACKAGING	AVAILABILITY / ACCESSIBILITY	ACTIONS TO ADDRESS/ IMPLEMENT CHANGES
Avoid	Any chemicals deemed harmful and/or prohibited that may have been associated with packaging manufacturing.	Yes	Removing potential contaminants. Identification of harmful chemicals, or products that have been banned or restricted.
	Any usage of expanded polystyrene trays utilised in red meat enterprises.	Yes	Communicate via retail channels the need to cease usage of EPS trays.
	Rigid Plastic packaging with Carbon Black.	Yes	Carbon black master batch pigment renders the packaging 'undetectable' in Material Recovery Facilities (MRF) and cannot be detected for sorting. These plastics are rejected as waste and lost to landfill.
	Labels that contain PET, PVDC, Paper are not accepted at any % inclusion.	Yes	Educate and encourage awareness of the Australasian Recycling Label Style guide.
Reduce	Chemicals deemed harmful and/or prohibited that may have been associated with packaging manufacturing	Yes	Processor education on the identification of harmful chemicals.
	Explore use of alternative packaging materials that support circularity.	Yes	Explore performance of monomer polymers or products that are deemed ready for recyclability.

WASTE MANAGEMENT HIERARCHY	PATHWAY FOR AUSTRALIAN RED MEAT PACKAGING	AVAILABILITY / ACCESSIBILITY	ACTIONS TO ADDRESS/ IMPLEMENT CHANGES
	Problematic plastics	Yes, substitutes are available but are limited in supply.	Phase out use of problematic plastics over a suitably agreed timeframe to support raw material availability and industry's ability to adapt.
Reuse	Introduce plastic crates into closed pool supply streams.	Yes, but only in closed pool environments.	Promote reuse opportunities within the industry
	Utilise bulk bins for bulk transfers in closed pool supply streams	Yes, but only in closed pool environments.	Promote reuse opportunities within the industry
Recycle	Design packaging with consideration for compatibility to recycle.	Yes	Design packaging with consideration for recycling, replace virgin materials with sourced 'clean' recycled options.
	Support PET/rPET & PP meat tray utilisation that are designed for recycling	Yes, via kerbside collection but fragmented across LGA's	Increase consumer awareness of inline thermoformed PET & PP meat tray recycling challenges
Recover	Increase awareness of the need for capacity and infrastructure to support mechanical and chemical recycling of soft plastics.	Awareness of level of investment needed to increase recycling capacity and circularity in Australia	Increase capacity to collect and recover post-consumer soft plastic packaging to support recycling processes.
	Increase awareness of the need for infrastructure to support advanced recycling of multi-layered barrier films and other hard to recycle soft plastics.	Increase awareness of level of investment needed to establish advanced recycling capabilities in Australia	Increase capacity to collect and recover post-consumer soft plastic packaging to support recycling processes.

MLA's actions

- Inclusion in DEECW packaging reforms consultation and key stakeholder engagement process.*

Australia's red meat and livestock industry makes a significant contribution to the Australian economy. Over 70% of Australia red meat production is exported and in 2023, Australia exported 1.84 million tonnes of red meat to over 100 countries worth a record A\$17.08 bn⁴. MLA has been keeping abreast of the legislative changes that may impact our Australian red meat packaging and potential impediment to continued market access. MLA will contribute to DCCEEW's key stakeholder consultation process to enable our Australian red meat industry to provide insight to the proposed packaging mandated obligations and to remain fully informed of the reform process.
- Remain informed and communicate awareness of current state of play.*

MLA continues to remain vigilant through engagement with industry packaging manufactures, waste and resource partners and other key stakeholders. MLA holds an Australian Packaging Covenant Organisation industry membership, and regularly attends webinars and update sessions as members of the Australian Institute of Packaging (AIP). By remaining educated on the

⁴ [mla.com.au](https://www.mla.com.au) 2024

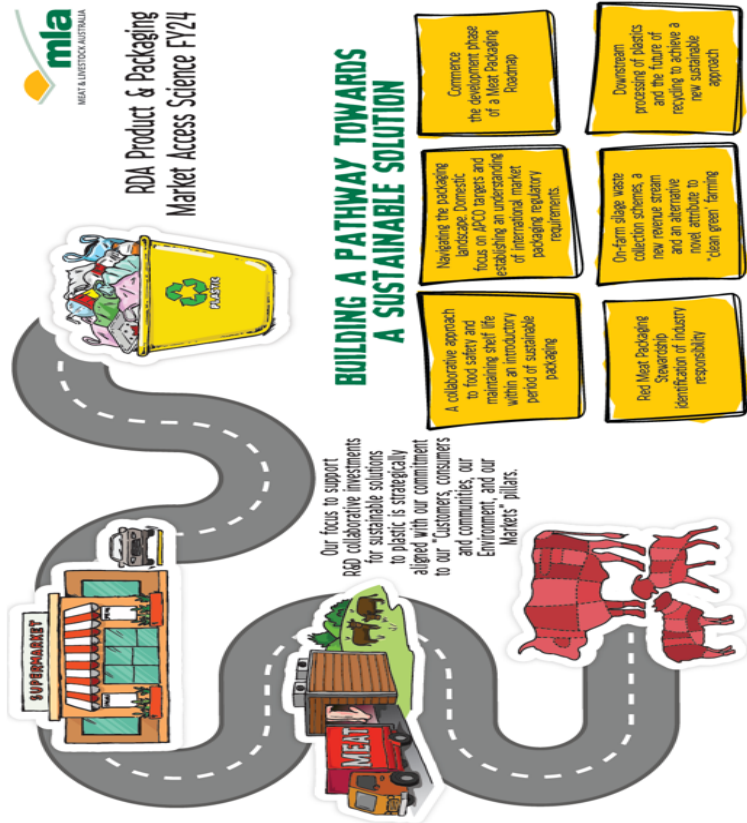
current evolving legislative landscape and being engaged in emerging sustainable packaging initiatives, MLA can communicate to our peak industry bodies any challenges or potential market access barriers that may impact the Australian Red Meat Industry.

- *Provide a Key Issue Brief.*
A summary of MLA's current position of the DCCEEW Packaging Reform will be produced to support any questions that may be directed to MLA for response at Senate Inquiries. Any changes or challenges that have a potential threat to market access will be included in the summary and updated accordingly.
- *Continue MLA's red meat packaging stewardship.*
The Red Meat Packaging Stewardship framework will be released HY2 2024 to key stakeholders and published on the MLA web. Invitations for attendance at the Red Meat Packaging Stewardship forum will be extended to processors and wider packaging industry stakeholders.
- *Continue engagement and representation at industry engagement events and workshops.*
The changing packaging landscape and the challenges of the waste management industry to accommodate for increasing feedstock to support clean recycled content for inclusion in packaging design will not be resolved in the immediate future. Ongoing engagement and industry representation at events and workshops will continue to be a focus for MLA. Opportunities to represent industry at events and workshops will contribute to extending the awareness of packaging industry requirements and MLA will continue to invest in research to support sustainable packaging innovations.

Appendix

1. MLA & its role in Red Meat Packaging – What was delivered in FY24

MLA & its role in Red Meat Packaging



What was delivered in FY24

<p>Product Stewardship</p> <p>Leading the commencement phase of an Australian Meat Packaging Product Stewardship to provide a forum for packaging, meat and broader industry to discuss challenges that may arise from Commonwealth mandated packaging designs.</p> <p>Development of Meat Packaging Product Stewardship Framework</p>	<p>Food Safety</p> <p>Collaboration with AMPC and other industry partners to prompt remaining vigilant with the requirements for food safe principles to be upheld when exploring novel sustainable packaging innovations.</p> <p>MLA representatives (x5) members of AIFST.</p>
<p>Education</p> <p>MLA published the <i>report Meat Packaging: A State of Play In An Evolving Market</i>, an unbiased baseline evaluation of packaging within Australia to inform innovation and progression towards the future of sustainable meat packaging.</p> <p>Attendance at various AIP educational workshops.</p>	<p>Supply Chain</p> <p>Shelf-life predictive modelling for beef and lamb in domestic retail packaging formats incorporated into the MLA Shelf-Life Tool and further extended accessibility with a new web base application. Development of user analytic reporting to support decisions on further investment.</p>
<p>Industry Engagement</p> <p>MLA became an Industry Member of APCO (Aust. Packaging Covenant Org).</p> <p>Attendance at: Australian Waste & Resource Expo. APCO workshop & industry events. APPEX - Sustainable Packaging panel</p> <p>MLA representatives (x2) members of Australian Institute of Packaging (AIP).</p> <p>CSU Sustainable Packaging Innovation Hub - Mentor & Judge</p>	<p>Environment (on-farm)</p> <p>Surveyed MLA member base to determine willingness to engage in an on-farm collection scheme trial with MLA partner; Big Bag Recovery for the recycling of seed, grain & fertiliser woven polypropylene (wPP) and low-density polyethylene (LDPE) bags. 594 responses and 81% stating they would support on-farm collection trial.</p> <p>Contributed to AIA Circularity & Co-Design Workshop.</p>