

A close-up photograph of raw meat, likely lamb chops, resting on a dark wooden surface. The meat is garnished with fresh rosemary sprigs and a variety of colorful spices, including black, white, and orange peppercorns. The image is partially overlaid with a dark red diagonal band that contains the title text. A yellow triangle is visible in the top right corner.

AMPC STRATEGIC PLAN 2013-2017



AMPC

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FOREWARD



Over the next five years, the Australian Meat Processor Corporation (AMPC) will potentially make new investments of \$60 million in Research, Development and Extension (RD&E) and \$33 million in marketing to support a competitive Australian meat processing sector and contribute to the productivity of the broader red meat supply chain.

AMPC's investments will be guided by the strategic research priorities of the Australian Government and the Australian red meat processing sector and supply chain partners. To identify these priorities, AMPC engaged in and conducted extensive consultation with our membership, Government and key stakeholders.

Our primary stakeholders, Australian processing representatives, the Australian Government, Meat and Livestock Australia (MLA) and the members of the Australian Meat Industry Council (AMIC), have worked closely with us to identify and define their strategic research priorities. We would like to thank them for their commitment and contribution to this AMPC RD&E Strategic Plan.

Other stakeholders with whom we consulted included all AMPC members (157 processing establishments), processing networks including the Australian Processor Council, Queensland Country Meat Processors, NSW domestic processors and , scientists, technicians, policy makers, supply chain partner organisations and councils, Meat and Livestock Australia,

CattleCouncil, Sheepmeat Council, the Goat Industry Council, the Australian Lot Feeders Association, the National Farmers Federation (NFF) and the Red Meat Advisory Council (RMAC). The AMPC Board and Executive team sincerely thank all of our stakeholders for taking the time to participate and for providing advice on the priorities impacting our red meat processing sector.

How AMPC will invest in and direct this research is outlined in this Red Meat Processing Strategic Research, Development and Extension and Marketing Plan 2013–17 and we commend this plan to you.

As our stakeholders have requested, over the next five years AMPC will place a greater emphasis on targeted and defined research and on ensuring that research outcomes can be adopted by the red meat processing industry, as well as focusing on enhanced extension, adoption and commercialisation approaches to enhance industry return on investment.

Our stakeholders also requested greater scientific inputs towards enhancing and

addressing major issues such as food safety, new product development, market access, industry sustainability and climate change.

It is recognised that this Red Meat Processing RD&E and Marketing Strategic Plan is to be considered interim until 2015 on the basis that other industry and stakeholder Strategic Plans that influence the direction of AMPC investment will be developed during this time.

These plans include the, the *Meat Industry Strategic Plan (MISP)*, the Beef Industry Strategic Plan, the Sheep Industry Strategic Plan and Meat and Livestock Australia's Strategic Plan. The high degree of co-investment and collaboration across organisations in the red meat supply chain dictates that the outcomes of these other planning processes must be taken into account as part of the annual review of this (AMPC) Red Meat Processing Strategic RD&E Plan for 2013-2017.

AMPC looks forward to working with all of our key stakeholders over the next five years to continue strategic investment towards sound, scientific solutions, industry capability building and marketing activities that will contribute to an Australian meat processing sector and broader red meat supply chain that remains profitable, competitive and sustainable.

AMPC AT A GLANCE

The Australian Meat Processor Corporation (AMPC) is the national Research & Development Corporation that invests in research, development, extension and marketing on behalf of red meat processors in Australia. We are governed by a Board of Directors, and our national operations are directed from our professional team located in Sydney.

AMPC's mandate is to support Research, Development and Extension (RD&E) and Marketing initiatives towards improving the profitability, sustainability and efficiency of the meat processing sector.

AMPC's vision is for a sustainable, profitable and competitive red meat processing sector that meets national and international customer, consumer and community expectations.

Red meat processor levies are strategically invested in RD&E and Marketing programs aimed at delivering improvements to processing businesses and that also will provide significant benefit to the whole of the red meat industry and the broader Australian community.

Our objectives

AMPC's objective is to maximise the efficiency, viability and sustainability of the red meat processing sector by supporting the development of sound, scientific solutions that will:

- Improve the long term efficiency and competitiveness of the industry;
- Enhance the sustainability of the industry;
- Assist to protect, secure and maintain market access;
- Enhance capability and;
- Enhance overall productivity and performance of the meat processing sector.

AMPC supports projects in a wide range of areas including meat science, automation and technology development, food safety, capability building, extension, education, practice change, environmental sustainability, climate change, animal

health, biosecurity and animal welfare, traceability and market access. AMPC focuses on:

- Promoting Australian red meat in the domestic and international marketplace;
- Developing RD&E and Marketing initiatives that address issues in meat safety, quality and product integrity, capability, environment, livestock management and other elements of the supply chain;
- Establishing projects and capability that assist in protecting the economic, environmental, health, safety and social well-being of the meat processing sector.



AMPC'S ACTIVITIES – A SUPPLY CHAIN APPROACH



AMPC participates in joint and core RD&E initiatives through a collaborative RDC partnership with the producer body RDC, Meat and Livestock Australia Ltd (MLA), to ensure that activities are delivered for both the processing sector and the wider red meat supply chain.

MLA, AMPC and all of the Rural Research and Development Corporations (RDCs) representing industry sectors are accountable to both industry and Government for their expenditure. The RDCs invest in RD&E and Marketing to improve the productivity and delivery of high quality products in order to underpin the competitiveness and profitability of Australia's agricultural, fish and forestry industries. This Government-Industry partnership model has been operating successfully for over 20 years and now provides more than \$470 million in annual RD&E expenditure.

Specifically, MLA is the Commonwealth designated Service Provider to the red meat industry under the Red Meat Memorandum of Understanding (MOU), therefore AMPC expenditure involves co-investment and collaboration with MLA for the investment and delivery of processor industry activities. MLA and AMPC partner through a shared Agreement that provides the arrangement for MLA to deliver RD&E and Marketing services to meat processors on behalf of AMPC.

AMPC works with Government to develop and deliver RD&E and Marketing activities

that underpin Australia's National and Rural Research Priorities. The Australian Department of Agriculture, Fisheries and Forestry's role is to develop and implement policies and programs that ensure Australia's agricultural, fisheries, food and forestry industries remain competitive, profitable and sustainable. Based on legislated or industry funding agreements, the Australian Government collects industry levies for the purpose of RD&E and/or marketing. To expand Australia's rural RD&E efforts, the Australian Government matches expenditure on RD&E up to 0.5 per cent of industry Gross Value of Production.

We support a competitive Australian red meat processing sector by investing in and directing RD&E programs along the whole value chain 'from paddock to plate'. This is achieved through collaboration and co-investment with Meat and Livestock Australia and the other red meat industry organisations that together, form the Red Meat Advisory Council under the industry's Memorandum of Understanding.

AMPC also operates in partnership with the Australian Meat Industry Council (AMIC) and works collaboratively with many other organisations representing the broader red meat supply chain to ensure the processor collected levy funds are appropriately invested to deliver tangible results for the red meat sector.

Our RD&E investments are guided by the strategic research priorities of the Australian Government and the Australian meat processing sector.

Our RD&E and Marketing revenue comes from levies on the processing of livestock and matching contributions from the Australian Government.

We collaborate with our key stakeholders to coordinate and direct our investments to best address the sector's RD&E priorities. The importance of RD&E and Marketing investment is evident across the red meat industry, at farm production, post-farm intensive feeding, primary meat processing and value adding/meat product manufacturing stages. A series of studies into investment in rural RD&E have identified large returns in financial and broader terms within Australia and globally.

CROSS-SECTORAL RESEARCH

AMPC utilises evidence-based decision making to guide our investments in partnership with Meat and Livestock Australia. This includes conducting reviews of existing research to identify opportunities for future research, independently assessing proposals through external review panels, and commissioning investigative research to address specific knowledge gaps or requirements. Our research providers include a range of experts from Universities, State agencies, and independent consultancies and the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

In addition to our close partnership with Meat and Livestock Australia, we invest with other Research and Development Corporations (RDCs) in cross-sectoral collaborative research to deliver RD&E benefits to the industry and broader community.

As documented in this Strategic Plan, during the next five years, AMPC expects to continue our investments in cross-

sectoral research in the following strategic areas, which closely align with the research priorities of our partner RDC organisations:

- climate change and climate variability;
- animal biosecurity;
- water use in agriculture;
- animal welfare;
- occupational health and safety;
- extension, adoption and education.

AMPC's governance and operations are developed in order to seek the best possible efficiency, delivery and return on investment of RD&E funding. AMPC works closely with Meat and Livestock Australia to deliver our RD&E programs in this regard and we align our strategies such that the close collaboration and co-investment is directed at the needs of both processors and the broader supply chain.

Our investments are informed and guided by priorities developed as part of our strategic planning processes which are detailed in this AMPC RD&E Strategic Plan. Our Annual Operating Plans are informed by this Strategic Plan and annual reviews ensure that priorities are refreshed on a regular basis. Influencing our Strategic Plan are the priorities of partner RDCs including Meat and Livestock Australia and the Australian Government. Alignment is sought where possible to the National Research, Development and Extension Framework, a Government and industry initiative that encourages co-investment, collaboration and building capability through strategic RD&E programs, including cross sectoral initiatives.



AMPC'S GOVERNANCE FRAMEWORK

On 1 September 2007, the Commonwealth introduced a statutory levy to collect funds from all processors. DAFF forwards these levies to AMPC as set out in the Funding Agreement 2007–2010 and now more recently, the revised Funding Agreement of 2011–2015.

In 2012, AMPC has 126 members operating 154 establishments. This represents over 97% of Australia's cattle, sheep and goat meat processing capacity. In 2012, processors paid levies of \$18.5M. AMPC project expenditure covers \$15.5m in 2012, where half of this is directed towards joint investments with Meat and Livestock Australia for the entire red meat industry supply chain. Under AMPC's Funding Agreement with the Commonwealth

Government, AMPC is required to develop a five-year Strategic Plan that includes AMPC's objectives and priorities and an outline of the strategies AMPC seeks to adopt in order to achieve these stated goals.

Corporate Governance

AMPC recognises the value of strong corporate governance. As a Corporation responsible for the investment of statutory levies provided by processors, AMPC must

meet and demonstrate corporate planning and reporting processes and requirements. In addition, AMPC operates to provide the same governance requirements of its partner industry services body, Meat and Livestock Australia (MLA), as MLA provides matching funding for processor contributions from the Commonwealth Government through legislative mechanisms.

Through its Board, AMPC is accountable to the Australian Parliament through the Minister for Agriculture, Fisheries and Forestry. Table 1 provides an outline of AMPC's corporate governance framework.

TABLE 1: AMPC'S CORPORATE GOVERNANCE FRAMEWORK

ELEMENT DESCRIPTION	REQUIREMENT TO BE ADDRESSED BY AMPC
Enabling legislation	AMPC was declared by the Minister to be the Meat Processor Marketing and Research body under Section 60 (3AA) and 60 (3AB) of the Australian Meat and Livestock Industry Act 1997 (Cth) (Act) in 2007 and entered into an Agreement with the Commonwealth specifying the timing, manner and conditions relation to the payment of Levy funds to those Bodies.
Governance legislation	A Deed of Agreement (Statutory Funding Agreement) between the Commonwealth and AMPC in relation to certain arrangements under the Act including RD&E delivery and reporting responsibilities is established.
Financial control	AMPC maintains accounts and records of transactions and affairs in accordance with the Australian Accounting Standards, and with other legislative requirements under the Corporations Act.
Audit process	Independent internal and external audits are applied for AMPC to review and assess the Company's financials, risk, fraud, quality of internal financial and governance processes and policies, as well as documented evidence of following the requirements under the Company's articles.
Fraud and risk management	AMPC's fraud and risk management framework includes processes for project-, program- and portfolio-level risk management, general compliance and operational risk management and financial risk management, and prudential guidelines for business ventures. AMPC aligns these processes with Meat and Livestock Australia, who oversee processes for approval and the delivery of RD&E activities.
Monitoring performance	AMPC monitors, measures and evaluates its performance to continually improve its effectiveness and efficiency. AMPC co-invests in a range of evaluation programs of its investments with its collaborative partner, Meat and Livestock Australia to ensure that the requirements of RDC investment are met and validated on behalf of industry and Government.
Reporting to stakeholders	AMPC reports regularly to stakeholders, including through formal reporting to Meat and Livestock Australia and the Australian Government, regular updates to processor councils via AMIC, direct reporting to AMPC members, and the publication of annual reports, RD&E Case Studies, factsheets and final research reports, as well as participation in conferences, workshops and other activities.

ELEMENT DESCRIPTION	REQUIREMENT TO BE ADDRESSED BY AMPC
Planning and reporting	<p>AMPC's corporate planning and reporting approach includes:</p> <ul style="list-style-type: none"> • a Strategic Plan that sets out the Company's high-level goals, strategies and performance measures for a five-year period, developed in consultation with stakeholders and approved by the Minister • an Annual Operational Plan that outlines the annual budget, resources and research priorities that give effect to the Strategic Plan during a given financial year. The AOP provides AMPC the opportunity, in consultation with the AMPC Board, Meat and Livestock Australia, AMIC and Government, to respond to external drivers and changing priorities during the life of the Strategic Plan by providing revised emphasis on research themes • a Portfolio Budget Statement – as part of the Australian Government budget process – that summarises the planned outputs, outcomes, performance information and financial statements for a given financial year, and • an Annual Report that provides information on RD&E activities and their performance in relation to the goals set in the Annual Operational Plan and Portfolio Budget Statement for a given financial year.

In developing its new Strategic Plan, AMPC has conducted extensive consultations with its stakeholders. AMPC prepared the following documents, which were circulated to stakeholders and are available from the AMPC website or by contacting the AMPC office:

- *Demographical Study of the Australian Processing Industry*, which provided an overview of the size and nature of the Australian red meat processing sector, and how it had changed in the previous decade;
- *The AMPC Environmental and Future Scan to 2030: Mega-Trends for the Red Meat Processing Industry*;
- *Developing the new AMPC Five-year Research and Development Plan 2012–17*, which asked where participants thought the Australian meat processing sector what the key priorities were both now and in the future;
- *Evaluation of AMPC performance against the Meat Industry Strategic Plan (MISP), 2009-2012*, to be published in early 2013.;
- Program evaluations, including the recent *Evaluation of Program 2.3: processing efficiency and automation* (a shared program with Meat and Livestock Australia), by ACIL Tasman consulting, 2012.

STAKEHOLDER CONSULTATION

AMPC is committed to working with its partners and stakeholders to achieve the efficient application of levy funds to required RD&E and Marketing activities. This is supported by focusing where possible on enhancing communicating and sharing future priorities for investment as well as increasing co-investment and collaboration. AMPC works closely with:

- The AMPC Processor membership;
- The Australian Government;
- Meat and Livestock Australia (MLA) – AMPC’s major RDC partner;
- The Australian Meat Industry Council (AMIC);
- The partner organisations of the red meat industry Memorandum of Understanding and the Red Meat Advisory Council (RMAC) that form the structure of the red meat industry.

These collaborations ensure that processor levy funds are appropriately and strategically invested to deliver tangible results for processors, Government, the red meat industry broadly and the Australian community.

AMPC consulted with its members and key stakeholder groups towards the identification of RD&E and Marketing priorities and the development of this AMPC RD&E and Marketing Strategic Plan.

Significant consultations were held with AMPC’s partner RDC, Meat and

Livestock Australia through a sequence of executive meetings, participation in the MLA taskforce consultation process and engagement with team members involved in related AMPC collaborations such as the Sheep CRC, the Red Meat Co-investment Committee, SafeMeat and other key RD&E forums such as the Food and Nutrition RD&E Strategy.

A forum was held with the Australian Meat Industry Council (AMIC) at their Adelaide Business Forum to discuss the outcomes of the Environmental Future Scan to 2030 and establish strategies for the future that could be supported by industry investment in RD&E. Consultation continued with the AMIC executive and the Australian Processor Council (APC) members as well as individual processor company representatives.

Consultation with Government included the Department of Agriculture, Fisheries and Forestry (DAFF), State Food Authorities, and other Government Departments, including the Department of Foreign Affairs and Trade and the

Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education.

Further consultation was held with stakeholders and industry partner bodies such as Cattle Council, Sheep Meat Council, The Australian Lot Feeder’s Association, the Goat Industry Council, the Red Meat Advisory Council, the National Farmers Federation and other Rural Research and Development Corporations (RDCs) within the Council of RDCs (CRRDC).

Regional consultations with processor representatives occurred within existing regional forums such as the Queensland Country Meat Processors Association (QCMPPA) and the NSW Domestic networks, as well as national surveys of the AMPC membership on future needs, priorities, challenges and issues impacting meat processing businesses. AMPC engaged with processor Company representatives through State-based network meetings facilitated by the Meat Industry Training and Advisory Council (MINTRAC) on AMPC’s behalf. Direct liaison through the consultation and interviews with over 40 individuals for the Environmental Future Scan to 2030 provided inputs from larger meat processing firms, and representatives from Government, research, retail, food service, finance, technology, policy and the supply chain.



RED MEAT PROCESSING SECTOR OVERVIEW

The red meat processing sector is a significant contributor to the Australian economy as well as making a substantial contribution to the nation's export markets. When flow-on effects are taken into account, the industry contributes \$16.2 billion in gross domestic product or 1.3% of total GDP. It also underpins more than 148,000 full-time equivalent (FTE) jobs across all sectors of the economy.

	Value added \$m	Household Income \$m	Employment FTE
BEEF PROCESSING			
New South Wales	2,668.9	1,342.8	24,798
% of State	0.7%	0.7%	0.9%
Queensland	4,872.1	2,188.6	46,375
% of State	2.0%	2.0%	2.4%
South Australia	620.9	269.4	5,467
% of State	0.8%	0.7%	0.8%
Tasmania	282.0	126.8	2,688
% of State	1.2%	1.1%	1.4%
Victoria	2,189.3	983.2	19,629
% of State	0.7%	0.7%	0.8%
Western Australia	612.5	274.5	4,976
% of State	0.3%	0.4%	0.5%
Australia	12,068.5	5,521.9	108,927
% of Australia	0.9%	0.9%	1.2%

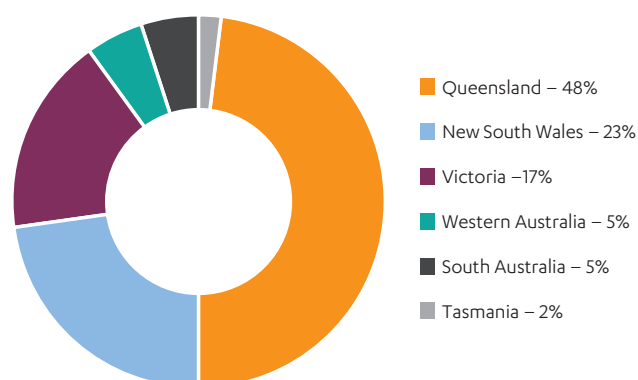
	Value added \$m	Household Income \$m	Employment FTE
SHEEP MEAT PROCESSING			
New South Wales	833.6	433.8	7,813
% of State	0.2%	0.2%	0.3%
South Australia	779.5	395.8	7,994
% of State	1.0%	1.0%	1.2%
Tasmania	84.8	41.3	896
% of State	0.4%	0.4%	0.5%
Victoria	1,919.3	877.2	17,038
% of State	0.6%	0.6%	0.7%
Western Australia	462.1	231.1	4,548
% of State	0.2%	0.3%	0.4%
Australia	4,164.4	2,036.4	39,590
% of Australia	0.3%	0.3%	0.4%

The size and scale of the red meat processing industry

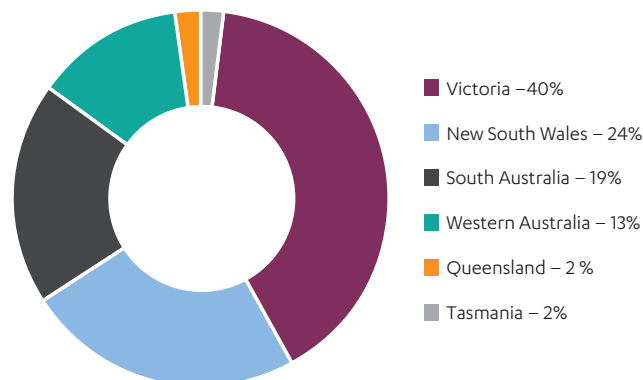
In 2009-10 a total of 8.36 million cattle and calves were slaughtered in Australia producing 2.11 million tonnes carcase weight of beef and veal. Queensland is the single biggest contributor, accounting for 48% of beef and veal produced and 42% of livestock slaughtered. In 2009-10 some 64% of beef and veal produced was exported.

A total of 26.8 million sheep and lambs were slaughtered nationally in 2009-10, producing 574,000 tonnes of mutton and lamb of which almost 59% was exported. Victoria is the single biggest contributor to the production of mutton and lamb accounting for 40%, followed by New South Wales and South Australia.

Distribution of beef and veal produced, 2009-10



Distribution of mutton and lamb produced, 2009-10

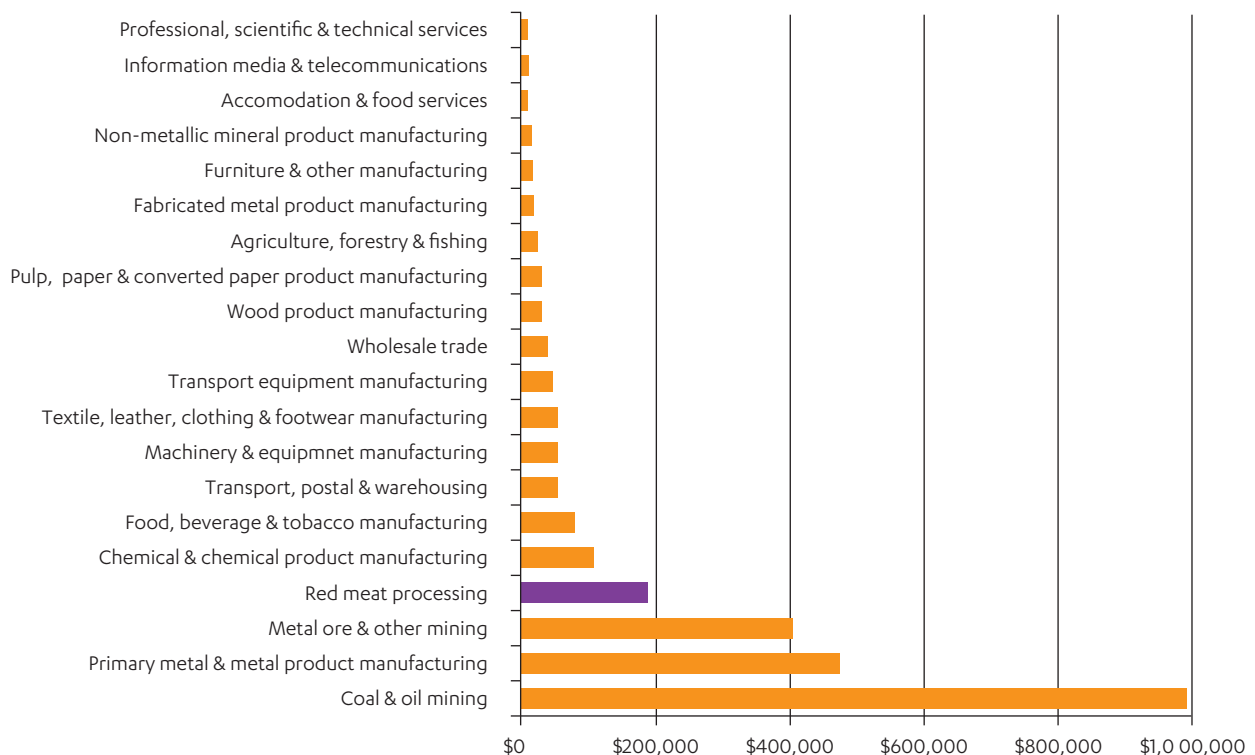




Contribution to the national economy

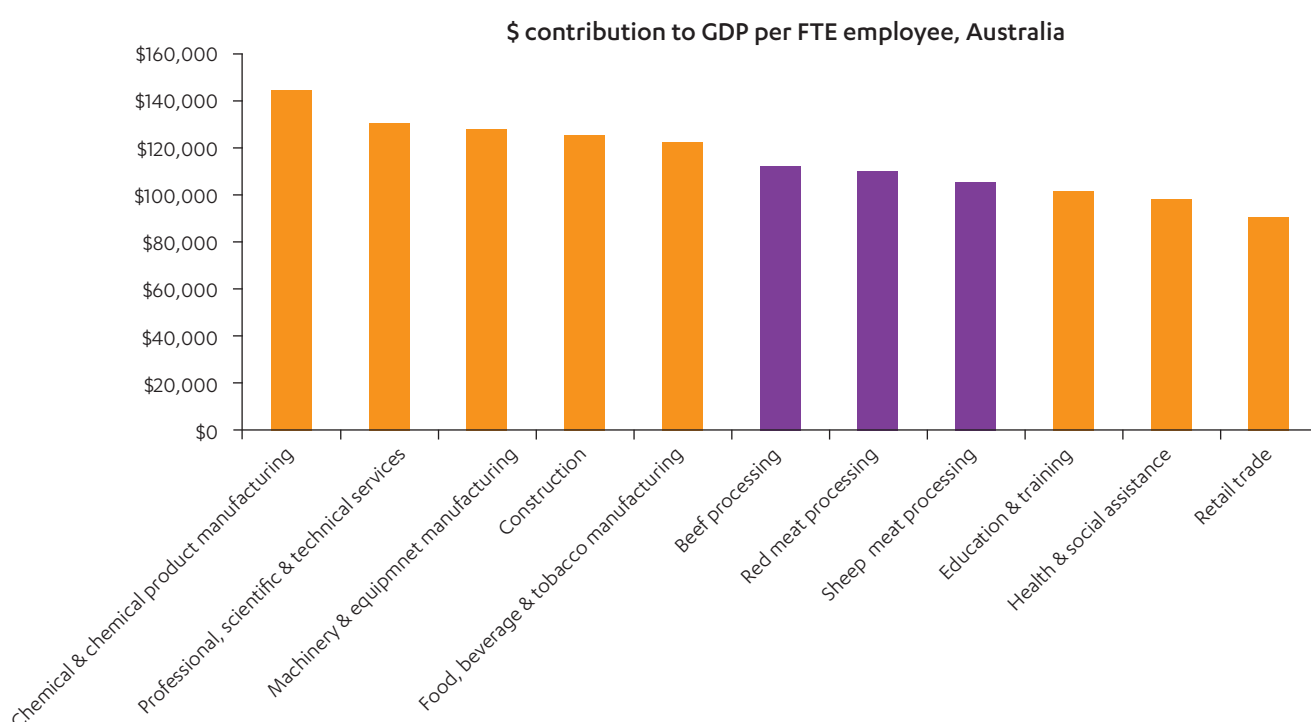
The red meat processing sector makes a significant contribution to Australia's export market. When measured in terms of value of exports per FTE job, the red meat processing sector ranks fourth nationally after coal mining, primary metal & metal product manufacturing and metal ore & other mining. The red meat processing sector's contribution to Australian exports is more than twice that of the balance of the food & beverage manufacturing sector when measured as a value per FTE job.

Red meat processing, Australia – Value of Exports per FTE job



Putting the significance of the red meat processing sector in perspective, nationally the industry underpins almost 1.6% of total FTE employment and approximately 15% of employment in the agriculture, forestry & fishing sector. It also supports more than 2% of employment in transport, postal & warehousing.

The agriculture, forestry & fishing sector is also the main beneficiary of flow-on effects in terms of industry value add. The total industry value add (including flow-on effects) in the red meat processing sector, measured in terms of dollar per FTE employee, is significant when compared with other major employing sectors nationally.



Contribution to the state economies

The most significant contribution to gross state product and FTE employment derived from the red meat processing sector is in Queensland, followed by South Australia. The beef processing sector contributes almost \$4.9 billion to Queensland's gross state product, approximately 2% of the total.

Red meat processing contributes more than \$1.4 billion, or 1.8% of the total in South Australia. Overall, the contribution in Victoria reflects 1.4% of gross state product when flow-on effects are taken into account, while for Tasmania the figure is 1.6%

Regional contribution

The impact of the red meat processing sector at the regional level can be significant. In the Richmond Tweed region of New South Wales, beef processing contributes 3.2% of the gross regional product and 3.3% of total FTE employment when flow-on effects are taken into account. Similarly, the contribution of sheep meat processing to the Lower Great Southern region of Western Australia equates to 4.6% of gross regional product and 7.6% of FTE employment locally.

CONTEXT FOR THIS PLAN



AMPC's strategic planning process took account of the various plans related to the red meat processing sector, including:

- The Meat Industry Strategic Plan (MISP);
- MLA's Strategic Plan;
- The Beef Industry Strategic Plan;
- The Sheep Industry Strategic Plan;
- The relevant RD&E Strategies within the National RD&E Framework;

- Other relevant documents including the Government's Science Strategy 2013-2018.

The MISP will be revised by 2015 and AMPC will ensure it provides the required linkages and alignment with regard its future investments.

Similarly, AMPC will adjust its investments through its Annual Operating Plan processes as Meat and Livestock Australia review their Strategic Plan, as both

RDCs continue to co-invest on behalf of the red meat processing industry and broader supply chain.

It is also noted that the current Beef and Sheep RD&E Strategies currently do not extend beyond the farm gate and that once these initiatives are revised to consider the supply chain, it is likely that new priorities, programs and objectives will emerge that AMPC will respond to as the processor RDC responsible for RD&E and Marketing investment.

STRATEGY RESOURCES AND INPUTS

In addition to the plans (discussed on the previous page) that informed the development of this AMPC Strategic RD&E Plan, AMPC also conducted its own research to ensure that priorities and trends affecting meat processing businesses and the broader community were accounted for (a reference list is provided in Annex 1).

An *Environmental Future Scan* was conducted by *McKinna et al (2012)*. The purpose of the scan was to identify external or uncontrolled factors that are likely to impact on the Australian red meat industry to 2030. In developing the scan, the PESTEL framework was applied which examined future issues in categories of: Political, Economic, Social, Technological, Environmental and Legal/Legislative. A range of interviews with representatives from industry, Government, trade, finance, science/technical, supply chain, customer, retailer and consumer, were held to provide input to the scan.

The approach taken in reporting on the results of the review and the interview process was to divide the *Environmental Future Scan* results into two basic streams, 'Demand' and 'Supply.' At the next level, the 'supply' factors have been analysed along a supply chain line, breaking down the information into the key links: On-farm, Processing, Value – adding and Whole-of- Supply Chain. The 'demand' section is broken down into the domestic and export markets. A sequence of Mega-trends were subsequently identified as the key considerations impacting meat processing into the near future.

The *Environmental Future Scan 2012* was utilised for two industry workshops to identify the research, development, extension and marketing implications for AMPC and its partner organisation MLA on the basis of a fully integrated and shared investment portfolio between the RDCs. The outtakes from



the workshops were filtered, grouped, prioritised and integrated to form the basis for this Strategic plan.

NATIONAL RESEARCH PRIORITIES	RURAL RESEARCH PRIORITIES	MEAT INDUSTRY STRATEGIC PLAN PRIORITIES	MEAT AND LIVESTOCK AUSTRALIA RD&E PRIORITIES	NATIONAL BEEF AND SHEEPMEEAT RD&E STRATEGY PRIORITIES
An environmentally sustainable Australia	Natural Resource management	Environment and ethics	Improving market access	Enhancing food safety, product integrity and biosecurity
Safeguarding Australia	Climate variability and climate change	Market access	Growing demand	Increasing natural resource use efficiency and reducing environmental impacts
Promoting and maintain good health	Biosecurity	Our industry	Increasing productivity across the supply chain	Increasing cost efficiency and productivity (including adaptability and risk management)
Frontier technologies for building and transforming Australian Industries	Supply Chain and markets	Our people	Promoting industry integrity and sustainability	Enhancing integration and value adding in supply chains (including cost efficiency)
	Productivity and adding value	Innovation	Increasing industry and people capability	Improving beef and sheepmeat eating and nutritional quality
	<i>Supporting the priorities:</i>	Marketing and promotion		Developing new and existing beef and sheepmeat markets
	<i>Innovation skills Technology</i>	Economics and infrastructure		Aligning animal welfare practices with consumer and community expectations

The megatrends relating to red meat processing that have been taken into account for the development of this AMPC RD&E and Marketing Strategic Plan are listed below.

MEGA TREND 1: GROWING AND SHIFTING DEMAND IN GLOBAL MARKETS

Global demand for food will need to increase by 150% by 2053 to feed 9 billion people. This will grow two markets: low cost commodities for third world countries and premium differentiated brands for affluent consumers in developing economies. Because of cost structure and lack of global competitiveness, Australia must focus on the second market.

MEGA TREND 2: CHANGING PATTERNS OF CONSUMPTION DOMESTICALLY, DRIVEN BY SHIFTS IN DEMOGRAPHICS AND SOCIAL VALUES.

The combination of an ageing population, the growing ethnicity of Australia and intergenerational behavioural differences will produce shifts in demand patterns for red meat. This could result in changes such as reduced per capita consumption of red meat, growing demand for secondary cuts for slow cooking methods or growing demand for Halal-certified meat.

MEGA TREND 3: RISING PRODUCTION COSTS AS THE INDUSTRY RESPONDS TO CLIMATE CHANGE, WATER AVAILABILITY AND RESULTING GOVERNMENT POLICIES

Production costs will rise due to increased water costs, the impact of climate change on-farm, the direct and indirect impact of a carbon tax and overall business input costs.

MEGA TREND 4: RISING LABOUR COSTS DUE TO SHORTAGES OF SKILLED WORKERS AND EMPLOYMENT COMPLIANCE.

The shortage of skilled and unskilled labour (particularly in regional areas) is limiting the ability of the agri-food sector to grow, adding to the cost of production and reducing Australia's global competitiveness. This situation is being exacerbated by the mining boom.

MEGA TREND 5: THE SHIFT TO CLOSED-LOOP SUPPLY CHAINS

Supermarkets and large corporate food service users are driving the adoption of closed-loop supply chains. Closed-loop supply chains remove volatility and risk for processors, but they also transfer market power to retailers and foodservice companies. This shift in market power is changing the whole economic dynamic of the industry.

MEGA TREND 6: AUSTRALIA'S DECLINING GLOBAL COMPETITIVENESS

Australia's agri-food sector is experiencing deteriorating global competitiveness due to a high Australian dollar, labour availability, regulation and cost, inadequate infrastructure and rising input costs.

MEGA TREND 7: RISING CONSUMER EXPECTATIONS OF SOCIAL RESPONSIBILITY AND ACCOUNTABILITY

The consumer and societal expectations regarding industry and corporate accountability are progressively rising, due to changed value systems. This has been reflected in animal welfare, environmental sustainability, business ethics and workplace practices. The trend is being accelerated by the impact of social media.

MEGA TREND 8: UNSUSTAINABLY LOW PROFIT MARGINS AT ALL LEVELS IN THE MEAT INDUSTRY

Returns in the meat-processing sector are not at the level required to support the ongoing investment in new and emerging technologies that are necessary to ensure continued competitiveness.

MEGA TREND 9: RISING COST OF COMPLIANCE

Rising compliance costs are reducing the profitability and competitiveness of the processing sector. The problematic areas include customer standards and protocols, market access protocols, OH&S, transportation, financial reporting, environment, biosecurity, traceability and animal welfare.

MEGA TREND 10: INCREASING COMPLEXITY OF MARKET ACCESS

In theory, market access should be improving through FTA developments. In practice, however, technical and border security barriers are being put in place which compromise market access and significantly increase compliance costs.

KEY PRIORITIES AND DRIVERS FOR THE MEAT PROCESSING SECTOR

To determine where investment should be focused for the best possible impact, AMPC conducted an analysis of the drivers for change in the red meat processing sector which presents key areas where investment should be focussed into the future. It is noted that the degree of investment is dependent on the risks to industry and the value proposition and it is also recognised that some drivers will warrant more than an RD&E or Marketing response, where the roles of other organisations along the red meat supply chain will come into play.

A summary of the drivers and influences challenging the red meat processing sector is illustrated below:

SUPPLY FACTORS				DEMAND FACTORS	
On-farm drivers	Processing drivers	Value adding drivers	Supply chain drivers	Domestic demand drivers	International market drivers
Climate change	Climate change, natural resource utilisation	Cutting technologies	Carcase quality	Domestic demand consistency	Global economy and outlook
Water availability	Water availability and use in manufacturing	Packaging technologies	Food safety and integrity	Drivers of consumption	Global demographics and community/ consumers
Labour availability & succession planning	Labour availability & succession planning	New product development	Freight and logistics/ infrastructure	Changing customer and consumer expectations	Maintaining and demonstrating food safety/ integrity, disease free status
Land use and sustainability	Infrastructure sustainability	Value adding to existing products	Purchasing and acquisition of livestock and the trading environment	Competition for demand	Market access and trade agreements and the movement of global standards
Farm productivity	Global competitiveness	Product attributes	Information technology and data management	Changing demographics of the community	Influences of technical and biosecurity barriers to trade
Corporate investment	Low margins and profitability	Ingredient composition and use	Livestock management, production, logistics and health	Changing food choices, lifestyles and eating styles	Compliance burdens relating to international trade
Social responsibility and accountability	Compliance requirements for market access	Value adding from waste/bio products	Biosecurity and mitigation of disease threats	Nutrition and health trends	Australia's global competitiveness
Competing industries and trade disruptions	Emerging technologies and their impact	Alternative products from raw materials	Improvements in yield and quality	Retail dynamics	Food security
	Competitiveness and value adding	Improvements in measurement and demonstration of yield, quality and integrity	Social media developments	Proprietary brand and private label emergence	Industry cost base compared with other low-value commodity markets

THE AUSTRALIAN RED MEAT PROCESSING INDUSTRY AND ITS CHANGING LANDSCAPE



Food security

As one of Australia's major food producing industries, the red meat and livestock industry acknowledges it does, and can continue to, play a major role in (a) the attainment of food security domestically and (b) reliably contributing to global food supply. Mechanisms that will underpin this role include:

- Maintaining and, if necessary, increasing productivity to meet food demand and affordability;
- Ensuring that production is environmentally sustainable, to guarantee long-term supply;
- Ensuring that production and processing systems maximise the yield of meat, offal and other byproducts from existing systems;
- Producing nutritious and safe products that meet the expectations of consumers, preferably in a form that underpins easy, nutritious food choices;
- Mitigating local and exotic threats to Australia's food supply (biosecurity, industry crises, natural disasters, etc.); and,

- Assisting in the development and ('paddock to plate') advocacy of knowledge and skills in regards to food production, processing and preparation.

Productivity (investment in innovation)

Increasing red meat processing productivity and the ability for the industry to be able to respond quickly to changing economic conditions are essential to maintaining competitiveness in the face of uncertain market conditions. Ongoing industry and government investment in food production and processing research has a large role to play in both industry competitiveness and our capacity to sustain food that is "profitable to produce and affordable to buy".

Red meat processing has traditionally been a low margin/high volume business. Over 70% of our beef production is exported and over 50% of our sheepmeat production is exported a year. Additionally by products like the offal and meat and bone meal and hides and skins contribute to generate valuable additional export dollars. The red meat processing industry is a highly trade exposed food sector.

The red meat processing sector is facing unparalleled pressure in maintaining its productive base in Australia. Processing costs are now twice that of our major competitors in South America and the United States, with contributing causes being an increase in labour hire costs with no productivity off sets, increasing government charges, increased energy costs, an exchange rate at record levels to the US dollar, poor trade and market access outcomes and inadequate transport infrastructure to meet the future efficiency needs of this global competitor.

Industry Sustainability – Environmental and Social

The red meat processing industry must play their part in reducing greenhouse gas emissions, thought to contribute to climate change. One of the key issues regarding climate change is that it introduces a degree of risk and uncertainty in the Australian meat processing industry reducing its attractiveness to capital. To improve competitiveness, the industry must dramatically improve productivity growth and increase net value in the coming years. Competitiveness

incorporates the full range of issues that impact our businesses' operating environment including flexible labour and water markets, efficient regulatory structures and effective access to markets. In this context, it is important that responses to climate change have a productivity dividend. It should be noted that whilst there are challenges facing industry with respect to climate change and reducing carbon emissions, there are also opportunities. These include productivity, efficiency and economic gains from RD&E outcomes gained through dedicated investigations into enhanced wastewater and waste management, recycling, value adding from waste and energy efficiency, as well as active promotion of the red meat industry's clean and green reputation in collaboration with other agricultural sectors. Solutions to facilitate the transition to a low carbon economy in the meat processing industry will be largely plant specific, taking account of the previous investments into technologies and processes that reduce carbon emissions, and requiring a range of steps, new technologies, processes, systems, capabilities and timeframes.

Competition for resources (tourism, environment, community, urban expansion) is also increasing. Scrutiny of practice and requirements for transparency (e.g nutrient use; animal welfare; water utilisation) are increasing, so it is clear that the red meat processing sector must be able to articulate and be well informed about our own performance and the science and practice underpinning that performance.

Infrastructure and related issues

The age of Australian processing plants is a factor impacting global competitiveness in the red meat industry. Older plants are less efficient in terms of product flows, processing, energy efficiency, and ability to accommodate new technology and require constant upgrading and adaptation to improve production and manufacturing efficiency. Older plants

cannot easily accommodate the adoption of new technology because of restrictive footprints, as well as the challenges with making alterations to the manufacturing equipment. This inefficiency is impacting on the profitability of plants and reduces global competitiveness on a large scale.

Competitiveness is also directly related to the constraints built into our transport infrastructure. The livestock industry is one of the largest single users of domestic transport in Australia. Charges associated with freight represent a significant cost for the industry, particularly northern beef producers. COAG's road reform plan has the potential to further increase costs for heavy vehicles using remote and rural roads. Diesel prices will rise when the rebate is removed in late 2014, which will add significantly to freight costs. Greater transport restrictions due to animal welfare reforms will add to transport costs and complexity. The economics of freight will shift from road to rail but the rail system and its supporting infrastructure is inadequate coupled with Australia's port infrastructure that does not have the capacity to efficiently cater to our industry needs.

Labour, skills, capability and human resources

The requirement to build the capability of our human resources has been a strong priority within industry for many years. "Attract, retain, develop" has been the catchcry. With escalating complexity, this need is now greater than ever. The challenge associated with attracting, retaining and developing people within agriculture is significant as labour shortages particularly in those areas of skilled labour most favoured by the meat processing sector escalates and the choices people have, and make, expand.

Almost 50% of meat processing facilities are located in local Government areas with a population of less than 20,000 people and 80% are in areas with less than 50,000 people. This makes the meat industry a major regional employer but

rising labour costs without productivity offsets, along with on costs such as workers compensation and new superannuation contributions, is driving higher per unit labour costs making the running of a low margin meat processing business in regional Australia less viable.

Regulatory compliance costs

Harmonisation of regulatory arrangements (between and within state, territory and Commonwealth jurisdictions) for environmental standards relevant to land and water use, transport regulations, education and training, food safety inspection and land use competition and apportionment are key areas of interest to the red meat processing sector. To remain internationally competitive, Australia must continue to drive inefficiencies and costs out of local, state and federal government regulation that impacts on industry viability.

Changing customer and consumer expectations, needs and perceptions

Consumers are increasingly expecting social accountability and transparency from businesses and industries.

Health awareness.

Increased health consciousness is here to stay – driven by obesity concerns and an increasing proportion of our population in older age groups. It is supported by a growing awareness of the impact of diet on the health of all age groups.

Community concerns.

Obesity, climate change and water shortages will cause many to question lifestyle and value choices in this apparent 'age of excess'. A return to more traditional family life values is emerging in Australia.

Consumer questions.

Food suppliers and manufacturers will come under greater scrutiny on the integrity of their production practices, including their impact on the environment and, for the livestock industries, animal welfare standards. This means that



consumers will want to know more about what they buy, seeking greater reassurance of ‘good for my family, good for my community’.

Responding.

An appreciation of the growing role of social media in influencing values and behaviour is essential. Industries and businesses need to be learning how to skilfully use and respond to social media.

Food safety and product integrity

While Australia enjoys having one of the safest food supplies in the world our industry recognises this record must not inadvertently introduce complacency. Food safety incidents cause serious illness, can undermine confidence in the safety of the food supply and have a significant and lasting impact on access to export markets. The red meat industry recognises this and in collaboration with Government, invests in the establishment of science-based standards, processes and controls to prevent food safety incursions. Ongoing co-investment

between industry and Government on food safety matters, as well as a more co-ordinated approach to food safety research, education and crisis management, are key considerations in maintaining a sustainable future for food processing.

Market access

The Australian red meat industry heavily depends on exporting and therefore needs access to markets. In today’s increasingly complex global environment, securing market access has become a complex and multi-dimensional activity. Optimal outcomes can only be achieved by a close interaction of the whole of Government and industry. Whilst in the past, Australia has achieved success in opening markets and maintaining access, today’s environment presents increasing threats to our existing conditions of access and challenges to opening up new access opportunities. It appears that current market access consultation and support mechanisms need to be improved so that new markets can continue to be opened and market access gains maintained.

Historically, market access threats have involved border measures to restrict trade such as tariffs and quotas. Whilst many of these persist, more recently Governments have increasingly utilised regulations to restrict access. In partnership with Government, industry needs to pursue a broad range of initiatives to address the multidimensional array of measures now used to restrict trade. These include not only mounting arguments to address border measures that serve as barriers to trade, but also initiatives to remove barriers based on animal disease, animal welfare and food safety standards. To guarantee access it is important to ensure that current regulatory standards in these areas are met and exceeded, as well as anticipated developments in these standards.

Biosecurity

Our industry has long recognised, and responded to, the required balance of social, economic and environmental considerations in red meat production; it is the baseline (economic) competitiveness of our sector that remains the precursor to achieving social and environmental outcomes. Biosecurity is the management of risks to the economy, the environment, and the community, of pests and diseases entering, emerging, establishing or spreading.

The red meat processing sector will continue to incorporate biosecurity measures across the food animal production chain, which includes managing on-farm disease risks, implementing animal tracing systems, and managing food safety issues. Our industry will remain pro-active in raising awareness and the level of adoption among industry members, of biosecurity measures that are known to be cost effective. To guarantee a reduced biosecurity risk to Australia the industry will maintain responsibility for incorporating regulated and non-regulated biosecurity measures in our food safety, quality assurance and market assurance programs while working with Government to ensure these assurance schemes are cost effective and competitive.



KEY STRATEGIC
IMPERATIVES

Enhancing domestic and global competitiveness

Strategies for unlocking market potential and research to address current or emerging market access barriers is of major importance to the red meat processing industry's sustainability, profitability and future net value. The viability of industry is dependent on ensuring global markets remain accessible, transparent and attractive for supply and investment by trading partners.

Currently, industry's co-funded Market Access program provides market access resources to the wider industry, focusing on monitoring trade developments in overseas and domestic markets; undertaking market access research; developing industry-wide positions to support submissions to Government on trade priorities; and lobbying for market access improvements.

To date, significant effort has been directed towards defending the current status of meat markets and where possible, securing improvements to these conditions, as well as responding to unexpected issues as they arise. The World Trade Organization (WTO) Doha Round continues to offer some prospects for trade reform, despite ongoing delays. In partnership with Government, industry needs to continue to pursue the broad range of initiatives to address the multidimensional measures now used to restrict trade. These include not only mounting arguments to address border measures that serve as barriers to trade, but also initiatives to remove barriers based on animal disease, animal welfare and food safety standards. To guarantee improvements in market access it is important to ensure that current regulatory standards in these areas are met and exceeded, as well as anticipated developments in these standards internationally.

The future of market access internationally for Australian meat products is directly linked to maintaining and improving access to established major markets as well as gaining access to emerging markets. With the protracted Doha multilateral trade negotiations, emphasis has been placed on establishing bilateral or regional Free Trade Agreements (FTAs) which have the potential

to open new or expanded opportunities for Australian red meat exports. Currently Australia has 6 FTAs in operation and consideration of a further 8 FTAs, where from an industry perspective, the priority is to ensure that red meat remains a recipient of import liberalisation outcomes. There are also potential gains to be achieved from the Trans-Pacific Partnership regional FTA process and the focus of the Australian Government on partnerships with businesses in Asia. To achieve this, there remains a need to support FTA negotiations in collaboration with Government to ensure that current favourable market access is maintained, that tariff barriers and other trade restrictions are reduced, that commitments on customs procedures and investment are managed and that more efficient and formal consultation processes deliver opportunities for effective dialogue between industry, Government and trade officials.

Industry's major focus is to identify the key market access targets for beef, sheepmeat and goat meat, to work with other industry bodies and the Australian Government to address impediments to market access and to thereby provide input into FTA negotiations. The attempts to prioritise market access issues have often failed in industry's view as methods to prioritise, whether these relate to the value of products, the nature of the product or market or the volume and contribution to the economy, still do not reflect the importance of the individual market access issue for each processing company. Therefore, rather than identifying priorities, it must be considered that given the importance of market access, and the variability in focus of individual companies, market access targets should be identified and aligned with the degree of investment,

capability and focus warranted in order to be resolved. It may be that agreement on key targets across industry can be reached for large markets, particularly where there are processes, consultation mechanisms and dedicated representatives in industry and Government to progress negotiations. From a research perspective, being informed of the intended market access targets enables alignment of underpinning strategies e.g. traceability, food safety, such that an array of targets might be unilaterally addressed through dedicated program initiatives. Into the future, it will be increasingly important that alignment continue to be sought with other sectors outside agriculture that are seeking the same trade reform outcomes. Furthermore, in-country industry (or company based) advocacy activities will be important to ensure effective communication with trading partners, importers, end users and consumers of Australian meat products so that support for enhancing trade opportunities is developed. Therefore enhancing the approach and capability for in-country dialogue remains a consideration.

Whilst improving market access through FTAs and other trade negotiations remains at the forefront, it is recognised that in practice, technical and other border security barriers are increasingly being put in place by overseas countries which compromise market access. In effect, some countries are placing technical and biosecurity requirements on imported products to protect their markets. To overcome these challenges, scientific solutions are increasingly being required to be developed and effectively communicated. Coupled with this, are the increasing burdens of complying with differing protocols, both for market access and customer standards, which continue to undermine profitability of the Australian red meat processing industry as a supplier. It is recognised that access to major markets has moved beyond accreditation to a more complex array of compliance standards which continue to differ across



regions in relation to product integrity and quality and this can result in costly multiple audits for Australian processors. To address these challenges, industry will focus its efforts in quantifying technical market access barriers through extensive benchmarking and the establishment of platform research and development projects that can address key challenges. Increased effort towards effectively “describing our system” for processing will remain imperative.

By quantifying the various and specific requirements of key markets, opportunities exist to establish platform research programs that aims to address key issues facing trading partners, which include: shelf life of frozen and chilled product; integrated supply chain management systems that enhance product traceability; labelling; port of entry requirements and port marking; certification; specific and individual country protocols for

animal by-products (e.g. hides/skins/ rendered product/offal etc); labelling that addresses general and/or specific market requirements; clear protocols for residue management; effective port of entry standards; and greater recognition of Australian standards and systems including export certification, permits and Halal and equivalence in testing and validation activities.

As aforementioned, relative to other countries, the costs associated with Australian meat processing are high relative to other countries, often placing Australian processors at a disadvantage and challenging competitiveness in price sensitive markets. Furthermore, Australia’s competitive advantage in key markets is reliant on our BSE and FMD free status. Protecting and providing assurance about Australia’s biosecurity measures and standards remains a high priority, as does maintaining and improving world

class traceability and product integrity systems. Further detail on the specific considerations are listed under the strategic imperative product integrity, safety and wholesomeness.

Coupled with these activities will be enhanced communication of our system of operation to trading partners and customers. Whilst this may be considered a given, the importance of developing recognisable key performance indicators and verifiable outcomes that represent the attributes of Australian product will become increasingly important – not only for trade development and the maintenance of market access, but in relation to addressing opportunities for branded products within developed markets.

Furthermore, processing businesses focus heavily on maintaining their reputation with customers by demonstrating effective systems for traceability, product

integrity, food safety, animal health, welfare and eating quality. Where industry investment continues to support these arrangements across the supply chain and providing platform data and considered communication messages at the industry and national level, Australia's reputation is maintained. Furthermore, investments in the future will need to now begin to harness individual processor business goals and strategies for their products, market access challenges and the information needed by our businesses in order for them to engage directly with their trading partners. This new direction will provide amplified value adding incentives for individual businesses and their supply chains to engage in market access activities more directly, as well as equip processing businesses to take their products directly to the marketplace.

Finally, in achieving these goals, greater investment focus on capability development to ensure the sustainability of highly qualified representatives operating within industry and with Government will be required into the future. The National RD&E Framework considers the development of Australia's research capability and capacity of paramount importance from an investment perspective. In the context of this strategic



imperative, it is noted that disciplines of trade, economics, commerce, marketing, international policy, microbiology and epidemiology will all be required to enhance Australian meat processing market access capability and support trade negotiations into the future. Specifically, dedicated resources within RDC Companies such as AMPC that can support market access RD&E and Marketing direction in direct consultation with Government remains a priority.

This strategic imperative is underpinned by the following key focus areas:

- Research, target and address trade and technical market access barriers to develop agreed strategy in industry and with Government;
- Apply sound, scientific solutions to mitigate and remove trade barriers and enhance opportunities into existing markets;
- Build capability in key technical and trade disciplines to support ongoing response to market access, trade negotiations, technical and regulatory issues as they arise;
- Maximise the market access options for red meat processors through effective trade reform activities ;
- Respond to domestic and international market expectations by effectively demonstrating and 'describing the system' under which red meat is processed (and produced).

STRATEGIES	KEY FOCUS AREAS	MEASURES OF SUCCESS
Research, identify, prioritise and address trade and technical market access barriers to develop agreed strategy in industry and with Government	<ul style="list-style-type: none"> Market access barriers and targets are identified and strategies developed to resolve these in the short, medium and long term Developing market access targets informs investment into appropriate RD&E platforms of activities that are addressed in a coordinated manner with Government Project platforms are developed to address key technical market access barriers that result in agreed protocols, proformas and communication outcomes Collaboration with other industry sectors, bodies, Governments and nations, assists to identify, manage, communicate and prepare for current and potential trade barriers Ongoing monitoring of progress and benchmarking of targets for market access provides opportunity to respond to trade developments and adjust activities and investment Annual review activities between industry and Government refines and re-freshes agreed market access activities and strategies 	<ul style="list-style-type: none"> Minimal or no reduction in market access through 2013-2017 as a result of technical or regulatory issues Addressing at least 2 market access barriers identified in the benchmarking stocktake and target analysis process from 2013 Market access is improved in 2 developing markets by 2017

STRATEGIES	KEY FOCUS AREAS	MEASURES OF SUCCESS
Apply sound, scientific solutions to mitigate and remove trade barriers and enhance opportunities into existing markets	<ul style="list-style-type: none"> Research is directed at establishing required protocols for key trade and technical issues and communicating these to companies and trading partners as well as national and international Governments National key performance data is continually developed and analysed to position and communicate the attributes of Australian red meat processing Linkages between investments are managed through the supply chain to ensure that benefits and value adding incentives are captured 	<ul style="list-style-type: none"> The red meat processing Market Access Strategy is established and responds to regular review and benchmarking of market access targets Strategic trade reform agendas are established for agreed high priority market access targets and are accompanied by well-considered consultation processes
Build capability in key technical and trade disciplines to support ongoing response to market access, trade negotiations, technical and regulatory issues as they arise	<ul style="list-style-type: none"> Research, trade, economics and other key disciplines required to support industry's response to technical and regulatory issues is further developed within industry through targeted professional development programs that enable and attract industry representatives to coordinate and manage new and emerging issues for market access Support of high-calibre candidates is undertaken in relevant executive leadership, innovation or PhD programs in agricultural trade, policy communications and/or economics Capability building initiatives directed at key disciplines including product development, branding, marketing, trade and technical market access are developed to enhance industry representation and succession planning Programs that support research, development and extension are made available to processing companies to engage in activities that support taking their products to market Review of the successful implementation of domestic and export inspection system reforms 	<ul style="list-style-type: none"> Initiatives to improve and/or develop market access have ongoing research, technical and developmental support Independent evaluations demonstrate that AMPC investment with MLA has contributed to improved market access against processor market access targets Capability and capacity to address and respond to market access activities is increased between 2013-2017
Maximise the market access options for red meat processors through effective trade reform activities	<ul style="list-style-type: none"> Monitoring and responding to WTO developments and providing representation to government on industry priorities that underpin market negotiations Monitor developments in overseas markets; develop networks of industry and government contacts in Australia and overseas; and provide a response capability when impediments arise Coalition building in key overseas markets and industry missions FTA work directed at advancing industry targets in FTAs with countries including Korea, Japan, China and the Trans Pacific Partnership Research to support trade reform advocacy in WTO and FTA negotiations including in market and supply chain research 	<ul style="list-style-type: none"> Customers, trading partners and the general domestic and international community are informed and engaged in relation to the processing of red meat and systems supporting its integrity and wholesomeness
Respond to domestic and international market expectations by effectively demonstrating and 'describing the system' under which red meat is processed (and produced)	<ul style="list-style-type: none"> The capacity to 'describe the system' under which Australian red meat is produced is improved and communicated to trading partners in a custom manner Key performance indicators are expressed in a manner that focusses on the specific interest of each customer/community demographic Communication and extension initiatives are integrated with market access programs and projects Communication and extension activities support standard messaging for systems underpinning product integrity Implementation of industry's issues management strategy to respond accurately, promptly and effectively to customer and community expectations and information needs 	

Delivering to customers and consumers



In relation to increasing the demand for Australian meat products, global demand is estimated to increase by 150% by 2050, this will result in three markets: the first being low cost commodities for third world countries, the second premium differentiated brands for affluent customers in developing countries and the third adding value through the adoption of technologies that provide options for lower value cuts. Due to the cost structure and current challenges with global competitiveness as a consequence of rising input costs, compliance burdens, aging infrastructure and labour availability, Australia will be heavily focussed on the second market.

The consumer and societal expectations regarding industry and corporate accountability are progressively increasing due to changed value systems. Furthermore, the demographics of the community both in Australia and international countries is changing. The growing ethnicity and intergenerational differences will continue to produce shifts in demand, including higher demand for secondary cuts, halal meat and an overall reduction in per capita meat consumption. In addition, specific consumer and societal expectations regarding industry and corporate accountability are progressively

rising, due to changed value systems. This has been reflected in changing expectations for standards of animal welfare, environmental sustainability, business ethics, social accountability and workplace practices. The trend is being accelerated by the impact of social media and the interest of customers and retailers in demonstrating transparency in their supply chains. From an industry perspective, these matters are considered as intrinsic to product quality. On this basis, these considerations are reflected in the next program in relation to AMPC's RD&E and Marketing investment response.

To maximise delivering to customers and consumers and to increase the demand for red meat products, the Australian meat processing sector will focus more on product development, differentiation and the substantiation of product quality parameters in the next 5 years.

Australian meat processors will be heavily focussed on category development and management to produce enhanced business results by focusing on delivering consumer value. In anticipation of this activity, research will underpin objective measures for eating quality and consistency and the utilisation and promotion of meat quality attributes to differentiate our products in key markets, both domestically and overseas. The current measures of end user and consumer confidence will require further analysis, such that the influences of purchasing behaviour can be better measured against customer attitudes. This modelling approach will now need to harness specific products, cuts and supply chains if more targeted standards, communication and marketing is to be established. Understanding and benchmarking the change over time in the current consumer base enables greater ability to address their needs with consideration of demographical differences and influences of choice. Similarly, modelling and benchmarking changing community attitudes over time with respect to product attributes now requires a dedicated economical modelling approach.

The activities directed at addressing customer and consumer needs by market, region and product will need to be better aligned with the promotion of specific brands and attributes both domestically and internationally to strengthen penetration into new and emerging markets and supply chains. Enhanced strategic approaches, such as the development of platform programs for social media, food service, brand category development and the communication of Australian standards and initiatives is required to support the penetration of Australian product in various markets.

In terms of meat quality, the integrity of the Meat Standards Australia grading provides a strong basis for brand development within industry in retail and food service both domestically and internationally. From a research perspective, the evaluation of the accuracy of eating quality measures will continue in order to enhance the demonstration of meat quality attributes, validate these and communicate to the end user. This will enhance the overall application of the Meat Standards Australia approach and its demonstration across a wider range of livestock as well as products and cuts. The fundamental premise underlying all eating quality research activity is to continue to develop a detailed understanding of consumer sensory response to cooked red meat and operate to accurately predict this response

across all cuts from a full range of livestock and processing treatments cooked by multiple methods. Asian and Indian cuisine influences, as well as food styles in developing countries will be an emerging area of focus for new products.

Industry considers that investment into meat science disciplines with expertise in as well as biometrics and statistics, will be imperative for the future expansion of quality standards for meat in Australia. Related activities include influencing culinary educational programs and national and international Chef delegations. Building on the current platform of eating quality with further research into genetics, genomics and functional foods, as well as other attributes in areas of integrity (e.g. shelf life), branding (e.g. packaging/cuts/

cooking), processing technologies and new product development will be a key focus in the next 5 years.

This strategic imperative is underpinned by the following key focus areas:

- Understand what consumers and customers want in relation to red meat products and how these expectations would be met;
- Demonstrating the importance of red meat in the diet;
- Delivering wholesome and consistent eating quality;
- Enhancing and communicating the value proposition of the red meat category to the customer, consumer and community.

STRATEGIES	KEY FOCUS AREAS	MEASURES OF SUCCESS
Understand what consumers and customers want in relation to red meat products and how these expectations would be met	<ul style="list-style-type: none"> • In the domestic market, examine the drivers of consumer demand and measure the effectiveness of marketing and promotional activities • In the international market, examine the drivers of consumer demand through the establishment of an international benchmark survey, test in-country to quantify specific drivers, demographics and needs and measure the effectiveness of marketing and promotional activities • Identify and provide information to address customer and community needs required to enhance category performance, particularly in relation to social, corporate and sustainability practices that underpin product integrity • Contributing to whole-of-industry marketing campaigns that address the drivers of demand – enjoyment, nutrition, convenience, integrity, ethical and social accountability and value for money 	<ul style="list-style-type: none"> • Development and refinement of a predictive model for ongoing change over time analysis of changing consumer, community and customer attitudes to red meat products, social influences and product attributes • Develop and prove interventions for eating quality, nutrition, consistency and productivity
Demonstrating the importance of red meat in the diet	<ul style="list-style-type: none"> • Reviewing and enhancing the current methodology for capturing consumer and customer buying behaviours • Developing more targeted strategies by market, cut, product and supply chain that specifically address the drivers of demand • Examining the effects of specific product attributes on consumer acceptability and product quality within market and by product to underpin strategy revision for marketing, promotion and research • Continued investment and communication of evidence on the benefit of healthy beef and lamb diets for meeting nutrient requirements and preventing obesity and chronic disease at key life stages • Contributing to the red meat industry issues plans and publications that provide information on role of red meat in the diet • Delivering nutrition and health messages to the community and key stakeholders through advertising, direct mail, publications, conferences, seminars, on-line and events 	<ul style="list-style-type: none"> • Develop and maintain standards and measurement tools to underpin guarantees of eating quality • Establish at least 5 post-graduate programs in meat science disciplines • Measurable improvements in the eating quality and consistency of Australian beef and sheep meat

STRATEGIES	KEY FOCUS AREAS	MEASURES OF SUCCESS
Delivering wholesome and consistent eating quality	<ul style="list-style-type: none"> • Develop, deliver and implement processing technologies and processes that contribute to optimal eating quality, nutrition and consistency of product • Develop and enhance the application of interventions for eating quality, nutrition, consistency and productivity • Enhance understanding of the variables and influences contributing to eating quality and how these can be managed • Identify pre-slaughter practices that impact positively on eating quality while also achieving nutritional content and productivity objective • Determine pre-slaughter practices and measures that correlate with meat quality, nutritional content, product attributes, shelf life and yield • Develop, deliver and implement processing technologies and processes that contribute to optimal eating quality, nutrition and consistency of product • Continually examine and establish sound, scientific solutions for product attributes that are determined to impact negatively on the customer and consumer • Collaborate with industry organisations to maximise consistent eating quality standard demonstrate and minimise risks to meeting customer expectations • Specify and further improve relevant and objective measures of meat quality that can be applied at various points of manufacturing and that translate to the end product for the consumer • Integrate meat quality measures into clear and transparent standards to underpin meat processing industry brand development and guarantees provided to the customer • Integrate measures of meat quality as a recognisable category characteristic and point of differentiation in relevant markets • Encourage and support capability development in meat quality and meat science through relevant leadership, PhD, Masters and Honours programs 	(see previous page)
Enhancing and communicating the value proposition of the red meat category to the customer, consumer and community	<ul style="list-style-type: none"> • Develop new trade and consumer opportunities for Australian beef and lamb internationally • Position Australia's red meat as safe, consistent, versatile, wholesome, and nutritious via trade and consumer educational activities • Develop programs that facilitate individual processors in building their brand strategy through innovation and deliver products to the marketplace • Re-affirming standardised messaging relating to positive attributes of red meat such as enjoyment, nutrition, convenience, integrity and value for money • Focusing on lamb promotional efforts for consumer-specific community occasions throughout the year • Expanding the red meat meal repertoire by building consumer confidence in preparation of a wider range of cuts and desire, using seasonal meal-based promotions • Working with retailers and foodservice operators to raise standards of red meat presentation, quality, merchandising and promotion 	

Product integrity, safety and wholesomeness

As competition in meat markets increases and trade barriers around expectations for integrity and quality continue to proliferate, the demonstration of product integrity standards has become increasingly important. Food safety is a key component for product integrity, and a standard expectation of all consumers regardless of market. The importance of being able to validate, demonstrate, communicate and manage responses to food safety issues as they arise is part of daily business in the red meat processing industry.

It is important that the food safety system is delivering the appropriate level of protection to the market and that level of protection is continually reviewed against public health data. Linked to food safety is the overall product integrity framework by which Australian meat processing products are produced, including traceability, freedom from biosecurity and disease threats, animal health and welfare measures and overall meat processing quality standards.

In particular, freedom from major diseases underpins Australia's access to the world's premium meat markets and our ability to quickly and effectively quarantine and manage any disease incursions can significantly reduce the costs associated with such an incident in terms of eradication expenses, lost market access and damaged reputation. Provision of a response capability to manage unforeseen food safety and integrity issues is also a necessity therefore the meat processing industry will provide further consideration to investment into building capability and capacity in microbiology, epidemiology, veterinary and meat science disciplines within the future planned research programs.

Of increasing importance is the ability to validate and communicate credible outcomes. There is a clear need to move away from the current focus on practice and process to more of a focus on the required and agreed outcome and how this is validated by processing Companies and Government and subsequently communicated to trading partners. This is led in part, by the changes in the implementation of export and domestic verification and inspection systems, where more onus is now placed on the processing business to validate how standards are met and verified. This is accompanied by an increased focus on capability and capacity within the Industry and across Government.

Trade, end-users, regulators, and consumers seek constant reassurance as to the safety, quality assurance, audit and verification systems employed in Australia. Currently underpinning Australia's commitment to meat safety is a number of stringent standards and systems throughout the supply chain applying to our products and brands that are both regulatory, commercial and proprietary in nature. The regulatory frameworks take account of both domestic and international standards, including specific technical requirements being applied by individual importing countries. As more responsibility for compliance and direct engagement with trading partners moves to industry it is recognised that there is an opportunity for joint approaches between industry and Government, not only towards the application of standards and verification, but to the determination of research required to underpin the implementation and demonstration of systems that demonstrate product integrity and safety.

Research towards options for risk based post mortem systems, post mortem verification practices and the data needs for industry and Government at the national level in order to address importing country requirements is an ongoing focus at the highest level. Progressive development of nationally agreed indicators of product integrity, safety and wholesomeness that are outcome based is a key focus area, where less attention



on the operations and manufacturing practices is required provided outcomes are clearly demonstrated and enforced. This mechanism will enable companies to better manage the constant proliferation in standards and requirements by adapting these internally and looking for opportunities to align outcomes required for multiple customers and Governments. In addition to the regulatory framework, nearly every commercial customer, retailer, supermarket and food service company employs its own sequence of standards, some proprietary, some accredited and others traversing international supply chains. These standards are required to be met to supply each customer and consequentially, multiple audits remain a significant challenge for industry. This requires significant diligence in the establishment of business systems that are integrated, manage data for a variety of sources, and that can be validated, demonstrated and explained effectively to a range of stakeholders. Moves to baseline and uniform systems for product integrity, national benchmarks and uniform product assessment, grading and labelling is therefore an ongoing and strategic imperative.

Research tools will contribute to confirming, refreshing and aligning practices that lend to the required validation and monitoring processes, as well as identifying variation and the cause and effect on end products.

Most importantly, the data gathered and monitored by meat businesses in response to regulatory requirements needs to contribute to meaningful messages – for instance national performance outcomes, as well as address individual customer specifications and requirements. This will enable better description and demonstration of both Australian and company specific standards and systems. Agreed capability building, training and leadership development for personnel involved in both industry and Government is required for effective contribution to the oversight of product integrity, scientific validation and quality assurance. The WTO Agreement on the Application of Sanitary and Phytosanitary Measures requires that risk measures that may affect international trade must: (i) be based on scientific principles; (ii) not be maintained without sufficient scientific evidence; and (iii) be based on a risk assessment, appropriate to the circumstances, taking into account techniques developed by the relevant international standard organisations. Therefore, as part of this Strategic Plan, industry will consider options to underpin the Primary Industries National RD&E Framework in building capability in these disciplines, and coordinate this effort with Government under the Department of Agriculture, Fisheries and Forestry's Science Strategy 2013-2018. Scientific competency enables Australia to meet its international obligations, therefore industry, via AMPC will continue to focus on building capability in key disciplinary areas via leadership, post-graduate and post-doctoral programs.

From a research perspective, there is an ongoing need for investment into the establishment of scientifically valid assessment tools for food safety, laboratory diagnostics and testing and

the establishment of verification systems that communicate the required measures and outcomes in a meaningful way to the customer, end user, regulator and community. A further goal is to refine agreed measures and outcomes within these systems to minimise additional burdens of food safety monitoring imposed by governments and trade customers and to further enhance the industries reputation.

Key focus areas include (i) reducing the risk of any food safety or product integrity incident arising through the further enhancement of processing and manufacturing assurance systems, (ii) being able to communicate the food safety, integrity and traceability systems to customers and (iii) being able to manage food safety or biosecurity incidents if they arise. Furthermore, the demonstration of equivalent analysis methodologies that underpin our standards and the rigour of scientific approaches remain important in order to reach agreement on the expectations of product integrity and quality with our end users. Consistent messaging relating to the science and the systems applied in industry towards assuring product integrity and quality outcomes is key to building sustainable relationships with trading partners and Governments. Regional, supply chain and targeted branding and marketing all rely on the consistent description of the systems employed by industry, as do each of the individual processing businesses operating in industry when engaging with their customers. This typically relies on specific and dedicated capability on behalf of industry.

In addition to food safety, the red meat processing sector is committed to maintaining several other elements of product integrity which includes eating quality, animal health, traceability and animal welfare, as well as demonstrating ethical and social accountability. These issues are not solely expectations of our customers, they remain integral to the quality of meat products and the high

reputational standards sought by meat processing businesses. The standards and systems underpinning all of these quality characteristics are not only important to market access and customer expectations, they are important to the Australian community. RD&E and Marketing activities under this program will continue to pursue high standards of animal welfare, livestock handling, stunning and slaughter practices, as well as supporting animal health, residue management and the protection of industry from biosecurity incursions. Other key strategies within which investment will contribute include emergency management, enhancing disease surveillance tools and improving traceability systems.

This strategic imperative is underpinned by the following key focus areas:

- Research and development towards food safety to ensure food safety systems and practices are the landmark of Australian product Maintain and enhance efficient food safety and product integrity standards;
- Maintain and enhance efficient product integrity standards and quality assurance systems;
- Maintain and enhance world class traceability systems;
- Biosecurity, residue management and animal health standards are underpinned by sound science;
- High standards of animal welfare standards are demonstrated.

STRATEGIES	KEY FOCUS AREAS	MEASURES OF SUCCESS
Research and development to ensure food safety systems and practices are the landmark of Australian product	<ul style="list-style-type: none"> • Ongoing research to underpin the systems supporting product integrity and food safety is undertaken • Recognisable and scientifically valid performance indicators for agreed elements of wholesomeness and integrity are established, benchmarked and communicated to customers and trading partners • Continued research, diagnostics and extension programs in support of adulterant identification, mitigation, intervention and treatment • Ongoing investment is contributed to whole of supply chain product integrity systems and processes • Research outcomes and developed key performance indicators are integrated with ante and post-mortem inspection systems for animal health surveillance and assessment of product safety and suitability 	<ul style="list-style-type: none"> • Establish agreed performance measures for food safety, product integrity, quality assurance processes and verification • Build capability in key disciplines required to support the scientific and operational implementation of product integrity processes
Maintain and enhance efficient product integrity standards and quality assurance systems	<ul style="list-style-type: none"> • New and innovative technologies are developed that further improve current food safety systems in Australia to maintain our international leading edge in knowledge and practice change • New technologies, practices and procedures for food safety and integrity also deliver efficiencies in labour, resource use (water, energy), yield and overall productivity • Activities are in place to monitor developments and develop new initiatives in biotechnology and biochemistry • Investment is directed at objective carcass measurement integrated with product integrity measures for faster, real time data capture and response in manufacturing • Uptake of product integrity standards is continually supported through rigorous quality assurance practices, extension, training and capability development in industry • Contribution to supply chain related projects that target and underpin the integrity of the Australian red meat and livestock industry quality assurance programs is maintained 	<ul style="list-style-type: none"> • Promote the safety and integrity of Australian red meat products to our international and domestic customers while minimising food safety and product integrity related incidents • Provide monitoring and issues management capacity to avoid loss of market access due to meat safety, product integrity, traceability, biosecurity or animal welfare concerns • Demonstration of standards and practices underpinning animal health, traceability
Maintain and enhance world class traceability systems	<ul style="list-style-type: none"> • Continue to invest in the development, implementation and compliance for traceability systems for livestock and meat products • Enhancements to traceability systems including management of lots for purposes of reducing the impacts of food safety risks • Investigate the capacity to align objective carcass measurement tools and related technologies (automated/semi-automated) with traceability and inventory data capture systems to enhance real time data capture and analysis for the regulator/customer/supplier • Route to market information is continually enhanced through state of the art traceability systems and processes • Investigate supply chain integration, safety and yield measures and other traceability and feedback systems that enhance producer and processor efficiency and profitability 	

STRATEGIES	KEY FOCUS AREAS	MEASURES OF SUCCESS
Biosecurity, residue management and animal health standards are underpinned by sound science	<ul style="list-style-type: none"> • Investigate gaps in knowledge relating to biosecurity, animal disease and residue practices • Enhance the efficiency of ante-mortem procedures, verification and reporting whilst managing multiple standards and requirements • Invest in development of best practice standards, extension and training to address key endemic and exotic disease, biosecurity and traceability risks • Continue disease surveillance and monitoring programs to support industry and Government biosecurity • Identify new and emerging biosecurity risks and mitigation strategies that can be integrated with current practices, including supply chain measures and live animal indicators (pre-slaughter/processing applications) • Investigate feedback systems on product yield, quality and attributes against current requirements to encourage improvements in efficiency, productivity and final product determination/selection 	(see previous page)
High standards of animal welfare are demonstrated	<ul style="list-style-type: none"> • Industry animal welfare standards are regularly reviewed, published and implemented and integration is sought with Government and customer systems for reportable outputs • Research is conducted towards refining animal welfare measures and practices in livestock handling and slaughter • Investigation into live animal measures that correlate to meat quality measures is undertaken towards enhancing the integration of animal welfare as a quality characteristic • Performance outcomes and key messages are established for effective communication on animal welfare topics with trading partners and Governments • Training and extension systems integrate industry standards and regulations and are delivered across industry annually 	

Improving meat processing productivity, products and processes

There is an increasing need to focus research efforts in collaboration with other Rural Research and Development Corporations, Government, RD&E providers and meat processing companies towards new technological advancement, product development and product differentiation. Productivity growth and the ability to respond quickly to changing economic conditions are essential to maintaining industry competitiveness. Research and development, coupled with innovation and capability is recognised across industry as crucial to underpinning productivity gains. In particular, developing and implementing new products, processes and innovative technology solutions are required for business productivity and sustainability.

Processors operate complex businesses in an environment characterised by highly variable seasons and markets. It is essential that research and development delivers new tools, manufacturing practices and technologies that support red meat processing businesses to become more productive and efficient. New and emerging challenges include labour and skills shortage, competition brought by emerging international technologies, climate challenges including drought, increasing regulatory pressures, the decline in RD&E expenditure, slower technology outputs and slower rates of adoption all impact the rate of productivity growth in the industry. Consequently, new technologies, processes and practices that enhance efficiency and profitability

are becoming increasingly important for all processing businesses. There are opportunities to address these issues through research and development applied at an industry-wide level.

The adoption of advancements in technologies for boning and cutting will become more important. Whilst these activities have principally been driven by labour shortages and OH&S compliance needs, it is becoming clear that the most successful innovations are those with further consideration of yield, productivity, product development, contaminant reduction and processing efficiency. For instance, enhanced focus on processing technologies that not only improve meat processing practice, but that account for

objective carcase and yield measures in conjunction with compliance measures, will be necessary in the future if processors are to continually improve productivity whilst addressing their customer's specifications. To compete on the world scene, investments in technology will now need to account not only for improvements in automation, labour, OH&S, but also improvements in yield, data capture, efficiency and novel product differentiation if they are to be successful investments by industry.

To re-focus Australia's former strategy in automation, robotics and processing efficiency, there is now a significant need to quantify and analyse the individual task opportunities at the same time as examining the data, product specifications and customer inventory needs of the processor. These elements need to be considered in unison for future technology advances. Technology, automation and robotics will now need to be considered in context of product development and delivery, where areas such as packaging technologies, recycling, cutting technologies, carcase, cut and end product selection can be integrated with processing activities as well as collect, collate and



report data. In other words, with increasing pressure on industry in terms of input costs, investments in technology will only be considered valuable if they address delivery of the product to the marketplace in a manner that adds value to the business.

In terms of new product development, the alignment of innovation with the need of customers and trading partners will be imperative. This requires detailed understanding of the specific markets to be targeted and subsequently, the technological development opportunities for product development for these target markets. Processing businesses are well placed to engage in new product development if they are supported by effective programs that expose them to technologies, new practices and capability as well as encourage them to engage with their own customers. The development of new programs that focus on market research, industry capability development in novel products and branding, as well

as identifying new technologies that add value to products will be key strategies for investment. In terms of the focus of new products, these should relate directly to the aforementioned market access opportunities and include, but not be restricted to, tailored ready to eat meals to high value ingredients such as those utilised by the pharmaceutical, nutraceutical and cosmetic industries, low value cut development, further processed products, and novel products including meals targeting Asian markets, Indian cuisines and so on. This program will focus on assisting industry to identify market opportunities for lower-value meat cuts and co-products, developing the capability to access novel markets and value chains and developing advanced technologies. This program will also focus on methods to derive extra value from lower-value meat cuts and from the non-meat parts of the animal, such as skins, offal and blood products.

As previously highlighted, category development and brand strategy design will be a major focus for industry in the next 5-10 years in order to target affluent customers in developed markets and to keep up with the increasing product competition presented from other sectors, commodities and products. In other industries, the movement from raw products has been more rapid, where product differentiation is “business as usual” and a dominant component of company business strategy. The meat processing sector will be seeking to be more responsive in developing new and novel products to meet the changing and differing needs of consumers and food service customers, whilst maintaining high standards of raw product into existing markets. It is clear that shifting trends in demographics of the domestic and international community will make way for new cooking techniques, new product options, new packaging and other technologies that capitalise on required cuts, improved returns for secondary cuts through Asian and Indian cuisine styles, and better convenience, product quality, meat preparation and cooking techniques for the domestic and developed markets.

This strategic imperative is underpinned by the following key focus areas:

- Increasing the productivity of red meat processors to compete on the global scene through new technologies and manufacturing practices;
- Examining novel and efficient technologies and processes for whole carcase measurement and monitoring;
- Developing new meat products;
- Examine opportunities to value add from meat and meat products;
- Enhance the adoption and commercialisation of new technologies and innovations in industry.



STRATEGIES	KEY FOCUS AREAS	MEASURES OF SUCCESS
Increasing the productivity of red meat processors to compete on the global scene through new technologies and manufacturing practices	<ul style="list-style-type: none"> Innovations are developed that can increase productivity and reduce cost of processing, and that enhance product quality, carcase yield and value without adverse environmental impacts Technologies are developed that improve working conditions to reduce work-related injuries and illnesses and create greater efficiencies in manufacturing Technologies are developed that enable more effective and efficient manufacturing practices including materials handling, slaughter, boning and cutting activities Technologies are designed, tested, trialled and evaluated to ensure seamless integration with commercial processing practices whilst maintaining quality assurance and product specifications 	<ul style="list-style-type: none"> Developed technologies and management practices that demonstrate a high rate of return on investment, that enhance productivity whilst reducing worker health and safety risks Enhanced objective carcase measurement leads to improvement in productivity and yield
Examining novel and efficient technologies and processes for whole carcase measurement and monitoring	<ul style="list-style-type: none"> Research is conducted into the development and adoption of new technologies and systems that maximise utilisation of meat and meat products Enabling platform technologies including vision and sensing are investigated and developed in a manner that enables strategic investment into automation technologies as well as objective carcase measurement Benchmarking of key tasks enables the identification of new RD&E opportunities through the analysis of task, labour utilisation, time/inputs, priority, product requirements and value adding options Opportunities to enhance the measurement and specifications for lean meat yield and other carcase monitoring options are explored Opportunities to align sensing for objective carcase measurement with other quality assurance measures required in real time for traceability, inventory control and the customer are evaluated New technologies and systems for inventory, materials handling and packaging are examined and researched Opportunities for more novel and efficient processing practices that deliver labour and/or worker safety outcomes whilst maintaining of increasing yield, accuracy, product quality and food safety are investigated 	<ul style="list-style-type: none"> Platform technologies are established to align real time data capture with new technologies in automation and robotics New products are developed, researched and tested and engagement with processors enables companies to take the products to market through effective brand strategy development programs
Developing new meat products	<ul style="list-style-type: none"> Mechanisms to engage with customers towards the development and market 'pull through' of new products to the customer are continually explored at the RD&E concept development phase The focus for new technologies that enhance new product development and product delivery to specification is increased Expand consumer and food service demand for low-value cuts and by-products to better capture unrealised value from the carcase Examine product development, differentiation and branding opportunities through capability building Design effective programs that enable processing companies to undertake product development and branding strategy and to take their products to market and assess value proposition Implement open innovation process to identify and develop novel value propositions Develop products and protocols for high connective tissue cuts 	

STRATEGIES	KEY FOCUS AREAS	MEASURES OF SUCCESS
Examine opportunities to value add from meat and meat products	<ul style="list-style-type: none"> • Develop advanced technologies which can provide the industry with a competitive advantage in the area of value-adding • Assist industry to identify new domestic and international market opportunities for value-added products • Develop more cost effective purification technologies for Australian bio-actives • Research to enhance the functionality of bio-actives in order to differentiate the products in the world market • Maintain and develop improved resources to facilitate the commercial evaluation of new product and technology opportunities • Facilitate enterprises and supply chain level ability to evaluate and adopt new value adding opportunities with research and technical advice • Cost-benefit analysis and evaluation of value adding opportunities and performance 	(see previous page)
Enhance the adoption and commercialisation of new technologies and innovations in industry	<ul style="list-style-type: none"> • Engage processors and Government in an industry-wide technology strategy that includes new RD&E opportunities for technology development, evaluation and cost benefit and rigorous extension, adoption and commercialisation strategies • Address identified barriers to the adoption of both automated and manual assist technologies through the application of benchmarks and investigation of transformational process, technology and practice change • Where challenges exist in areas of automation or robotics, collaborate with other sectors and international partners that might be positioned to advance the RD&E further in red meat with the linkage of strategic investment • Develop decision making tools for processor businesses to evaluate the adoption of technologies in line with their business strategy and be able to securely integrate technologies with their business operation • Investment towards business planning tools and resources that provide Government, industry organisations and individual enterprises enhanced ability to make decisions around new innovations • Develop and maintain IP protection to secure competitive advantage • Cost-benefit analysis and evaluation of new technological advances and performance • Training and extension is delivered to cater for and enable the adoption of new innovation adoption in industry and technological advances • Industry awareness of emerging trends, technological advancements, opportunities for new products and value-adding is enhanced 	

Improving sustainability



Sustainability in the industry relates to a multitude of influences that may be social, economic, infrastructure and environmental in nature. The red meat processing industry is Australia's largest food manufacturer and Australia's largest food exporter. It generates annually \$16.2 billion in GDP, \$7.6 billion in household income, \$5.8 billion in exports and 148,000 jobs when flow-on effects are included. The industry is heavily export dependent with over 60% of its production exported. Similar to most other agricultural industries, red meat processing businesses face considerable challenges, including international competition, volatile markets and trading conditions, declining resources and capability, labour shortages, changing customer and trading partner requirements, climate variability and other issues. These challenges continue to place increasing pressure on the ability for industry to remain productive and competitive in the world market.

Just as the National RD&E Framework has identified issues such as capability decline as a key element for the sustainability of research capacity in Australia, the importance of maintaining current productivity, access to skilled workers, protecting the natural resource base and enhancing overall profitability are key sustainability related issues for industry. Relative to other nations, the cost of processing in Australia is high (2 times that of Brazil for grain fed and 2.4 times for grass fed). The higher costs of labour, compliance, business resource inputs and challenges with consistency of

throughput puts Australia at a disadvantage in contested markets. Research and development strategies need to consider these challenges through more targeted and "triple bottom line" investments that enable increased productivity in order to overcome current sustainability issues facing industry.

The recruitment and retention of labour is a major issue for the meat-processing sector. Plants commonly run below their daily capabilities because of labour shortages. Australian processors have trouble recruiting and keeping skilled labour,

particularly given other industries with higher margins being able to offer attractive salary packages. For processing businesses, labour is the greatest operational cost after the cost of livestock and maintaining this overhead puts pressure on processors to maintain high rates of daily manufacturing throughput. Labour is one of the biggest factors in Australia's declining global competitiveness, given that labour rates are substantially higher in Australia and workplace conditions significantly add to cost. Whilst the 457 visa has partially assisted with the problem there is a need for other strategies, particularly if regulatory changes are considered in the future. Challenges remain in relation to managing the workplace environment, providing flexibility in working hours, managing the labour component of many roles and related OH&S systems and attracting and retaining skilled staff. Strategies to address these issues to date have included enhancements to the meat industry training system including multilingual training programs, projects that promote career pathways in the meat industry, up-skilling and professional development programs and focus on

workplace and corporate accountability, ethics and flexibility to enhance the employer of choice approach.

In addition to labour, in terms of industry sustainability, another priority for the longer term is the maintenance of infrastructure. The age of the infrastructure in the meat processing industry is now being considered a factor in our capacity for global competitiveness. Older processing works can be less efficient in terms of product flows, processing, energy efficiency, and ability to accommodate new technology. Some businesses are not able to easily accommodate the adoption of new technology because of restrictive footprint space and the need to retrofit equipment for manufacturing. The adoption of new technologies to improve efficiency and profitability is being constrained by the layout of old plants; the need to build redundancies into the cost of upgrading; and the relatively low profitability of the industry. Whilst there have been significant breakthroughs in meat processing technology, such as robotics or sensory and visioning technologies to reduce labour and minimise OH&S risks, there remains challenges with managing the need for new technology and machinery to adjust to variability in livestock/carcase size and retrofitting to older processing works. The overall inefficiency and aging of infrastructure is a constant challenge for business owners that are attempting to improve the proficiency of manufacturing practices and adopt new and innovative technological equipment and systems. Progressively investment in technology is improving to the point that there are now a number of commercially viable technologies, therefore continued and thoughtful RD&E investments will in the future consider enhanced approaches to commercialisation, training and labour management, quality assurance and building redundancies for breakdowns, servicing and retrofitting in order to increase adoption to the point that it has a greater impact on current labour challenges.

Finally, the Australian red meat industry is an important custodian of vital natural resources and a significant proportion of Australia's land mass. The ongoing success and reputation of the industry will depend on the way in which these natural resources are managed. A key focus will be on improving understanding of the natural resource base, apply strategies to identify mitigate and manage the impact of manufacturing on the natural environment and to identify, capture and implement beneficial effects and practices. Meat processors face a number of key environmental drivers across waste, wastewater, energy, nutrient and carbon management and as such these areas are key themes for AMPC's RD&E programs for the next 5 years. In accordance with the Red Meat Processing Climate Change Strategy, key activities will include understanding the effects of climate change on the red meat processing sector and developing measures to reduce the industry's contribution to greenhouse emissions. Activities will also include benchmarking resource utilisation, developing tools, processes and technologies to improve resource use efficiency and manage waste and establishing alternatives to current waste management including recycling, value adding from waste products and producing and utilising waste products for alternative purposes.

In relation to the Carbon Pricing Scheme, modelling results in a recent review (Heilbron et al, 2012) show a reduction of around \$29 million or 7.2% in industry Gross Operating Surplus (GOS) with a further \$1 million lost in additional transport costs for those businesses above the 25kt emissions level. All processing firms will be impacted by increased electricity costs, estimated to total \$22.9 million, whilst an additional liability of \$6.5 million will be incurred by those processors accountable for Scope 1 emissions. It should be noted that whilst there are challenges facing industry with respect to climate change and reducing carbon emissions, there are also opportunities. These include productivity,

efficiency and economic gains from RD&E outcomes gained through dedicated investigations into enhanced wastewater and waste management, recycling, value adding from waste and energy efficiency, as well as active promotion of the red meat industry's clean and green reputation in collaboration with other agricultural sectors. Solutions to facilitate the transition to a low carbon economy in the meat processing industry will be largely plant specific, taking account of the previous investments into technologies and processes that reduce carbon emissions, and requiring a range of steps, new technologies, processes, systems, capabilities and timeframes. Investment in RD&E strategies to manage and mitigate climate change will enable red meat processing businesses to proactively participate in a low carbon economy into the future. It will be increasingly important to be able to describe the range of emissions mitigation technologies being employed, the water and energy efficient practices adopted and the overall change in key environmental performance indicators at a national level to stakeholders, Governments, customers and the general community.

This strategic imperative is underpinned by the following key focus areas:

- Investigating, understanding, communicating and responding to changes and influences in the red meat processing industry;
- Technologies, practices and procedures that contribute to improved waste management systems and that add value to waste products;
- Improving industry knowledge and capability to achieve sustainable resource management and adapt to climate change;
- Examining options to integrate new technologies and improve industry infrastructure;
- Business sustainability and continuity is enhanced.

STRATEGIES	KEY FOCUS AREAS	MEASURES OF SUCCESS
Investigating, understanding, communicating and responding to changes and influences in the red meat processing industry	<ul style="list-style-type: none"> • Conduct research into new standards, policies and programs that may affect and/or aid meat processing, including, but not restricted to changes to natural resource use, changes to infrastructure, logistics, trade requirements, customer requirements or influences through social or community perceptions • Continue to identify and evaluate issues impacting the industry and liaise with Government to align industry, government and community goals and outcomes • Revise the industry crisis management plan on a regular basis, accounting for state, national and international requirements, regulations and community expectations • Investigate the emergency response framework and integrate this and other best practice tools into a business sustainability program for red meat processors • Develop greater understanding of the common issues facing related primary (and non-primary) industries that impact meat processing and the opportunities and challenges to be faced in the future collaboratively • Develop a social media platform in collaboration with other RDCs for effective communication to the community both domestically and internationally 	<ul style="list-style-type: none"> • Evaluate performance against the Red Meat Processing Climate Change Strategy and revise the Strategy accordingly • Utilise the environmental benchmarking review to determine industry wide targets for improvement and for monitoring of environmental performance • Support post-graduate studies in environmental engineering and related disciplines
Technologies, practices and procedures that contribute to improved waste management systems and that add value to waste products	<ul style="list-style-type: none"> • Investigation and implementation of waste to energy and nutrient recovery technologies and practices • Development of technological approaches for future integrated wastewater treatment systems and processes • Continuation of the experimental approach to developing optimal design and operational parameters for covered anaerobic lagoon and engineered organic waste digestion technologies • Ongoing examination into inorganic solid waste in the meat processing industry • Development of energy and water efficiency initiatives whilst maintaining food safety standards • Examining options for nutrient recovery, water efficiency and re-use 	<ul style="list-style-type: none"> • Development of tools for determining suitable technological approaches for future integrated wastewater treatment systems, alternative waste management systems and value adding processes • Develop at least 1 industry tool/program that contributes to improving processor understanding of available carbon mitigation technologies, systems and processes • Investigate at least 2 alternative processing practices that demonstrate savings in water and energy use • Development of wastewater and renewable energy management information resources and extension programs for the meat processing sector

STRATEGIES	KEY FOCUS AREAS	MEASURES OF SUCCESS
Improving industry knowledge and capability to achieve sustainable resource management and adapt to climate change	<ul style="list-style-type: none"> Improving industry knowledge into technologies, practices and processes that minimise impacts and maximise value add opportunities of solid and liquid waste streams Determination, benchmarking, monitoring and reporting of key industry performance indicators for climate change, environmental sustainability and best practice environmental performance monitoring 	(see previous page)
Examining options to integrate new technologies and improve industry infrastructure	<ul style="list-style-type: none"> Investigate options, technologies and priorities for transport logistics and freight and collaborate with other sectors and Government to enhance infrastructure related challenges Investigate facility design and establish a resource that consolidates best practice engineering information with the installation of new technologies at processing works Develop an effective “Whole of Enterprise” decision system which includes tools for monitoring and assuring processing performance of human, resource and capital infrastructure and tracking market trends 	
Business sustainability and continuity is enhanced	<ul style="list-style-type: none"> Examine options to mitigate labour shortages and challenges with retaining skilled workers Work with other RDCs to build attractive agricultural learning packages into school curriculums and to encourage school leavers through to further education in the red meat industry and into roles in industry Build the capability of industry to demonstrate effective job design and become employers of choice, particularly for emerging skill areas and new disciplines (e.g. environmental engineering) Adoption of RD&E outcomes is integrated with VET, universities and regional extension groups to further attract personnel to industry Drive widespread recognition of existing worker skillsets, the diversity in red meat roles and the science and technology oriented careers available in the red meat industry Identify and promote career pathways into red meat processing Develop innovative tools to identify, benchmark and respond to the industry need for casual, contract, labour and seasonal workers 	<ul style="list-style-type: none"> A business sustainability program assists industry in collaboration with Government to address future challenges and develop long term strategies Collaborative partnerships with other RDCs and Government, together with the VET and University system, enable broader engagement and greater attraction of skilled people into the red meat industry There is recognition of the skillsets available and operating in industry and the types of career paths available Strategies and tools are established to respond to the industry need for casual, contract, labour and seasonal workers

Building capability and influencing practice change



The value of research and development is only realised when outcomes are taken up and successfully implemented by enterprises along the value chain. More attention is now being paid to improving the capacity of the primary industry representatives in both industry and Government to apply the products of science and research and to understand how boosting this capacity and improving their business models will better serve market and customer needs and secure productivity benefits.

The direct involvement of industry and individual businesses in RD&E activities has demonstrated the importance of highly skilled personnel in specific disciplines for meat processing companies. Companies are increasingly seeking to employ personnel with environmental, science, microbiology, engineering, marketing, economics and business degrees in order to advance their business strategies, deliver projects and new products and engage with customers on complex issues including the role of science underpinning industry standards and systems. Challenges faced in the future include the decline in agricultural graduates seeking to work in the primary industries and perhaps a lack of awareness of the professional career pathways available. Investment in post-graduate, post-doctoral and Masters programs by industry, particularly where these RD&E

programs provide for both fundamental and applied activities, will be key to attracting high calibre, young scientists into industry for the future. For processing companies, the recognition of integrating science (scientists, method, data, knowledge and systems) into our business for enhanced communication with stakeholders and the broader community is increasing.

Furthermore, the development of effective and targeted up-skilling programs that increase the opportunity to attract and retain skilled workers is crucial. Identifying new technologies to extend RD&E outcomes to companies given the daily pressures is also important, with consideration of the development of communities of change, webinar sessions and live interactive video technologies that can enable enhanced communication

and engagement with companies around Australia. Training programs and the ability to demonstrate the effectiveness of workers practices across a range of different topics will continue to be a key area of investment under the Meat Processing Diploma and related training units.

For RDC's such as AMPC, the success of initiatives directed and training and education primarily rely on good program management and administration, focusing on a particular target group in the industry and on particular topics of interest to maximise impact and learning, providing relevant, quality and well-presented information, engaging and consulting with industry and gaining ownership and developing strategies that suit the particular needs of groups of processing businesses, target key issues and address the information requirements of a subsector and geographic region in industry. Educational networks established in the industry to date have been particularly effective in this regard. Furthermore, AMPC recognises the significant benefits in improving coordination and collaboration across

Government, RDCs, industry and educators in delivering outcomes for the meat processing sector. Strengthening partnerships between Government, industry and educators will also help to reduce duplication and improve efficiencies. AMPC's RD&E programs will continue to include extension and education elements for transparent and effective communication and engagement of industry.

Attracting and retaining science capability is a significant issue that has been recognised by both industry and Government. The National RD&E Framework initiative and the DAFF Science Strategy 2013-2018 demonstrate these aims. AMPC is now heavily focussed on ensuring that RD&E programs include opportunities to support high calibre PhD, Masters and honours programs, as well as

undergraduate programs. Since 2011, AMPC has established six new PhD programs integrated with current RD&E projects in areas of meat science, environment, livestock management, veterinary science and microbiology. An audit of capability in science and industry was established to identify future priority areas where capability development programs could be established in support of industry and Government objectives. Activities under the RD&E Framework will continue to include investment in cross sectoral issues as well as examining opportunities for co-investment and capability building within RD&E programs. Developing scientific "consortiums" to facilitate communication and coordination in research for key topics such as food safety, microbiology in meat science and eating quality are a focus for industry to build greater collaboration and enable succession planning with

research institutes, Universities, TAFEs and RD&E provider organisations. Finally, the development of new innovation streams and networks for capability building in newer disciplines within industry such as marketing and branding/promotion, economics, trade and policy communications will become increasingly important as aforementioned in other key strategic imperative summaries above.

This strategic imperative is underpinned by the following key focus areas:

- Engaging key stakeholders to create awareness and demonstrate value;
- Increasing industry capability and capacity;
- Increasing research capability and capacity;
- Evaluation of RD&E outcomes.



STRATEGIES	KEY FOCUS AREAS	MEASURES OF SUCCESS
Engaging key stakeholders to create awareness and demonstrate value	<ul style="list-style-type: none"> Research and development outcomes are appropriately reported and integrated with existing systems, practices and procedures A range of effective tools and programs are utilised to encourage adoption of new technologies in industry and other key stakeholders Information is provided to continue encouraging a well-informed debate amongst key stakeholders of the issues, challenges and opportunities facing red meat processors AMPC hosts its RD&E conference at least bi-annually to disseminate research outcomes and results of investments on behalf of industry AMPC identifies and continues to collaborate with the key industry adoption enablers and encourage dialogue with processing industry businesses Information is provided to industry, key stakeholders and the community that demonstrate the outputs of investment in RD&E from AMPC and Government 	<ul style="list-style-type: none"> Published reviews of industry adoption and extension mechanisms provide for new initiatives to be identified and implemented in industry, with at least 2 new engagement & adoption programs trialled by 2017 RD&E projects are accompanied by defined extension activities to engage AMPC processor members Delivery networks are reviewed and further developed to ensure industry engagement Industry networks, forums and events are successful in providing participants with information that is applicable to their businesses, practices and operation The funding of training, skillset development and individual training units within and outside the red meat processing diploma provides a vehicle for the adoption of RD&E learnings as well as the up-skilling of industry professionals Approximately 30 industry representatives are supported through leadership development, capability and/or innovation training by 2017 Approximately 4 executive professionals undertake leadership development in meat processing trade and market access reform and are positioned within the industry The AMPC RD&E Strategy for red meat processing enables integration of meat processing strategies and capability needs with various related Strategies within the National RD&E Framework
Increasing industry capability and capacity	<ul style="list-style-type: none"> Industry networks and forums are established that deliver the outputs of RD&E investments to industry and key stakeholders Information technology solutions are developed for extension of RD&E projects to a wide industry in a more timely and user-friendly manner Investment in training and the continual development of the red meat processing diploma and related skillsets is continued and further learning unit development and harmonisation of competency is achieved Benchmarking of current and future disciplinary needs for processing businesses in industry informs investment in capability and upskilling programs and the opportunity for further extension of RD&E outcomes Develop flagship programs in undergraduates, up-skilling and professional development which combine innovation, business management, entrepreneurship and technical skills of industry participants Opportunities for specific professional development, up-skilling and further education initiatives are identified in alignment with current AMPC portfolio priorities for the extension and adoption of RD&E Leadership, undergraduate and scholarship programs for educational development are provided for industry in priority disciplines and topic areas Encouragement for processors to join available RD&E innovation programs is provided by communicating the benefits to businesses 	

STRATEGIES	KEY FOCUS AREAS	MEASURES OF SUCCESS
Increasing research capability and capacity	<ul style="list-style-type: none"> • Collaboration with other sector RDCs and research provider organisations is further developed under the National RD&E Framework • Research collaborations are underpinned by initiatives that support high calibre candidates to undertake relevant leadership, post-doctoral, PhD, Masters by research and Honours studies • Benchmarking of current and future disciplinary needs informs investment in capability and the development of strategic capability development programs that align with meat processing and Government priorities • Co-investment with RD&E providers and Government enables collaboration and underpinning of research capability gaps identified • New "Consortium(s)" of researchers is established through co-investment with AMPC and other bodies that focuses on building capability in key disciplinary areas such as meat science and food safety whilst delivering project outcomes for AMPC members • RDC collaborations are sought by AMPC to enable rigorous investment in areas that are cross sectoral, including animal welfare, water management and efficiency, meat science, OH&S and climate change 	<ul style="list-style-type: none"> • At least 15 Post-graduate students are supported by AMPC research initiatives by 2017 • AMPC maintains recognised investment in cross sector RD&E through the National RD&E Framework, CRCs and ARC programs • A new Consortium of RD&E providers is established as part of a strategic investment program in areas of scientific capability decline such as meat science, food manufacturing and microbiology • There is a program evaluation conducted each 3 years against one of AMPC's Strategic imperatives • There are individual evaluations against suites of projects in key themes/topics/technologies that provide for both ex-ante and ex-post assessment and validation of RD&E intended investment and achieved outcomes
Evaluation of RD&E outcomes	<ul style="list-style-type: none"> • Efficient and effective evaluation frameworks enable AMPC to demonstrate value add from investments, whilst delivering on national key performance indicators as an RDC • Evaluation outcomes are provided to levy payers to demonstrate transparency in process and enhance learnings from RD&E projects • Evaluation is aligned with other RDCs where appropriate to maximise value adding and co-investment 	<ul style="list-style-type: none"> • An independent review of AMPC's business operation and delivery of RD&E is conducted by 2015

Annex 1

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