



AUSTRALIAN MEAT PROCESSOR CORPORATION

# **COST TO OPERATE AND PROCESSING COST COMPETITIVENESS**

A COMBINED REPORT



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# TABLE OF CONTENTS

THE POWER OF PRODUCTIVE RESEARCH	1
FOREWORD	2
AMPC 2017-1062: ANALYSIS OF REGULATORY AND RELATED COSTS IN RED MEAT PROCESSING	4
AMPC 2019-1011: PROCESSING COST COMPETITIVENESS	46
BIBLIOGRAPHY	62

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# INTRODUCTION

## The power of productive research

Simon Stahl, Northern Co-operative Meat Company



Australia's red meat processors have been eagerly awaiting the release of this report. It tells us what we – as major employers and leaders mostly in rural and regional areas that depend highly on our businesses staying open – already were feeling: red meat processors are fighting unsustainable cost pressures while trying to remain competitive on the international market. The red meat processing sector is largely export-dependent, so when we cannot compete in the market, we cannot stay open.

The research and the subsequent reports' findings have had the monumentally positive effect, however, of galvanising the industry to come together and work to make sure we do not suffer the same fate as most of Australia's other major manufacturing industries. Our communities cannot afford it and, at the big picture level, Australia's economy cannot afford it either.

As an industry, we have read the recommendations presented in this report and are currently actioning these recommendations through the lens of what we have identified as our sector's "Top 10 Issues." The Australian Meat Processor Corporation (AMPC) as the research body, using the industry and broader insight from the Australian Meat Industry Council (AMIC) are, on behalf of the Australian red meat processing sector, actively driving the mandate to ensure our sustainability.

The Cost To Operate Report's findings associate closely with the industry's policy and advocacy agenda to address the significant impact of costs and regulation on the international competitiveness of the Australian red meat processing sector. As a result of the recommendations, with pointed feedback from the processors themselves the industry is actively driving a new research mandate. This revolves particularly around labour supply and visa access issues, alternative forms of energy on the back of the lack of government policy to drive down unsustainable rises in costs, and proactive solutions to market access issues.

Through the process of coming together to work through this report and what it means for our sector, one concern above all becomes quite clear: our viability as an industry will – to a very pointed extent – determine the fate and ultimate longevity of Australia's rural and regional communities.

We as an industry, alongside our peers in the wider red meat supply chain and with the support of major national agricultural and regional bodies that realise the importance of these findings to entire communities across the country, proudly present the Cost To Operate Report. We will drive change, and we invite you, as an important stakeholder in the eventual outcome, to come on the journey.

### **Simon Stahl**

Cost To Operate Steering Committee Chair

Chief Executive Officer – Northern Co-operative Meat Company

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# FOREWORD

Peter Rizzo, AMPC



It is my pleasure to present the research analysis and report *2017-1062: Analysis of regulatory and related costs in red meat processing* and its companion piece *2019-1011: Processing cost competitiveness*.

Our red meat industry competes for market share of the consumer demand in a global marketplace, and we export our red meat products to over 100 different countries. Our exports represent over 70% of our production. In order to keep Australia's red meat processing sector viable we must understand our international comparative business costs, and this is why the "Cost to Operate Report" was born. We may assume that our costs are higher than some of our international competitors, the actual quantum is now detailed in this report. It's a wake up call to action.

As an example, the report data shows that Australian grain-fed beef processors pay 163.8% more per head than our US competitors in electricity costs (p.20), and Australian grass-fed processors are paying 1,375% more per head than our Brazilian counterparts in certification and audit costs (p.21).

For our Australian red meat processors these costs are in some cases uncontested and add up to make a vital Australian manufacturing industry potentially unsustainable when compared to those of its international competitors.

AMPC recognises the 10 recommendations of this report, particularly those that focus on addressing labour, energy and inspection costs issues. The recommendations in brief are:

1. The international cost analysis should be regularly updated to monitor progress in addressing the cost disadvantages by both industry and governments.

## Labour

2. Research to focus on improving labour employment flexibility should be undertaken.
3. The data and outcomes of this research should be presented to governments to address the policy issues highlighted.

4. Industry should analyse whether an approach to temporary visas similar to that being proposed in the US is warranted in Australia and, if so, then develop an appropriate policy proposal to help guide government in the immediate term.
5. Undertake research to detail the productivity differences between Australia and the other countries examined in this report and identify the key drivers of improved productivity.

## Energy

6. Undertake data-driven research to guide a plan to reduce energy costs and present the plan to regulatory agencies.
7. Undertake research on policy options that would facilitate processors' adjustment into various alternative energy initiatives.
8. The research on energy adjustment options should be presented to governments to help develop policy that improves energy costs.

## Inspection services

9. Analyse the options of either Government introducing marginal cost pricing of inspection services, similar to the US model; or, similar to Argentina, that it allocates total inspection costs to beneficiaries along the supply chain.
10. The research should be presented to the Federal Government with a recommendation of the best means of introducing efficiency pricing in export inspection in the immediate term.

It is my commitment that AMPC will focus on these 10 recommendations as a body of further research and development work to support industry decision makers with fact-based, empirical data for our peak industry council, the Australian Meat Industry Corporation (AMIC), and collectively with the Red Meat Advisory Council (RMAC) where there are wider industry implications.

The industry thanks S.G. Heilbron for producing the "Cost To Operate Report" and its efforts in supporting our sector.

With the foundations of this report, AMPC is committed to continue its program of robust economic research in order to ensure the sustainability of our sector and our communities.

## Peter Rizzo

Chief Executive Officer

Australian Meat Processor Corporation



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# FOREWORD

Patrick Hutchinson, AMIC



The Australian Meat Industry Council (AMIC) has worked closely with the Australian Meat Processor Corporation (AMPC) to bring the “Cost to Operate Report” into being. From an industry advocacy standpoint, a comprehensive report that quantifies the costs facing the red meat processing industry in Australia and then compares those costs against key international competitors is invaluable to demonstrate the opportunities in and the threats to our industry.

The report provides a clear, quantitative perspective on the cost challenges faced by the Australian sector and highlights the need for a structured response from both the Federal and state governments around workable policy solutions.

There needs to be better alignment of state and federal policies and programs to help our sector regain international competitiveness. Immediate priority areas include:

- **Levelling the international playing field by streamlining the major federal and state regulatory charges**
  - As an industry we are asking for relief of the approximately \$110 million in export certification charges that are a big cost contributor to why Australian red meat is becoming uncompetitive in the global market.
- **Energy costs and alternative energy incentives**
  - Energy is at that critical stage, not only in terms of cost but also continuity of supply. Urgent action is required and serious consideration should be given to taking meat processing plants off the grid. Given the high energy costs outlined in this report were collected for 2015-16, it is worrying to know how much higher costs have risen since then.
- **Attraction, training and retention of labour**
  - Australian processors all need a reliable labour force, but they all operate differently according to their markets and requirements, and so there’s no one-size-fits-all approach to labour that can work here. We’re working for more options for Australian processors to be able to hire and train their workforce to be able to continue to operate sustainably.

As the nation knows, it is not just the red meat processing sector that experiences these challenges: we’ve seen and felt many major industries slow-down in Australia over the last few years. Red meat processing continues, but not without its challenges. This report gives the poignant example that in Brazil, the US and Argentina, post-mortem inspection charges are considered part of the public good for both health and export income purposes; therefore, they are paid by the respective governments. In Australia, it’s regarded as a cost of doing business, and therefore the processor incurs all those charges.

AMIC is proud to endorse this AMPC report and S.G. Heilbron’s work. As an industry, we continue to work together to ensure our viability for what is ultimately Australia’s greater social and economic benefit.

**Patrick Hutchinson**

Chief Executive Officer

Australian Meat Industry Council



# FINAL REPORT

## ANALYSIS OF REGULATORY AND RELATED COSTS IN RED MEAT PROCESSING



### Program 5. Industry Improvement & Economic Analysis

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# TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY	7
2.0	KEY FINDINGS	8
3.0	INTRODUCTION	10
4.0	PROJECT OBJECTIVES	11
5.0	METHODOLOGY	12
6.0	PROJECT OUTCOMES	12
6.1	Economic impact of the red meat processing sector in Australia	13
6.2	Key cost components associated with red meat processing in Australia	14
6.2.1	Labour-related costs	17
6.2.2	Utilities-related costs	18
6.2.3	Certification-related costs	18
6.2.4	Other costs	18
6.2.5	Summary of operating costs in Australia	19
6.3	Analysis of red meat processing costs internationally	19
6.3.1	United States	20
6.3.2	Brazil	21
6.3.3	Argentina	22
6.4	Comparison of beef processing and its cost components	23
6.4.1	Significance of exports for beef processing countries	23
6.4.2	Comparison of operating costs	24
6.4.3	Comparison of regulated operating costs	25
6.5	Implications of changes in the Australian operating cost structure	25
7.0	DISCUSSION	27

8.0	CONCLUSIONS/RECOMMENDATIONS	29
8.1	Specific areas of cost disadvantage	30
8.1.1	Labour costs	30
8.1.2	Energy costs	32
8.1.3	Export inspection	33
9.0	APPENDICES	34
9.1	Appendix 1 – Economic impact assessment	34
9.2	Appendix 2 – Comparison of regulatory cost components	35
9.2.1	Labour-related cost comparison	35
9.2.2	Utilities-related cost comparison	36
9.2.3	Certification-related cost comparison	38
9.3	Appendix 3 – Audit and certification systems in the Australian red meat processing sector	39
9.3.1	Government related standards, audits, accreditation and certification	39
9.3.2	Private standards, audits, accreditation and certification	41
9.3.3	Expenditure on auditors and time incurred by plant employees	42
9.3.4	Customer audits	43
9.3.5	Changes in number of audits	43
9.3.6	Costs associated with audits in red meat processing	43
9.3.7	Commentary regarding multiple audits	44
9.3.8	Potential for future improvements	45



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## 1.0 EXECUTIVE SUMMARY

Costs that face the red meat processing industry in Australia are identified and quantified in this report and compared with key international competitors: Brazil, the United States, and Argentina. It also assesses the regulatory components of these costs. Data collected was for 2015-16, and using this data and findings, the report identifies general policy directions that would serve the competitive advantage of the Australian industry on the global market.

The project assessed the significance of the red meat processing sector's contribution to the Australian economy using private data supplied by processors in conjunction with an input-output model constructed for this project. The red meat processing sector, of which beef processing is the largest contributor, is estimated to have contributed over \$21 billion in value added to the economy (1.4 per cent of Australia's gross industry value added) in 2015-16. This meant over \$8 billion in household income (1.1 per cent of national household income), and more than 126,000 full-time equivalent (FTE) jobs (1.3 per cent of total FTE employment) when flow on effects are taken into account.

The key operational and regulatory costs incurred in the beef processing sector were quantified, including through primary data collection from processors in Australia, the United States, Brazil and Argentina. The impact of these costs on the Australian red meat processing industry and flow-on impacts from potential improvements were assessed and recommendations made to help address the disparity between costs incurred in the Australian industry and its overseas competitors.

The ten key recommendations are summarised below and detailed in section 8 of the report:

1. The international cost analysis should be regularly updated to monitor progress in addressing the cost disadvantages by both industry and governments.
2. Detailed research to develop policy positions on enhancing labour cost competitiveness, including a focus on improving labour employment flexibility should be undertaken.
3. The data and outcomes of this research should be presented to governments to address the policy issues highlighted.
4. Industry should analyse whether an approach to temporary visas similar to that being proposed in the US is warranted in Australia and, if so, then develop an appropriate policy proposal to help guide government in the immediate term.
5. Ideally on a collaborative basis with countries willing to co-operate, industry should undertake research to detail the productivity differences between Australia and the other countries examined in this report and identify the key drivers and impacts of improved productivity.
6. The industry should undertake data-driven research to guide a plan to reduce energy costs faced by the sector and present the plan to regulatory agencies.
7. The industry should undertake research on policy options that would facilitate processors' adjustment into various alternative energy initiatives, in the face of persistently high energy costs that hamper its international competitiveness and threaten exports, jobs and household incomes.
8. The research on energy adjustment options should be presented to governments with a view to develop policy action that improves energy cost outcomes for the industry in the immediate term.
9. The Australian red meat processing industry should undertake research to analyse the options of either Government introducing marginal cost pricing of inspection services, similar to the US model; or, similar to Argentina, allocating total inspection costs to beneficiaries along the supply chain.
10. The research should be presented to the Federal Government with a recommendation as to the best means of introducing efficiency pricing in export inspection in the immediate term.

## 2.0 KEY FINDINGS

Average costs per head (excluding livestock purchases) incurred in processing beef in Australia, as illustrated in **Table 1**, are:

- 24 per cent higher than in the United States;
- Over twice the costs of Brazil; and
- 75 per cent higher than in Argentina

Of the costs incurred, it is estimated that in Australia more than 54 per cent (excluding livestock purchases) are due to some form of regulation, which is a significantly higher percentage than any of the comparison countries. Australia's regulatory burden, as shown in **Table 2**, is estimated to be:

- Over twice that of the United States and Argentina; and
- More than three times that of Brazil.

Labour-related charges are the biggest area of disparity. In Australia labour-related costs comprise over 58 per cent of total operating costs. This figure is considerably less than 50 per cent in the other countries examined. Utilities-related costs are also substantially lower in both the US and Argentina in absolute dollar values per head of throughput. Data collected for this comparative study was for 2015-16 and Australian energy costs have risen significantly since then, so the current comparative gap is almost certainly even wider.

International certification-related costs, meanwhile, are almost negligible for the comparison countries when assessed against Australia's.

**Table 1 – Operating cost structure summary, beef processors, Australia, United States, Brazil and Argentina, 2015-16**

Cost category	Australia		United States <sup>1</sup>		Brazil		Argentina	
	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)
Labour-related costs	\$210.54	58.4%	\$129.46	44.6%	\$75.63	43.9%	\$88.31	42.9%
Utilities-related costs	\$21.62	6.0%	\$12.26	4.2%	\$19.93	11.6%	\$13.05	6.3%
Certification-related costs	\$7.29	2.0%	\$1.49	0.5%	\$0.52	0.3%	\$2.28	1.1%
<b>Total (excl. livestock costs)</b>	<b>\$360.62</b>	<b>100.0%</b>	<b>\$290.15</b>	<b>100.0%</b>	<b>\$172.29</b>	<b>100.0%</b>	<b>\$205.96</b>	<b>100.0%</b>
<i>Cost per kg HSCW</i>	<i>\$1.22</i>		<i>\$0.80</i>		<i>\$0.70</i>		<i>\$0.92</i>	

1 The certification/audit costs for the United States refer only to those subject to government regulation. Unregulated (external) certification costs are, however, included in total costs.

**Table 2 – Regulated cost summary, beef processors, Australia, United States, Brazil and Argentina, 2015-16**

Regulated cost components	Australia		United States <sup>1</sup>		Brazil		Argentina	
	Reg. cost per head (AU\$)	As % of total cost component	Reg. cost per head (AU\$)	As % of total cost component	Reg. cost per head (AU\$)	As % of total cost component	Reg. cost per head (AU\$)	As % of total cost component
Labour-related costs	\$179.60	85.3%	\$79.65	61.5%	\$50.34	66.6%	\$75.26	85.2%
Utilities-related costs	\$10.51	48.6%	\$8.27	67.4%	\$10.96	55.0%	\$13.05	100.0%
Certification-related costs	\$5.10	70.0%	\$1.49	100.0%	\$0.00	0.0%	\$1.14	50.0%
<b>Total (excl. livestock costs)</b>	<b>\$195.21</b>	<b>54.1%</b>	<b>\$89.41</b>	<b>30.8%</b>	<b>\$61.30</b>	<b>35.6%</b>	<b>\$89.45</b>	<b>43.4%</b>

Australian government-regulated export inspection and certification costs are:

- 3.4 times higher than in the United States; and
- 4.5 times higher than in Argentina.

In Brazil these costs are fully-funded by the Federal Government and not passed onto the processor.

This report highlights that regulatory changes to labour, utilities and certification costs could transform the competitiveness of the beef processing industry and reduce its operating costs by up to 5.5 per cent. This could bring \$700 million<sup>2</sup> back into Australia’s beef processing industry – currently estimated to be worth \$1.4 billion – and transform its prospects for investment, long-term income and employment.

As almost 70 per cent of Australian red meat is exported, processors are dependent on global trade for the viability of the industry, but they have restricted ability to determine the price received for their products. Cost competitiveness is the only viable option to sell their products and remain profitable.

Increasing competitive pressures from the fundamental characteristics and directions of the global beef trade are compounded by ongoing competition for economic resources in the domestic Australian economy.

Recommendations for the industry as a result of these findings are included in Section 8 of this report.

<sup>2</sup> Gross operating surplus – calculated before deduction of consumption of fixed capital, dividends, interest, royalties and land rent, and direct taxes payable, but after deducting the inventory valuation adjustment. It therefore does not equate to, and is significantly higher than, operating profit. It fluctuates significantly between years depending upon the average cost of livestock.

## 3.0 INTRODUCTION

The AMPC project 2017-1062: *Analysis of regulatory and related costs and duplication in red meat processing* identified and quantified regulatory costs of operating for the Australian sector as well as the level of possible duplication, particularly in relation to certification and accreditation.

It has long been assumed that red meat processing costs in Australia are higher than those incurred by overseas competitors and this project sought to validate this assumption through direct comparison with red meat processing costs in the United States, Brazil and Argentina. Further, the regulatory burden associated with some aspects of processing costs was also assessed given that costs subject to some form of government regulation could be altered through government policy action.

This report primarily quantifies costs faced by Australian red meat processors in comparison with key international competitors the United States, Brazil and Argentina. It addresses regulated certification costs insofar as they impact on overall cost structures in Australia and the comparison countries but does not specifically deal with duplication of audits and reporting to comply with various standards.

Previous research by the consultants provided much of the primary data relating to the operating cost structure for Australian red meat processing, which was augmented with more recent information from processors. Primary data from the United States, Brazil and Argentina was obtained from processors in these countries specifically for this project and has enabled a direct comparison of costs per head of throughput. The results demonstrate that Australian processors face significant cost disadvantages compared with their competitors.

This report addresses the goals and key outcomes of the research, the methodology utilised, and the implications for the Australian red meat processing sector in the international market. Finally, the report provides recommendations for further action that could be undertaken by the industry to ameliorate the impost facing Australian processors compared with their international competitors.

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## 4.0 PROJECT OBJECTIVES

The key objectives of AMPC Project 2017-1062, as outlined in the project agreement, are as follows:

### Stage 1

- Provide an understanding of the situation in respect of the audits and certification requirements in the meat processing industry;
- Provide an understanding of the business operational and cost impacts relating to compliance with multiple audits and certification requirements;
- Identify potential means of improving the situation through reduced costs and improved effectiveness;
- Quantify the impact on industry and flow on impacts from potential improvements; and
- Report on the findings.

### Stage 2

- Provide an understanding of key cost components in red meat processing both in Australia and in key international competitor countries;
- Prepare an independent compilation of processing costs and analysis thereof to improve the basis for industry policy initiatives aimed at addressing cost competitiveness hurdles;
- Construct a model that will enable potential quantification of the impact on industry and flow on impacts from potential improvements either by industry collectively through AMPC or by individual processors via access to the model;
- Report on the findings; and
- Provide to processors who supply a full data set a confidential report on their facilities' costs compared to Australian and international country averages.

This report is primarily concerned with Stage 2. While it does address issues relating to certification costs, this only relates to government-mandated certification and does not specifically address duplication of audits and certification requirements.



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## 5.0 METHODOLOGY

The methodology used for this project is outlined below:

- Estimated the economic impact of the Australian red meat processing industry in terms of its absolute value and percentage contribution to key metrics in the national economy. Primary data was collected from a sample of processors and previously gathered information was updated to reflect the 2015-16 financial year.
- Assessed the key cost components in Australian red meat processing compared with international competitors. Initially undertaken through a literature review and interrogation of overseas publicly-available statistical databases, this was subsequently updated for the overseas markets through interviews conducted during in-country visits.
- In-country visits – during December 2017 and January 2018, the consultants visited processors in the United States, Brazil and Argentina. The visits were facilitated by contacts already known to the consultants, contacts provided by Australian processors with international connections, and Austrade.
- Assessed regulatory components of operating costs – identification and quantification of the key regulatory burden was derived from private data supplied by processors both in Australia and overseas, combined with information obtained from an extensive literature review.
- Estimated the impact potential improvements could have on the Australian sector.
- Developed recommendations to help address the cost disparities between Australia and its overseas competitors.
- Final report and project snapshot relating to Stage 2 of the project.

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## 6.0 PROJECT OUTCOMES

Each of the key components of the project are summarised in the following sections with additional information provided where necessary in the appendices in Section 9 of this report. The key areas addressed were:

- Economic impact of the red meat processing sector in Australia;
- Audit and certification systems in the Australian red meat processing sector;
- Key cost components in red meat processing in Australia;
- Analysis of operating costs in the United States, Brazil and Argentina;
- Comparison of cost components between the four countries; and
- Implications of changes to the cost structure in Australia.

## 6.1 Economic impact of the red meat processing sector in Australia

In order to demonstrate the significance of the red meat processing industry to the Australian economy, an economic impact assessment was conducted for the financial year 2015-16. The economic contribution has been measured incorporating flow-on or multiplier effects which include both the direct impact of the red meat processing sector and the economic indicators across the remainder of the economy that are underpinned or supported by the sector. The total economic benefit is comprised of the direct impact and indirect impact.

- Direct impacts result from expenditures associated with constructing and operating a facility – labour, materials, supplies, capital;
- Indirect impacts result from the suppliers of the facility purchasing goods and services and hiring workers to meet demand – these “second round” impacts would not occur but for facilities’ operations; and
- Induced impacts result from employees of a facility purchasing goods and services at a household level.

The overall impact of the red meat processing sector on the Australian economy is summarised below.

**Table 3 – Economic impact, including flow on effects, red meat processing operations, Australia, 2015-16**

Measure	Economic impact	
	Value (incl. flow-on impact)	Contribution to economy (incl. flow-on impact)
Industry value added (\$m)	21,404.70	1.4%
Household income (\$m)	8,650.46	1.1%
Employment (FTE)	126,299	1.3%

The red meat processing industry is estimated to contribute over \$21 billion in value added to the economy and over \$8 billion in household income, as well as generating more than 126,000 jobs when flow on effects are taken into account.

This accounts for 1.4 per cent of Australia’s gross industry value added, 1.1 per cent of household income and 1.3 per cent of full-time equivalent (FTE) employment when flow-on effects are taken into account.

Further details of the methodology used to prepare the economic impact assessment are provided in Section 9.1 of this report.

The red meat processing sector provides a significant contribution to the economy nationally, with flow on effects estimated to underpin approximately 10 per cent of FTE employment in the agriculture, forestry and fishing sector. Moreover, in some regional and rural centres, the red meat processing sector is the single biggest employer locally and contributes a significant proportion of the local industry value added, household income and employment when flow on effects are taken into account.

## 6.2 Key cost components associated with red meat processing in Australia

Analysis of the key cost components in Australian red meat processing has been undertaken excluding the direct costs associated with the purchase of livestock. There were several reasons for this including:

- The ability to compare with overseas data. The price paid for livestock for processing fluctuates both locally and overseas, impacted by a variety of factors including climatic changes.
- Facilities which have a significant proportion of “service kill” slaughter, where the processor is not purchasing the livestock, impact on the overall operating cost structure.

The key cost components have been assessed based on a per head of throughput ratio using a weighted average from the private data supplied from 29 processing facilities representing approximately 60 per cent of cattle and 35 per cent of sheep and lambs slaughtered nationally. Overall, excluding livestock purchases, the key cost components impacting the red meat processing sector are:

**Table 4 – Distribution of operating costs (excl. livestock purchases), red meat processing operations, Australia, 2015-16**

Cost component	Distribution of total operating costs (excl. livestock purchases)	
	Cattle	Sheep / lambs
Employee-related costs	57.7%	55.2%
Transport	15.0%	15.0%
Packaging	7.4%	9.0%
Utilities	6.0%	5.9%
Repairs & maintenance	4.1%	4.7%
Certification/licences/levy	2.0%	3.1%
Processing consumables	1.6%	4.2%
Sub-total	93.8%	97.0%
<b>Total cost per head (excl. livestock costs)</b>	<b>\$360.62</b>	<b>\$40.67</b>

The weighted average processing cost per head of cattle is just over \$360 while for sheep/lambs the cost is just over \$40. For cattle, this equates to a weighted average cost of \$1.22 per kg HSCW while for sheep/lambs the weighted average cost per kg HSCW was calculated as \$1.74. It should be noted that the average kg HSCW per head reported for cattle varied significantly depending on whether they were grass or grain fed, with a range of between 230 and 375 kg per head (weighted average of 296 kg per head). The relative differences were used, where possible, through the phases of this project to enable comparison with the wider international industry.

Conversely there was little variation in the weighted average for sheep/lambs, with an average of 23 kg per head. For both species, labour-related costs form the single biggest component when the cost of livestock purchases is excluded, accounting for more than half of total operating expenditure.

Transport costs form the second largest component at approximately 15 per cent of expenditure. Packaging costs accounted for 7.4 per cent of expenditure in cattle processing and 9.0 per cent of costs for sheep/lamb processing.

Power, water and waste disposal expenditure (including environmental management activities) represented about 6 per cent of total processing costs for both species. Annual repairs and maintenance expenses, including machinery and equipment, buildings and general yard maintenance made up 4.1 per cent and 4.7 per cent of costs in cattle and sheep/lamb processing respectively.

The various certification, accreditation, licence and slaughter levies costs were approximately 2 per cent of costs in cattle processing and 3 per cent in sheep/lamb processing. This only includes direct expenditure paid to the relevant government departments or other external organisation and does not include staff time costs.

Other costs such as processing consumables (1.6 per cent and 4.2 per cent of operating expenditure for cattle processing and sheep/lamb processing respectively), accounting and legal fees, consultancy fees and telecommunications comprise the balance of operating expenditure in the red meat processing industry.

International comparison data focussed on beef processing. Ovine processing data was not obtained given the relatively small production in the comparison countries. However, the following analysis of comparative costs incurred overseas for beef processing could reasonably be applicable to the processing of sheep/lambs.

The beef processing operating cost structure<sup>3</sup> has been assessed for the following:

- Weighted average for all cattle processed;
- Weighted average for grain-fed cattle processed; and
- Weighted average for grass-fed cattle processed.

It should be noted that a number of processing facilities surveyed process both grain and grass-fed cattle. Their information has been excluded from the specific analysis of the individual feed types. Further, as not all processors contributing to this study provided the same level of data, the analyses for grain and grass-fed each reflect a small proportion of the total dataset and should not be used to calculate an overall weighted average.

Excluding livestock purchases, labour costs form the single biggest component of operating costs for Australian red meat processors, and **Table 5** summarises the average cost per head. The analysis has been restricted to cattle processing to permit direct comparison with overseas cost structures.

While the estimated overall weighted average processing cost per head for all cattle is \$360.62, this increases to \$383.50 for grain-fed cattle but reduces to \$297.71 for grass-fed cattle. Effectively this equates to a total cost per kg produced as follows:

- Average grain-fed cattle \$1.08 per kg; and
- Average grass-fed cattle \$1.10 per kg.

It should be noted that a number of Australian processing facilities, for which data was supplied, process both grain and grass-fed cattle and their information has been excluded from the specific analysis of the individual feed types. It should also be noted that not all processors contributing to this study provided the same level of data. Accordingly, the analysis for grain and grass-fed each reflect a small proportion of the total dataset and should not be used to calculate an overall weighted average.

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3 Derived from private data supplied to the consultants

**Table 5 – Operating cost structure, beef processors, Australia, 2015-16**

	Australia – average		Australia – grain-fed		Australia – grass-fed	
Average number of head per day	1,149		842		815	
Average kg per head	296		356		271	
Cost components	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)
Processing wages (incl. paid leave)	\$166.91	46.3%	\$180.72	47.1%	\$140.58	47.2%
Salaries	\$16.11	4.5%	\$17.32	4.5%	\$21.28	7.1%
Payroll taxes	\$7.63	2.1%	\$8.51	2.2%	\$6.06	2.0%
Workers’ compensation premiums	\$4.96	1.4%	\$3.43	0.9%	\$1.91	0.6%
Retirement benefits (superannuation)	\$14.93	3.5%	\$17.82	4.6%	\$10.61	1.4%
<b>Sub-total – Labour-related costs</b>	<b>\$210.54</b>	<b>58.4%</b>	<b>\$227.80</b>	<b>59.4%</b>	<b>\$180.44</b>	<b>60.6%</b>
Electricity	\$9.20	2.6%	\$11.58	3.0%	\$9.49	3.2%
Other fuel	\$5.51	1.5%	\$7.44	1.9%	\$8.10	2.7%
Water & sewerage	\$4.51	1.3%	\$2.64	0.7%	\$1.13	0.4%
Waste disposal	\$2.41	0.7%	\$3.40	0.9%	\$1.27	0.4%
<b>Sub-total – Utilities-related costs</b>	<b>\$21.62</b>	<b>6.0%</b>	<b>\$25.05</b>	<b>6.5%</b>	<b>\$19.98</b>	<b>6.7%</b>
Certification/audit cost	\$7.29	2.0%	\$12.35	3.2%	\$7.15	2.4%
Packaging	\$26.80	7.4%	\$33.77	8.8%	\$25.58	8.6%
Transport – finished goods	\$54.01	15.0%	\$43.81	11.4%	\$34.21	11.5%
Repairs & maintenance	\$14.76	4.1%	\$14.51	3.8%	\$15.40	5.2%
Processing consumables	\$5.70	1.6%	N.A.	N.A.	N.A.	N.A.
Other costs	\$19.90	5.5%	\$26.21	6.8%	\$14.94	5.0%
<b>Total (excl. livestock costs)</b>	<b>\$360.62</b>	<b>100.0%</b>	<b>\$383.50</b>	<b>100.0%</b>	<b>\$297.71</b>	<b>100.0%</b>

A brief summary of the key cost components and the regulated proportion of these is provided below.



### 6.2.1 Labour-related costs

On average, labour-related costs in Australia make up just over 58 per cent of total operating costs, excluding livestock purchases. A large proportion of labour-related costs in Australia are subject to either federal or state government legislation, estimated to account for approximately 85 per cent of total labour-related costs in the beef processing sector. These are broken down as follows:

- Processing wages – the *Meat Industry Award 2010* sets down minimum wage rates by level of occupation in the meat processing sector and incorporates mandatory allowances for annual and personal leave. Many processing facilities negotiate separate Enterprise Agreements where wage rates and allowances are higher than the minimum defined under the Award but which may provide the employer with more flexibility with regard to timing of annual leave and working hours. It has been assumed that Award rates are, on average, approximately 90 per cent of the rates paid under negotiated Enterprise Agreements.
- Salaries – while not subject to regulation in themselves, salaried employees are also entitled to 20 days' annual leave and 10 days' personal leave per annum (for full-time employees and pro-rata for part-time employees) under the *Fair Work Act*. This equates to approximately 4.5 per cent of total salary costs and does not take into account mandatory public holidays.
- Payroll taxes – these rates are subject to state legislation and vary between jurisdictions. The quantum of payroll taxes has been derived from a weighted average of private data supplied and are 100 per cent regulated.
- Workers' compensation premiums – these are also subject to state legislation with the rates varying between states and influenced by historical safety records. The quantum of workers' compensation premiums has also been derived from a weighted average of private data supplied and are 100 per cent regulated.
- Superannuation – a minimum rate of 9.5 per cent is mandatory for all employees and is calculated on ordinary time earnings. Superannuation payments are not required for overtime earnings or for individuals employed on contracts.

## 6.2.2 Utilities-related costs

Utility costs are estimated to make up approximately 6 per cent of operating costs in beef processing in Australia, with electricity being the single biggest cost for processors.<sup>4</sup> It is estimated that 49 per cent of utilities-related costs are subject to regulation as described below:

- Electricity – the Australian Energy Regulator (AER) has responsibility for regulating electricity supply and distribution network costs by determining the maximum amount a network owner can charge and the maximum revenue they can earn in each regulatory period. This is estimated to comprise 45 per cent of total electricity charges in Australia. The AER does not regulate either wholesale or retail prices. The latter has been subject to some form of state government regulation but for most of Australia, retail prices have now been deregulated.
- Other fuel – the regulated component of natural gas supply relates specifically to covered gas pipelines and is subject to AER regulation on the maximum charge. The transmission and distribution component of natural gas prices varies significantly between states. An average regulated component of 25 per cent has been assumed in this analysis.
- Water and sewerage – rates for the supply and consumption of water and sewerage services are generally set by local councils. While there may be opportunities to negotiate the actual rate charged, it has been designated as 100 per cent regulated for this analysis. Generally, any proposed increase in these costs must be ratified by the relevant state government.
- Waste disposal – the regulated component of waste disposal charges has been assessed as 20 per cent of total costs. This assumes a mix of on-site disposal, use of private contractors and accessing local council waste disposal facilities.

## 6.2.3 Certification-related costs

Overall, the weighted average costs associated with certification and associated audits in beef processing are estimated at \$7.29 per head or 2 per cent of total operating costs. Information provided by processors was used to distribute this between costs associated with meeting public standards, required under Australian legislation to process and export beef, and those required to meet private or external standards. While the latter may apply when supplying individual customers domestically and overseas, they are not subject to government regulation. Overall, the proportion of certification-related costs subject to regulation is estimated to be 70 per cent of these costs.

## 6.2.4 Other costs

While no allowance has been made for a regulatory component of other costs, in reality these are impacted by legislation, particularly for labour and utilities-related costs. The regulated component of other costs is influenced by the proportion of these costs attributable to wages and salaries or utilities. The calculation of this proportion is outside the scope of this project but it should be noted that the actual component is greater than the 0 per cent assumed in the calculations.

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<sup>4</sup> It should be noted that figures collected were for the financial year 2015-2016, and since then processors have reported significant spikes in costs. Therefore it is likely that the 6 per cent figure for overall expenditure quoted here may have grown.

### 6.2.5 Summary of operating costs in Australia

The regulated component of total operating costs (excluding livestock purchases) incurred by beef processors in Australia is estimated to be 54 per cent, as outlined in **Table 6**.

**Table 6 – Regulated components of operating costs, beef processors, Australia, 2015-16**

Cost components	Average cost per head (AU\$)	Regulated proportion as % of component	Regulated cost (AU\$)
Processing wages	\$166.91	90.0%	\$150.22
Salaries	\$16.11	11.5%	\$1.86
Payroll taxes	\$7.63	100.0%	\$7.63
Workers' compensation premiums	\$4.96	100.0%	\$4.96
Retirement benefits (superannuation)	\$14.93	100.0%	\$14.93
<b>Labour-related</b>	<b>\$210.54</b>	<b>85.3%</b>	<b>\$179.60</b>
Electricity	\$9.20	45.0%	\$4.14
Other fuel	\$5.51	25.0%	\$1.38
Water & sewerage	\$4.51	100.0%	\$4.51
Waste disposal	\$2.41	20.0%	\$0.48
<b>Utilities-related</b>	<b>\$21.62</b>	<b>48.6%</b>	<b>\$10.51</b>
Certification/audit cost	\$7.29	70.0%	\$5.10
Packaging	\$26.80	0.0%	\$0.00
Transport – finished goods	\$54.01	0.0%	\$0.00
Repairs & maintenance	\$14.76	0.0%	\$0.00
Processing consumables	\$5.70	0.0%	\$0.00
Other costs	\$19.90	0.0%	\$0.00
<b>Total (excl. livestock costs)</b>	<b>\$360.62</b>	<b>54.1%</b>	<b>\$195.21</b>

The regulated component of labour-related costs, at just over 85 per cent of total labour-related costs, makes that component the single biggest contributor to total regulated costs.

### 6.3 Analysis of red meat processing costs internationally

Data gathered from public and private sources overseas was used to provide the basis for a comparison with Australia. Overall, private data from 49 beef processing facilities across the four countries was utilised to prepare the comparative analysis. A brief summary of the key cost components in each of the United States, Brazil and Argentina is provided below.

### 6.3.1 United States

The majority of cattle processed in the United States are grain-fed, resulting in a higher average weight per head. The following table summarises the US operating cost structure, with costs converted to Australian dollar values for direct comparison.

**Table 7 – Operating cost structure, beef processors, United States compared with Australia, 2015-16**

Cost components	US – grain-fed			Australia – grain-fed		
	Cost per head (US\$)	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)	Australia costs as a percentage of United States costs
Average number of head per day		2,200				842
Average kg per head		365				356
Processing wages & salaries	\$74.71	\$97.50	33.6%	\$198.03	51.6%	203.1%
Payroll taxes	\$6.51	\$8.50	2.9%	\$8.51	2.2%	100.1%
Health care payments	\$10.40	\$13.57	4.7%	\$0.00	0.0%	N.A.
Paid leave (incl. in wages & salaries)	\$4.34	\$5.67	2.0%	\$0.00	0.0%	N.A.
Workers' compensation premiums	\$1.10	\$1.43	0.5%	\$3.43	0.9%	239.9%
Retirement benefits (superannuation)	\$2.15	\$2.81	1.0%	\$17.82	1.6%	634.2%
<b>Sub-total – Labour-related costs</b>	<b>\$99.21</b>	<b>\$129.46</b>	<b>44.6%</b>	<b>\$227.80</b>	<b>59.4%</b>	<b>176.0%</b>
Electricity	\$5.42	\$7.07	2.4%	\$11.58	3.0%	163.8%
Other fuel	\$2.36	\$3.08	1.1%	\$7.44	1.9%	241.6%
Water & sewerage	\$0.29	\$0.37	0.1%	\$2.64	0.7%	713.5%
Waste disposal	\$1.33	\$1.74	0.6%	\$3.40	0.9%	195.4%
<b>Sub-total – Utilities-related costs</b>	<b>\$9.40</b>	<b>\$12.26</b>	<b>4.2%</b>	<b>\$25.05</b>	<b>6.5%</b>	<b>204.3%</b>
Certification/audit cost	\$1.14 <sup>b</sup>	\$1.49 <sup>b</sup>	0.5%	\$12.35	3.2%	828.9%
Packaging	\$22.58	\$29.47	10.2%	\$33.77	8.8%	114.6%
Transport – finished goods	\$49.73	\$64.89	22.4%	\$43.81	11.4%	67.5%
Repairs & maintenance	\$11.46	\$14.95	5.2%	\$14.51	3.8%	97.1%
Processing consumables	\$11.10	\$14.49	5.0%	N.A.	N.A.	N.A.
Rent – bld/equip/vehicle/storage	\$1.88	\$2.46	0.8%	N.A.	N.A.	N.A.
Other costs <sup>a</sup>	\$15.85	\$20.68	7.1%	\$26.21	6.8%	126.7%
<b>Total (excl. livestock costs)</b>	<b>\$222.34</b>	<b>\$290.15</b>	<b>100.0%</b>	<b>\$383.50</b>	<b>100.0%</b>	<b>132.2%</b>

Note a: The percentage comparison for other costs between Australia and the United States includes processing consumables, rent and all other costs.

Note b: The certification/audit costs for the United States only refer to those subject to government regulation. Unregulated (external) certification costs are, however, included in "Other costs".

Based on this analysis, total operating costs associated with processing cattle in Australia are almost one-third higher than in the United States, with the major contributors to higher costs being those subject to a significant level of government regulation.

### 6.3.2 Brazil

Most Brazilian processed cattle are grass-fed, and on average are lighter than those processed in Australia. The following table summarises the Brazilian operating cost structure, with costs converted to Australian dollar values for direct comparison.

**Table 8 – Operating cost structure, beef processors, Brazil compared with Australia, 2015-16**

	Brazil – grass-fed			Australia – grass-fed		
Average number of head per day	1,000 – 1,500			815		
Average kg per head	248			271		
Cost components	Cost per head (US\$)	Cost per head (AUS\$)	As % of total costs (excl. livestock purchases)	Cost per head (AUS\$)	As % of total costs (excl. livestock purchases)	Australia costs as a percentage of Brazil costs
Processing wages & salaries	\$38.76	\$50.58	29.4%	\$161.86	54.4%	320.0%
Payroll taxes	\$0.13	\$0.17	0.1%	\$6.06	2.0%	3564.7%
Health care payments	\$7.75	\$10.12	5.9%	N.A.	0.0%	N.A.
Paid leave (incl. in wages & salaries)	\$4.80	\$6.26	3.6%	N.A.	0.0%	N.A.
Workers' compensation premiums	\$1.16	\$1.52	0.9%	\$1.91	0.6%	125.7%
Retirement benefits (superannuation)	\$5.35	\$6.98	4.1%	\$10.61	4.6%	152.0%
<b>Sub-total – Labour-related costs</b>	<b>\$57.95</b>	<b>\$75.63</b>	<b>43.9%</b>	<b>\$180.44</b>	<b>60.6%</b>	<b>238.6%</b>
Electricity	\$13.84	\$18.06	13.9%	\$9.49	3.2%	52.5%
Other fuel	\$1.43	\$1.87	1.4%	\$8.10	2.7%	433.2%
Water & sewerage	N.A.	N.A.	N.A.	\$1.13	0.4%	N.A.
Waste disposal	N.A.	N.A.	N.A.	\$1.27	0.4%	N.A.
<b>Sub-total – Utilities-related costs</b>	<b>\$15.27</b>	<b>\$19.93</b>	<b>11.6%</b>	<b>\$19.98</b>	<b>6.7%</b>	<b>100.3%</b>
Certification/audit cost	\$0.40	\$0.52	0.4%	\$7.15	2.4%	1375.0%
Packaging	\$13.84	\$18.06	13.9%	\$25.58	8.6%	141.6%
Transport – finished goods	\$39.78	\$51.92	39.9%	\$34.21	11.5%	65.9%
Repairs & maintenance	\$3.07	\$4.01	3.1%	\$15.40	5.2%	384.0%
Processing consumables	\$2.23	\$2.90	2.2%	N.A.	N.A.	N.A.
Rent – bld/equip/vehicle/storage	0	N.A.	N.A.	N.A.	N.A.	N.A.
Other costs	0	N.A.	N.A.	\$14.94	5.0%	N.A.
<b>Total (excl. livestock costs)</b>	<b>\$132.02</b>	<b>\$172.29</b>	<b>100.0%</b>	<b>\$297.71</b>	<b>100.0%</b>	<b>172.8%</b>

Based on this analysis, total operating costs associated with processing cattle in Australia are almost 73 per cent higher than in Brazil, largely due to Australia's higher certification and labour-related costs.



### 6.3.3 Argentina

Argentinian processed cattle are largely grass-fed, and on average are lighter than those processed in Australia. The following table summarises the Argentinian operating cost structure, with costs converted to Australian dollar values for direct comparison.

**Table 9 – Operating cost structure, beef processors, Argentina compared with Australia, 2015-16**

Cost components	Argentina – Grass-fed			Australia – Grass-fed		
	Cost per head (US\$)	Cost per head (AUS\$)	As % of total costs (excl. livestock purchases)	Cost per head (AUS\$)	As % of total costs (excl. livestock purchases)	Australia costs as a percentage of Argentina costs
Average number of head per day		480			815	
Average kg per head		224			271	
Processing wages & salaries	\$50.00	\$65.25	31.7%	\$161.86	54.4%	248%
Payroll taxes	\$0.00	\$0.00	0.0%	\$6.06	2.0%	N.A.
Health care payments	\$0.00	\$0.00	0.0%	N.A.	N.A.	N.A.
Paid leave (incl. in wages & salaries)	\$3.00	\$3.92	1.9%	N.A.	N.A.	N.A.
Workers' compensation premiums	\$4.17	\$5.44	2.6%	\$1.91	0.6%	35%
Retirement benefits (superannuation)	\$10.50	\$13.70	6.7%	\$10.61	4.6%	77%
<b>Sub-total – Labour-related costs</b>	<b>\$67.67</b>	<b>\$88.31</b>	<b>42.9%</b>	<b>\$180.44</b>	<b>60.6%</b>	<b>204%</b>
Electricity	\$5.80	\$7.57	3.7%	\$9.49	3.2%	125%
Other fuel	\$4.20	\$5.48	2.7%	\$8.10	2.7%	148%
Water & sewerage	N.A.	N.A.	N.A.	\$1.13	0.4%	N.A.
Waste disposal	N.A.	N.A.	N.A.	\$1.27	0.4%	N.A.
<b>Sub-total – Utilities-related costs</b>	<b>\$10.00</b>	<b>\$13.05</b>	<b>6.3%</b>	<b>\$19.98</b>	<b>6.7%</b>	<b>153%</b>
Certification/audit cost	\$1.75	\$2.28	1.1%	\$7.15	2.4%	314%
Packaging	\$18.00	\$23.49	11.4%	\$25.58	8.6%	109%
Transport – finished goods	\$47.74	\$62.30	30.2%	\$34.21	11.5%	55%
Repairs & maintenance	\$10.00	\$13.05	6.3%	\$15.40	5.2%	118%
Processing consumables	\$2.67	\$3.48	1.7%	N.A.	N.A.	N.A.
Rent – bld/equip/vehicle/storage	\$0.00	\$0.00	0.0%	N.A.	N.A.	N.A.
Other costs	\$0.00	\$0.00	0.0%	\$14.94	5.0%	N.A.
<b>Total (excl. livestock costs)</b>	<b>\$157.83</b>	<b>\$205.96</b>	<b>100.0%</b>	<b>\$297.71</b>	<b>100.0%</b>	<b>145%</b>

Based on the above analysis, total operating costs associated with processing cattle in Australia are almost 45 per cent higher than in Argentina, with Australia's much higher regulatory costs having the biggest impact.

## 6.4 Comparison of beef processing and its cost components

The following section briefly examines the beef processing industry in each of the four countries, particularly in relation to exports, and summarises the operating costs comparison.

### 6.4.1 Significance of exports for beef processing countries

A beef production, imports and exports summary for the four countries is provided below:

**Table 10 – Cattle and calves, slaughter numbers, meat production, imports and exports, 2017**

Measurement	Cattle and calves			
	2017			
	Australia	United States	Brazil	Argentina
Number slaughtered	7,665,000	33,193,000	38,160,000	12,300,000
Meat produced (tonnes)	2,125,000	12,109,000	9,450,000	2,760,000
Meat imported (tonnes)	14,000	1,341,000	55,000	0
Total supply (tonnes) <sup>a</sup>	2,139,000	13,800,000	9,505,000	2,760,000
Domestic consumption (tonnes)	689,000	12,191,000	7,745,000	2,480,000
Meat exported (tonnes)	1,450,000	1,285,000	1,760,000	280,000
Meat exported as % of production	68.2%	10.6%	18.6%	10.1%
Average production per head (kg)	277.2	364.8	247.6	224.4

Note a – Supply equals opening stocks from previous period plus production plus imports.

Of the four countries examined, Brazil exported the highest quantity of beef in 2017 at a total of approximately 1.76 million tonnes. Australia was the second-largest exporter at approximately 1.45 million tonnes. In the same year, the United States exported 1.29 million tonnes of beef while exports from Argentina were significantly lower, at 0.28 million tonnes.

However, examining the total volume of exports in isolation does not reflect the overall importance of the beef processing industry or the beef cattle farming sector in a given country. Beef exports from Brazil represent 18.6 per cent of the country's total beef production whereas in Australia more than 68 per cent of beef produced is exported. The quantity of beef exported from the United States represents only 10.6 per cent of beef production and the country is a net importer of beef.

Australia's ability to remain cost competitive is essential to maintain and broaden its export markets, which in turn is vital to ensure the viability of the beef processing sector, and subsequently the beef cattle industry, its associated jobs and economic contribution. The beef processing sector is estimated to directly support approximately 25,000 FTE jobs while based on the 2016 Census, more than 44,000 people were employed in beef cattle farming. The latter understates the true figure as it only reflects those employed in the category of "Beef Cattle Farming (Specialised)" and does not include the relevant proportion of those employed in other categories of "Sheep-Beef Cattle Farming" or "Grain-Sheep or Grain-Beef Cattle Farming". Any significant reduction in Australian beef exports could have a severe impact on national and individual regional economies.

## 6.4.2 Comparison of operating costs

A comparison of key parameters influencing operating costs in each country is given below:

**Table 11 – Operating cost structure summary, beef processors, Australia, United States, Brazil and Argentina, 2015-16**

Cost category	Australia		United States		Brazil		Argentina	
	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)	Cost per head (AU\$)	As % of total costs (excl. livestock purchases)
Labour-related costs	\$210.54	58.4%	\$129.46	44.6%	\$75.63	43.9%	\$88.31	42.9%
Utilities-related costs	\$21.62	6.0%	\$12.26	4.2%	\$19.93	11.6%	\$13.05	6.3%
Certification-related costs	\$7.29	2.0%	\$1.49 <sup>a</sup>	0.5%	\$0.52	0.3%	\$2.28	1.1%
<b>Total (excl. livestock costs)</b>	<b>\$360.62</b>	<b>100.0%</b>	<b>\$290.15</b>	<b>100.0%</b>	<b>\$172.29</b>	<b>100.0%</b>	<b>\$205.96</b>	<b>100.0%</b>
<i>Cost per kg HSCW</i>	<i>\$1.22</i>		<i>\$0.80</i>		<i>\$0.70</i>		<i>\$0.92</i>	

Note a: Certification-related costs in the United States only relate to those subject to government regulation. Unregulated (external) certification costs are, however, included in the total costs.

The United States is estimated to have the closest operating costs to Australia per head of cattle processed, at approximately AU\$290.15 per head. However, when measured per kg HSCW of beef produced, the US's costs are approximately 65 per cent of Australia's as a result of the average weight of cattle processed. The United States mostly process grain-fed cattle with an average slaughter weight of 365 kg per head, whereas Australia processes a mix of grass and grain-fed cattle, giving an average slaughter weight of 296 kg per head.

In Argentina, the estimated average cost per head is AU\$205.96, approximately 43 per cent lower than in Australia. When measured per kg HSCW of beef produced, the average cost in Argentina decreases to approximately 25 per cent of that in Australia, since Argentinian processed cattle are significantly lighter on average (224 kg per head).

Brazilian operating costs are estimated to approximate AU\$172.29 per head or 48 per cent of the Australian average. Measured per kg HSCW of beef produced, comparatively Brazil's costs are approximately 57 per cent of Australia's, again a result of lighter cattle being processed in Brazil (248 kg per head).

### 6.4.3 Comparison of regulated operating costs

A summary of the regulated components of operating costs, measured in AU\$ values, is provided in **Table 12**. The percentage of the individual component is also provided.

**Table 12 – Regulated cost summary, beef processors, Australia, United States, Brazil and Argentina, 2015-16**

Cost components	Australia		United States		Brazil		Argentina	
	Regulated cost per head (AU\$)	As % of total cost component	Regulated cost per head (AU\$)	As % of total cost component	Regulated cost per head (AU\$)	As % of total cost component	Regulated cost per head (AU\$)	As % of total cost component
Labour-related costs	\$179.60	85.3%	\$79.65	61.5%	\$50.34	66.6%	\$75.26	85.2%
Utilities-related costs	\$10.51	48.6%	\$8.27	67.4%	\$10.96	55.0%	\$13.05	100.0%
Certification-related costs	\$5.10	70.0%	\$1.49 <sup>a</sup>	100.0% <sup>a</sup>	\$0.00	0.0%	\$1.14	50.0%
<b>Total (excl. livestock costs)</b>	<b>\$195.21</b>	<b>54.1%</b>	<b>\$89.41</b>	<b>30.8%</b>	<b>\$61.30</b>	<b>35.6%</b>	<b>\$89.45</b>	<b>43.4%</b>

Note a: Certification-related costs in the United States only relate to those subject to government regulation. Unregulated (external) certification costs are, however, included in the total costs.

As illustrated above, it is estimated that more than 54 per cent of costs (excluding livestock purchases) impacting Australian beef processors are subject to some form of regulation. This is a significantly higher percentage than any of the comparison countries. It relates particularly to labour-related costs, with only Argentina being similar in percentage terms, although the absolute dollar values are substantially higher in Australia.

A detailed comparison of the factors influencing regulated costs in each country is provided in the appendix at Section 9.2 of this report.

## 6.5 Implications of changes in the Australian operating cost structure

The key areas of difference in Australian operating costs against the comparison countries are:

- Labour-related costs – Australian labour costs are substantially higher than in the comparison countries, primarily as a result of legislated wage rates under Award agreements and the associated on-costs which are calculated as a percentage of those wage rates;
- Utilities-related costs – Australian utility costs are significantly higher than those in the United States and Argentina although the latter has a level of government subsidy on utilities supply. In the United States, however, the unit price for both electricity and natural gas is substantially lower than Australia's. Brazilian costs are comparable with Australia's overall;
- Certification-related costs – government-regulated beef certification costs, particularly for export, are significantly higher in Australia, where full cost recovery is charged to the processor. Processors in the United States only have to pay the overtime component, while in Brazil costs for federal inspection of meat and meat food products is entirely borne by the government. In Argentina, the costs recovered by the federal authorities are distributed along the supply chain rather than being imposed entirely on the processing sector.

The input-output model was used to assess the economic impact of changes in operating costs to levels consistent with international competitors. The scenarios examined included:

- Changes to labour costs to reflect those in the United States;
- Changes to utility costs to reflect those in the United States;
- Reducing government-related certification costs to reflect those in the United States; and
- Reallocation of government-related certification costs across the supply chain to reflect the practice adopted in Argentina.

The impact of each of these changes is summarised in **Table 13** below.

**Table 13 – Impact of analysed scenarios on beef processing operations, Australia, 2015-16**

Variable change	Impact on beef processing GOS <sup>5</sup> compared with base		Change in total contribution of beef processing sector to national economy		
	\$ m	%	Industry value added (\$m)	Household income (\$m)	Employment (FTE)
Labour-costs adjusted to US levels	638.8	44.18%	-654.8	-918.6	-3,640
Electricity / gas costs adjusted to US levels	37.3	2.58%	-14.3	-20.5	-229
Regulated certification costs adjusted to US levels	40.2	2.78%	-16.3	-31.1	-381
Regulated certification costs distributed	28.9	2.00%	-11.7	-22.4	-273

The single biggest impact is generated by reducing Australian beef processing labour costs to reflect the situation in the United States. As this means restructuring Award wages and associated on-costs, this is a longer term means to reduce beef processing operating costs. In addition, any hourly rates reduction may result in greater difficulty attracting employees, although this depends on the wages and conditions for competing sectors. Utility price reduction would assist the industry, although not to the same extent as removing certification-related costs.

Taken together, changes to labour, utilities and certification costs could transform the competitiveness of the beef processing industry, reducing its operating costs by up to 5.5 per cent and initially adding over \$700 million in gross operating surplus<sup>5</sup> to the beef processing industry (currently estimated to approximate \$1.4 billion for Australia as a whole), in turn impacting its prospects for investment, longer term income and employment.

<sup>5</sup> Gross operating surplus (GOS) is calculated before deduction of consumption of fixed capital, dividends, interest, royalties and land rent, and direct taxes payable, but after deducting the inventory valuation adjustment. It therefore does not equate to, and is significantly higher than, operating profit. It also fluctuates significantly between years depending upon the average cost of livestock.

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## 7.0 DISCUSSION

It's been known anecdotally that the Australian red meat industry suffers from competitive cost disadvantages relative to major international red meat industries, including the United States, Brazil and Argentina. This study documents the key costs facing the Australian industry relative to those competitors and confirms that which was previously based on anecdotal evidence.

Overall, Australian beef processing operating costs (excluding livestock purchases) are 32 per cent higher than in the United States, 73 per cent higher than in Brazil and 45 per cent higher than in Argentina. The higher costs largely relate to government regulatory costs, both locally and overseas.

What is the significance of this lack of cost competitiveness? Australian processors are fundamentally price takers, with restricted ability to determine the price received for their products. They therefore depend on cost competitiveness to sell their products and be profitable.

Australian processors have been able to compete in world export markets because the world beef market has traditionally been segmented along biosecurity lines.

There have effectively been two markets – one where imports from Foot and Mouth Disease-endemic countries have been allowed (the “Atlantic” beef market which includes South America and Europe), and one where such exports are not allowed (the “Pacific” beef market, which includes Australia and its traditional markets in North Asia and North America). As a result of these restrictions, beef exported to Pacific markets achieved a premium price over that exported to Atlantic markets. Australian processors benefitted from the restricted competition in the Pacific markets, which enabled them to be profitable despite having generally higher costs than processors supplying Atlantic markets. However, in recent times, there has been a distinct weakening of the boundary lines separating these two markets.

A key development is the opening of some key Pacific markets to beef from countries that have traditionally been in the Atlantic market. Changes in sanitary and phytosanitary (SPS) restrictions on imports (largely flowing from the implementation of the SPS Agreement under the 1994 WTO Uruguay Round) have meant the USA in particular has been opening its market to beef from South American countries. This has four implications:

1. Australia now faces competition in the US market not only from local processors but also from South American processors, all of whom have significantly lower costs to process as identified in this report. To date the South American competition is marginal as overall access is restricted and that access has been interrupted due to inadequate regulation. However, direction toward increased access seems to be largely in place in these countries, and over time competition is likely to increase.
2. China is one of Australia's fastest growing beef export markets, and China has now allowed, albeit in a highly controlled fashion, product from both South and North American processors. Australian exports to China have grown from a negligible level a half-dozen years ago to over 100,000 tonnes, making it Australia's third or fourth biggest market (depending on the year), but it is a highly price-sensitive market. As access increases, particularly for South America, the competitive pressure on relatively high cost Australian processors will increase.
3. Biosecurity restrictions in world markets have benefitted Australia even in relation to competition from the United States. When the US experienced bovine spongiform encephalopathy (BSE) outbreaks some years ago, North Asian markets closed access for US beef and left Australia as the major supplier. SPS barriers also restrict the imports of red meat products into Australia. Any weakening of these barriers will further expose the Australian industry to pressures based on the disadvantageous cost position it currently suffers.



4. Changes in trade barriers have meant that international red meat processors now have increased options for accessing major markets by investing in a wider range of countries to supply the key Pacific markets and China. Australia has to compete as a place to invest with these other countries. This is especially pertinent as a result of the significant tax reforms introduced recently in the United States, and economic reforms being introduced by the current Brazilian and Argentinian governments, which will arguably increase their attractiveness for processing investment. A relevant element of the US tax reforms for meat processing is that rather than depreciating major purchases over time, nearly all capital expenditures will be written down in the first year. In the reforms, this element perhaps has the greatest potential to have an impact on jobs and wages.<sup>6</sup>

The increasing competitive pressures that arise from the fundamental characteristics and directions of the global beef trade are compounded by hurdles the Australian industry faces from ongoing competition for domestic economic resources. The July 2016 S.G. Heilbron report on competition in the beef processing industry<sup>7</sup> demonstrated that the Australian red meat industry is a major sector that operates in a highly competitive environment.

The sector is estimated to contribute over \$21 billion of value added to the Australian economy, as noted in Section 6.1 of this report. It generates almost 126,000 jobs when flow-on effects are taken into account.<sup>8</sup>

The top five industry sectors the red meat processing sector impacts in terms of FTE employment are:

- Agriculture, forestry & fishing;
- Transport, postal & warehousing;
- Professional, scientific & technical services;
- Retail trade; and
- Wholesale trade.

When compared to the economy as a whole, the red meat sector has relatively high value-add and employment generation. The red meat processing sector, while accounting for just over 0.3 per cent of the Australian FTE workforce in 2015-16, contributed 1.4 per cent of the nation's gross industry value added when flow-on effects are taken into account. In addition, the sector underpins more than 10 per cent of total FTE employment in the agriculture, forestry and fishing sector.

The red meat industry is a major contributor to regional economies, with its impact reaching more than 5 per cent of value added and in excess of 4 per cent of FTE employment in some cases. The red meat processing industry is a significant contributor to the Australian economy and, at the regional level, may serve to support a substantial proportion of the economy, including the associated social impacts.<sup>9</sup>

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6 See <https://www.bloomberg.com/view/articles/2017-11-03/digging-into-the-details-of-trump-s-tax-reform-plan>

7 S.G. Heilbron Economic and Policy Consulting, "The nature of competition in the beef processing industry", June 2016

8 S.G. Heilbron Economic & Policy Consulting, Analysis of regulatory and related costs and duplication in red meat processing, AMPC Milestone 6 Report, July 2017

9 S.G. Heilbron Economic & Policy Consulting, Evaluating the socio-economic benefit of the red meat processing industry in regional Australia, AMPC Milestone 4 Report, March 2016

Increased competitive pressure arising from the fundamental characteristics and directions of the global beef trade are compounded by the domestic economic hurdles the industry faces. To illustrate the required resources, the industry total value of key inputs are:

- Livestock \$9,580 million
- Labour \$2,240 million
- Transport \$1,670 million
- Energy \$340 million (though note that this figure is probably now much greater given recent price rises, particularly for electricity and natural gas)

Unless the industry can effectively compete for the required resources, it will not be sustainable. Analysis indicates that cessation of Australian red meat processing would have profound social impacts, particularly in regions where a significant proportion of the population is employed by the sector. When flow-on impacts are taken into account, the impact on local unemployment rates could be of such a magnitude that it increases four-fold, in turn impacting stress-related mental health issues which already have a higher incidence in rural communities.

A major feature of the micro level impacts is the unemployment concentration among individuals with similar skills and experience which suggests they could experience difficulty in obtaining new employment locally and, in many cases, may have to leave the region. This can reasonably be expected to impact on the number of education and health care professionals that can be supported locally.

Significantly, food product manufacturing is Australia's largest manufacturing industry and meat processing is Australia's largest food product manufacturing industry. This study has shown that the key costs to industry, where it has been found to have competitive disadvantages against international processors, are those where there is significant government regulation.

The reason for pointing out the economic and social impact and significance of the industry is this: makers of government policy in relation to the key competitiveness areas identified in the report need to take into account that their decisions have a profound impact on a very significant industry. By extension it also affects the local, regional and national economic value and household income generated, as well as the employment and social wellbeing of hundreds of thousands of people.

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## 8.0 CONCLUSIONS AND RECOMMENDATIONS

**Governments need to recognise the substantial contribution of the industry and act decisively to address barriers to its competitiveness.**

The question arises therefore as to what policy directions must be taken to address the industry's cost disadvantages. This is explored specifically in relation to key areas of labour, energy and inspection charges identified in this study. The recommended directions are those of the consultants and do not necessarily reflect the views or positions of processors. Moreover, they are broad policy directions – detailed policy positions and prescriptions would need to be researched and developed by processors. In addition, flowing from the suggested general policy directions, research and development recommendations are noted which would support the industry in pursuing the policy directions.

However, it should first be noted that the current analysis needs to be regularly updated. The industry's policy development will not be effectively supported by basing it on outdated data. Regularly updating the database will also help increase its coverage and insights by encouraging additional participants to provide data, and most importantly enable monitoring of progress in addressing the cost disadvantages by both industry and governments (in the case of disadvantages resulting from regulations).

**Recommendation 1. The international cost analysis now established should be regularly updated and the database augmented to enable monitoring of progress in addressing the cost disadvantages by both industry and governments.**

## **8.1 Specific areas of cost disadvantage**

### **8.1.1 Labour costs**

#### *Overall direction*

**Given the significance of labour in total processing operating costs, governments and their regulatory agencies need to address policy-induced cost disadvantages faced by the red meat processing industry to ensure its economic sustainability and enable it to benefit from domestic and international red meat market trends, rather than become a victim of them.**

Red meat processors in Australia suffer from significant labour cost disadvantages compared with the United States, Brazil and Argentina. While it might be understandable that developing countries like Brazil and Argentina have lower labour costs, it is difficult to come to the same conclusion in relation to the highly-developed United States.

This is not to suggest that Australia should necessarily follow the same labour policies as the US. However, the current labour disadvantage level is likely to result in increasing pressure on the future economic sustainability of the Australian industry. This is especially true in a global market where Australia is a price taker and where the SPS-based market boundaries which previously worked in Australian red meat's favour are now moving in a direction which will expose the industry to increased competitive cost pressure.

Australian red meat processors are subject to the national and state-based regulation of wages and conditions. The evolution of the labour policy regime in Australia has meant that processors have endeavoured to realise whatever potential benefits there have been from these policy developments. The tally system has given way to more flexible arrangements and enterprise-level bargaining has helped ameliorate the adverse impacts of a highly rigid, centralised system for setting wages and conditions.

However, more needs to be done. Red meat processing has a high level of variability, risk and uncertainty associated with not only the level of, and price attained for, product sales, but also the variability in the supply and price of its key inputs, including labour. As the "Nature of Competition"<sup>7</sup> report cited in Section 7.0 points out, processors have to match the availability of inputs such as labour with the demand for processed products.

Labour is a particular challenge. Processors have to attract labour when demand is firm and try to maintain it even when demand is weak since there are real constraints on the availability of skilled labour required for their facilities. However, since it is necessary to attenuate the supply of labour with demand for products, processors require flexibility in employment conditions. Within the constraints of the labour policy regime, processors have endeavoured to develop labour practices to accommodate this economic reality. In some states for example, many processors have developed so-called 'daily hire' practices.

An analysis of indicators of employment protection legislation in various countries by the OECD found that Australia had significantly higher levels of protection of permanent workers against individual and collective dismissals. Australia also had more regulation on temporary forms of employment compared with the United States, and about the same level of specific requirements for collective dismissal.<sup>10</sup>

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<sup>10</sup> See <http://www.oecd.org/els/emp/oecdindicatorsofemploymentprotection.htm>

Interestingly, Argentina had generally higher levels of protection and Brazil had higher levels in some cases and lower in others. An important point needs to be made about the developed country indicators: research has indicated that whatever the formal regulatory provisions, the actual enforcement of those provisions in these countries can be highly variable. For example, in Brazil it appears that enforcement reduces significantly the further away the enterprise is from the major cities. Many meat processing facilities are located in these areas.<sup>11</sup>

### **Recommendations**

Against the background of the critical importance of attenuating the supply of labour with the demand for processing of meat it is recommended that:

**Recommendation 2. The industry should undertake detailed research to develop policy positions on enhancing labour cost competitiveness, including a focus on improving labour employment flexibility.**

**Recommendation 3. The outcomes of the research should be presented to governments urgently with a view to address policy outcomes.**

A further, and related, issue is that of access to skilled labour. In recent times, the industry has benefitted from the availability of skilled labour through temporary visas. The same applies in the US. However, the US industry has proposed that, given its reliance on temporary visas, a certain proportion of the total number of visas available should be specifically allocated to red meat processing.

**Recommendation 4. The Australian industry should analyse whether a similar approach to temporary visas as is being proposed in the US is warranted in Australia and then develop an appropriate policy proposal for action by government in the immediate term.**

It should also be noted that the analysis of comparative labour costs in this study only considers wage-related costs and does not include any assessment of labour productivity. Information provided by a processing facility in Argentina suggests that the average costs associated with the components of the beef processing sector are as follows:

- Slaughter and quartering AU\$42.80 per head; and
- Deboning AU\$52.30 per head.

A similar analysis for Australia would indicate that the following costs apply:

- Slaughter AU\$30.00 per head; and
- Deboning AU\$63.00 per head.

There are a number of factors influencing this comparison including different average weight of cattle and the fact that, in Australia, quartering is not a common occurrence. However, when the two categories are combined and average wage rates compared, this would suggest that labour productivity in Australia is higher than in Argentina.

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11 In Brazil, the distance of firms from the local office of the Ministry of Labour (where workplace inspectors are based) directly influences the likelihood of a firm being inspected. An increase of one hour in the distance from a firm to the local labour office reduces the likelihood of inspection by around 10%. Firms in areas with lower labour enforcement capacity are more likely to employ informal workers. In areas where Brazil's strict labour laws are enforced more rigorously, the labour market is less dynamic and firms' productivity may be impeded (Almeida and Carneiro, 2006) cited in Danielle Venn (2009), "Legislation, collective bargaining and enforcement: Updating the OECD employment protection indicators", [www.oecd.org/els/workingpapers](http://www.oecd.org/els/workingpapers), page 27.

**Recommendation 5. Research be undertaken, ideally on a collaborative basis with countries willing to co-operate, to examine the productivity differences between Australia and the other countries concerned and identify the key drivers and impacts of improved productivity in each industry. This should be done in the short term, given that at this stage the direct competition especially between Australia and South American countries is relatively restricted.**

### 8.1.2 Energy costs

#### *Overall direction*

**Governments should support both economy-wide and industry-specific policies that underpin increased energy cost competitiveness for the red meat processing industry.**

High Australian energy costs have been the subject of extraordinary attention in recent times in relation to both households and businesses. Red meat processing is energy intensive, especially for refrigeration of its highly perishable products.

It is widely acknowledged that Australia's high energy costs reflect successive policy failures. Governments and their agencies are urgently seeking solutions to these failures.

However, as the analysis of energy costs in this study indicates, there is a huge gap to be bridged. In the interim individual red meat processors have to do everything they can to maintain competitiveness, taking their own energy initiatives, including where appropriate combining with other processors, to increase their energy purchasing power.

Nevertheless there are a number of recommendations.

#### *Recommendations*

One relates to the need for the industry to bring to governments' and relevant regulatory agencies' attention the level of energy costs it faces and the need for relief. There are avenues via which such information can result in relief. For example, in some states regulatory agencies exist which are responsible for action on various elements of the energy pricing regime, such as the wholesale pricing.

**Recommendation 6. Undertake research and develop a plan to reduce energy costs faced by the industry and present the results to regulatory agencies where it is believed that a practical outcome of improved energy costs can be achieved for the industry.**

Another relates to the special position of the industry as being both energy-intensive and trade-exposed. Currently, government policy initiatives aim to address energy shortages and high costs at a national or state level without aiming to address the specific needs of an industry. This approach fails to recognise the highly exposed position an industry like red meat processing faces.

The special position of the industry was recognised when the carbon tax was in force. Following detailed research by the industry, funds were provided on a contestable basis to support processors in reducing their methane emissions and adjusting to the effects of the tax. Currently many processors are investigating the potential for various renewable and other energy-related measures that will reduce their energy costs.

**Recommendation 7. Undertake research on policy options that would facilitate the adjustment of the industry through supporting various alternative energy initiatives, in the face of persistently high energy costs that hamper its international competitiveness and threaten exports, jobs and household incomes.**

**Recommendation 8. The research on energy adjustment options should be presented to governments with a view to developing policy action that improves energy cost outcomes for the industry in the immediate term.**

### 8.1.3 Export inspection

#### *Overall direction*

**Government export inspection costs should be based on economic efficiency principles.**

Export inspection charges account for a smaller proportion of processing costs than labour and energy. They are nevertheless important, partly since the industry cannot export without use of government inspection and certification services (the charges are mandatory and only government can provide them in most cases), and also because of the history of inspection costs-related policy.

Export inspection is a mandated monopoly. Like any monopoly, prices will tend to be higher than is justified by the marginal cost of producing them (the measure of economic efficiency). The red meat processing industry in Australia has been forced to accept a policy of full cost recovery for export meat inspection services for decades. This policy is based on the premise that the 'beneficiary' or 'user' of these services should pay the full costs of the service, though industry has strenuously argued against this policy for a long time. In 2001 the federal government accepted the industry's position and while user-pays continued the costs were reduced by 40 per cent at the time.

It was claimed by some that this represented a subsidy for the industry. In economic terms this is incorrect, since the imposition of costs on enterprise by government that exceeds marginal costs is, in effect, a tax. Reducing inspection costs was thus a tax reduction, entirely justified on economic efficiency grounds. It is also worth noting that the 40 per cent figure was the same as the industry requires based on an analysis of the incremental costs of the inspection service (incremental cost being the accounting approximation of marginal costs in economics).

Notwithstanding this achievement, in 2011 the industry was persuaded by government to accept the imposition of full cost recovery in return for promised productivity gains in the provision of the service. As the industry subsequently realised, these gains never materialised,<sup>12</sup> and the industry is over \$100 million worse off.

Internationally, the US government pays for its inspectors' ordinary time but processors pay for overtime and certain extraordinary special needs for inspection. This approximates marginal cost recovery. In Brazil, government pays for inspection costs. In Argentina, government recovers full costs but they are allocated along the supply chain, rather than solely on the processor. This approach recognises that there are beneficiaries from export market access facilitated by export inspection apart from the processors alone.

#### *Recommendations*

**Recommendation 9. Undertake research which analyses the options of either government introducing marginal cost pricing of inspection services along the lines of the US model, or that allocates total inspection costs to beneficiaries along the supply chain, similar to the Argentinian model.**

**Recommendation 10. The above research should be presented to the federal government with a recommendation as to the best means of introducing efficiency pricing in export inspection in the immediate term.**

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<sup>12</sup> See S.G. Heilbron, *op.cit.*, June 2016, p26.



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## 9.0 APPENDICES

This section includes any supporting documentation which has been referenced in the report.

### 9.1 Appendix 1 – Economic impact assessment

The input-output tables developed for this project were based on the national input-output table published by the Australian Bureau of Statistics<sup>13</sup> (ABS) for 2014-15 and subsequently updated to reflect the financial year 2015-16. The process of updating the national table incorporates the inclusion of data from the Australian System of National Accounts<sup>14</sup> and the Australian Labour Force survey.<sup>15</sup> As the analysis not only reflects revised private data from processors but also an updated reflection of the national economy, some variations in assessing the economic contribution of the red meat processing industry could be expected when compared with results from previous analysis.

The input-output model for 2015-16 was used to measure the economic contribution of the red meat processing sector in that year by assessing the data supplied by processing facilities and converting it to the categories utilised by the ABS in the base national input-output table. The data was then converted to basic prices. Expenditure data provided by processing plants is measured in purchasers' prices (i.e. what the processor actually pays). Conversion to basic prices involves the reallocation of various margins to reflect what the supplier actually receives and by convention, is the measure used in input-output tables.

The resultant aggregate data was then applied to the 2015-16 national table. This involved inserting a new row and column into the input-output table to reflect the red meat processing sector. This was then subtracted from the relevant parent sector, in this case meat and meat product manufacturing, to maintain the integrity of the table, and ensure that there is no double-counting. The table was then rebalanced and the various measures of economic activity calculated, namely employment (measured as full-time equivalent positions), household income and gross regional product. It should be noted that in calculating the economic impact on each region, marginal rather than average income coefficients were used.

Conventional input-output models are subject to some queries regarding linearity assumptions as a result of the adoption of average coefficients. Economic impact analysis using multipliers assumes households consume goods and services in exact proportions to their initial budget shares. However, the household budget share of some goods might increase as household income increases, while others remain unchanged. This equally applies to industrial consumption of intermediate inputs and factors of production.

As has been well documented, the household sector is the dominant component of multiplier effects in a regional input-output model, as consumer driven consumption and income tends to dominate local economic activity. Capturing marginal income and expenditure relationships for the household sector provides a more realistic representation of the economic system and removes the strict linearity assumption. In addition, as marginal income changes alter value added relationships by industry, effects on regional output prices as well as import proportions can also be simulated.

The analysis undertaken in this project incorporated empirically derived marginal, rather than average, coefficients providing a more realistic representation of the economy and removing the strict linearity assumption. The results are therefore more conservative and reasonable than those derived from conventional input-output modelling.

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13 ABS Cat. No. 5209.0.55.001

14 ABS Cat. No. 5204.0

15 ABS Cat. No. 6291.0.55.003



## 9.2 Appendix 2 – Comparison of regulatory cost components

In examining the individual cost components, those subject to some level of regulation have been separated from the balance of costs as the inclusion of a regulatory component suggests that, in theory, these costs could be altered through government intervention or policy. This primarily relates to:

- Labour-related costs;
- Utilities-related costs; and
- Certification-related costs.

Each of these is examined below with respect to a comparison between the four countries examined.

### 9.2.1 Labour-related cost comparison

It is estimated that labour-related costs in Australia approximate AU\$210.54 per head of throughput, of which 85 per cent are subject to some form of regulation. By comparison:

- United States approx. AU\$129.46 per head, of which 61 per cent is regulated;
- Brazil approx. AU\$75.63 with two-thirds of this being subject to government regulation; and
- Argentina approx. AU\$88.31 with a similar proportion being regulated as in Australia.

The differences in absolute costs associated with labour in each country and the regulated component of these is associated with the following:

- Wage rates – subject to the minimum wage rate of AU\$18.29 per hour (2018) but also legislated under the Award which provides for wage rates that are substantially higher than the minimum wage rate and increase with the classification of the employee under the Award. By comparison, the minimum wage rate in the United States is legislated at the federal level at AU\$9.46 per hour although individual states may impose a higher minimum. Among the main red meat producing states in the United States, Colorado has the highest minimum wage at AU\$13.31 per hour, approximately 73 per cent of that in Australia. Thereafter, there is no mandatory requirement for specific wage rates in the beef processing sector although these may be subject to negotiations with the relevant union bodies.

Brazil's minimum wage rate equates to approximately AU\$2.32 per hour after allowing for the statutory requirement to pay employees a bonus equivalent to one month's wages per annum. Different state jurisdictions within Brazil may impose a higher minimum wage rate than the federally mandated level. While hourly rates payable to employees in the beef processing sector are estimated to be approximately four times higher than the minimum wage rate, there remains a substantial difference between hourly rates in Australia and Brazil.

Argentina's minimum wage rate equals approximately AU\$3.81 per hour, after allowing for the statutory requirement to pay a bonus equivalent to one month's wages per annum.

- Statutory leave allowances – a full-time employee in Australia is entitled to 20 days' paid annual leave per annum which also attracts a leave loading allowance of 17.5 per cent of the normal hourly rate. In addition, the employee is entitled to 10 days' personal leave. These factors apply to all employees (except those employed on a casual basis) including salaried personnel not employed under the Award. In addition, employees are entitled to be paid for statutory public holidays if these fall on a day that they would normally have worked.

The United States has no mandatory minimum for either annual leave or personal leave, although some states have prescribed sick leave regulations. Employers in the beef processing sector generally offer paid annual leave as part of the employment package but this is reported to be less than the 20 days applicable in Australia.

Brazil provides more generous leave allowances than Australia with full-time employees being entitled to 30 days of paid vacation leave per annum after one year of full employment and an additional allowance of approximately 33 per cent of the normal wage is applicable to those days. Employees in Brazil are also entitled to up to 15 days' paid leave per annum for documented illnesses.

Argentinian regulations provide for between 14 and 35 days of paid vacation leave, depending upon length of service. In addition, employees are entitled to short leaves of absence in the event of marriage, birth, death of a close relative and high school or university examinations.

- Superannuation/retirement/health insurance – Australian employers must pay a superannuation contribution for each employee, including those employed on a casual basis, of 9.5 per cent of their base salary. Superannuation is not payable for overtime hours worked.

In the United States, total compulsory employer contributions for retirement benefits and health insurance are 7.65 per cent of total payroll of which 6.2 per cent is for social security and 1.45 per cent for Medicare.

Brazilian employers have to pay retirement benefit contributions which equate to between 26.8 and 28.8 per cent of payroll. In addition, employers are also required to make contributions to the Federal Severance Pay Fund (FGTS), in an amount corresponding to 8 per cent of an employee's monthly compensation.

In Argentina, the employer must pay the equivalent of 6 per cent of wages and salaries to a health provider scheme and a further 17 or 21 per cent (depending upon type of activity and level of turnover) for pensions, family allowances and an unemployment fund.

- Workers' compensation premiums – these are subject to state legislation in Australia with the costs being calculated as a percentage of total payroll. The percentage cost varies between states and is influenced by the industry type (meat processing generally attracts a significantly higher than average loading), and the history of claims from the individual facility. Overall, workers' compensation premiums are estimated to be approximately 2.4 per cent of total payroll costs across the Australian beef processing industry.

Premiums also vary between US states but are estimated to average approximately 1.5 per cent of gross wages and salaries. In Brazil, these costs generally fall between 1 and 3 per cent of total payroll costs, influenced by perceived level of risk and historical records of claims associated with an individual facility. In percentage terms, Argentinian workers' compensation premiums are substantially higher than Australia's, equating to approximately 6 per cent of payroll costs.

- Working hours – the Australian standard working week is 38 hours, and hours worked in excess attract overtime or penalty rates. The standard working week in the United States is 40 hours and 44 hours in Brazil. In Argentina, the standard working week is 48 hours.

In combination, these factors all serve to result in significantly higher hourly wage rates in Australia when compared with the other three countries. This then translates into considerably higher costs per head of throughput in the beef processing sector. While some employer compulsory payments in the comparison countries are substantially higher in percentage terms than in Australia, as they are all calculated on actual wages and salaries paid, Australian real costs are much higher. Even allowing for potentially greater labour productivity in Australia, which appears to be the case when compared with Argentina, labour costs form a substantially higher proportion of total costs in Australia as well as being significantly higher in absolute terms.

### **9.2.2 Utilities-related cost comparison**

Utilities-related costs in Australia are estimated to average AU\$21.62 per head of throughput, of which almost 49 per cent is subject to regulation.

In the United States, utilities-related costs were estimated to approximate AU\$12.26 or approximately 57 per cent of that applicable across the average for all cattle processed in Australia. However, when compared with the processing of only grain-fed cattle in Australia, the figure for the United States approximates only 49 per cent of that found in Australia.

Utilities-related costs in Brazil are estimated to approximate AU\$19.93 per head, approximately the same as those incurred in Australia; while in Argentina, the average cost per head equates to AU\$13.05 per head or approximately 65 per cent of that in Australia. It should be noted that for the latter two countries, there is limited information for costs associated with water supply, sewerage and waste disposal. For this reason, the analysis of differences concentrates on electricity supply and other fuel usage (primarily natural gas). The key variations are described below.

- Electricity supply – in Australia it is estimated that, on average, the cost of electricity supplied approximates AU\$9.20 per head of throughput. This reflects the amount paid to electricity suppliers and does not include any electricity generated on site through cogeneration. It should also be noted that this cost estimate may underestimate the current costs given recent price rises in the wholesale cost of electricity. Australian states vary considerably on electricity pricing and much of the data is subject to commercial-in-confidence contract negotiations between an individual facility and the electricity provider. However, the following publicly-available information for 2017-18 serves to illustrate the price variations.
- Queensland<sup>16</sup> – large businesses with 11kV line – \$0.184 per kWh; and
- New South Wales<sup>17</sup> – large businesses adopting Controlled Load 2 (availability 10 to 18 hours per day on weekdays) – \$0.185 to \$0.2257 per kWh depending upon supplier.

It should be noted that these prices do not necessarily reflect total electricity charges – they exclude daily supply charges and usage outside regulated hours. However, they do provide an indication of retail prices paid by large business consumers in Australia to permit comparison with those found in the United States in particular.

As noted in Section 6.2.2, the Australian Energy Regulator (AER) regulates electricity supply and distribution network costs, estimated to comprise approximately 45 per cent of total electricity charges in Australia, but does not regulate either wholesale or retail prices. Retail prices have been subject to various forms of relevant state government regulation but are now deregulated through most of Australia.

In the United States, electricity costs per head of throughput are approximately AU\$7.07 or around 77 per cent of those in Australia. However, when a direct comparison is made using only processing of grain-fed cattle, average electricity expenditure per head in the US is around 61 per cent of Australia's. Given that most electric power consumed in a beef processing plant is for refrigeration, linked in turn to beef production volumes, this may be a more realistic comparison.

In the top 10 meat producing states in the United States, the average price per kWh for electricity supply to industry was AU\$0.088, less than half that outlined above for Queensland and New South Wales. The regulated component of electricity costs in the United States varies between states making it difficult to provide a definitive proportion applicable across the country. However, with the exception of Texas and Iowa, none of the major meat producing states have a deregulated electricity market and it has been assumed that 90 per cent of costs associated with electricity consumption in the United States are subject to regulation.

In Brazil, the cost of electricity per head of throughput is estimated to equate to AU\$13.84 per head, which is substantially higher than Australia. The regulated utility costs in Brazil are estimated to be approximately 55 per cent of total utilities costs. The costs associated with electricity consumption in Argentina are estimated at AU\$7.57 per head. Historically, governments in Argentina have subsidised power costs but the current government has embarked on a policy of reducing the level of subsidy in stages. The cost of utilities in Argentina is effectively 100 per cent regulated.

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16 <https://www.energex.com.au/home/our-services/pricing-And-tariffs/business-customers/large-business-tariffs-and-prices>

17 [NSW-electricity-schedule-of-charges-2017-18.pdf](#)

- Other fuel – in Australia, costs for consumption of other fuels (predominantly natural gas or coal) approximate AU\$5.51 per head of throughput. There have been substantial increases in the wholesale price for natural gas in Australia over the past five years with prices in New South Wales more than doubling while South Australian prices rose by 65 per cent. Queensland has experienced a more modest increase with prices rising by 16 per cent over the period. As at September 2017, the wholesale price for natural gas in Queensland was AU\$9.03 per gigajoule.

The regulated component of natural gas supply relates specifically to covered gas pipelines and is subject to AER regulation on the maximum charge. The transmission and distribution component of natural gas prices varies significantly between states. An average regulated component of 25 per cent has been assumed in this analysis.

In the United States, estimated costs for fuel sources other than electricity equate to AU\$3.08 per head of throughput or 56 per cent of those found in Australia. However, when a direct comparison is made using only processing of grain-fed cattle, the average expenditure in the United States equates to approximately 41 per cent of Australia's.

The average price charged in the US for natural gas delivered to an industrial establishment<sup>18</sup> in the year ending September 2017 was approximately AU\$4.62 per gigajoule with prices actually falling in nominal terms over the past four years. It is estimated that wholesale prices for natural gas in the US are approximately 37.5 per cent of the delivered price for industrial establishments, suggesting that a direct comparison between retail prices in Australia and the US would result in a significantly greater differential than outlined above.

There is little information currently available relating to other fuel consumption in either Brazil or Argentina by type.

Overall, unit costs of energy supplied in the United States are significantly lower than in Australia, impacting on the differential in operating costs by at least AU\$10 per head.

### 9.2.3 Certification-related cost comparison

It is estimated that costs associated with government-regulated certification in Australia equate to \$AU5.10 per head compared with AU\$1.49<sup>19</sup> in the United States, AU\$1.14 in Argentina and no cost in Brazil. All costs associated with government-regulated certification in Australia are recovered from the beef processor whereas in the United States only costs associated with overtime payments are recouped. The Argentinian system allows for recovery of these costs but this is not limited to the beef processing sector. Rather, they are distributed across the supply chain including livestock producers. In Brazil, the cost of federally-regulated inspection and certification charge is entirely borne by the federal government.

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18 [http://www.eia.gov/dnav/ng/ng\\_pri\\_sum\\_dcu\\_nus\\_m.htm](http://www.eia.gov/dnav/ng/ng_pri_sum_dcu_nus_m.htm)

19 As noted through the report, the certification/audit costs for the United States only refer those subject to government regulation. Unregulated (external) certification costs are, however, included in "Other costs".

### 9.3 Appendix 3 – Audit and certification systems in the Australian red meat processing sector

Data collected during this project showed that on average, the number of individual audits an Australian red meat processing facility will receive is 22.7 per annum, based on the sample used; however, several were carried out in conjunction with other audits as outlined below. The number was also impacted by the audit requirements for an individual facility for an Approved Arrangement Certificate, mandatory for any facility seeking to export meat and meat products.

#### 9.3.1 Government related standards, audits, accreditation and certification

Australian red meat processors that seek to supply the export market must hold a range of certifications, which may be viewed as being inter-linked. The following are compulsory requirements for export abattoirs, boning rooms and further processing facilities:

- AUS-MEAT accreditation – the principal objectives of AUS-MEAT relevant to this accreditation are the management of industry standards for trade description through the *Australian Meat Industry Classification System* (“AUS-MEAT Language”), and the AUS-MEAT National Accreditation Standards for AUS-MEAT Accredited Enterprises. The National Accreditation Standards are designed to protect the integrity of the AUS-MEAT Language and the interests of the Australian industry in relation to the sale, distribution and export of Australian meat and the reputation of AUS-MEAT. Audits associated with maintaining AUS-MEAT accreditation are conducted quarterly at a minimum, with each audit having an average duration of eight hours.
- Approved Arrangement Certificate – The *Export Control (Meat and Meat Products) Orders* require that the occupier of an establishment engaged in the preparation of meat and meat products for export has an approved arrangement. The purpose of the approved arrangement is to clearly describe those processes and practices which will underpin the relevant federal department’s certification of meat and meat products for export. The mandatory requirements for an Approved Arrangement Certificate vary depending upon the nature of the establishment’s operations as outlined in **Table 14**.

**Table 14 – Requirements for Approved Arrangement Certificate, Department of Agriculture and Water Resources**

Activity Centre	Slaughter	Boning	Processing	Cold storage
<b>System support</b>				
Policy objectives and commitment	✓	✓	✓	✓
Organisational structure	✓	✓	✓	✓
Management review	✓	✓	✓	✓
Internal audit	✓	✓	✓	✓
Corrective action	✓	✓	✓	✓
Training	✓	✓	✓	✓
<b>Process control: Sanitation standard procedure</b>				
Pre-operational sanitation	✓	✓	✓	✓
Operational sanitation	✓	✓	✓	✓
Personal hygiene	✓	✓	✓	✓

Activity Centre	Slaughter	Boning	Processing	Cold storage
<b>Process control: Standard operating procedure</b>				
Waste	✓	✓	✓	
Vermin control	✓	✓	✓	✓
Water	✓	✓	✓	✓
Hazardous substances	✓	✓	✓	✓
Structure and maintenance	✓	✓	✓	✓
Calibration	✓	✓	✓	✓
Sourcing of livestock (vendor declaration)	✓			
Slaughter	✓			
Inspection	✓			
Boning		✓		
Processing			✓	
Refrigeration	✓	✓	✓	✓
Sampling programs	✓	✓	✓	
Animal welfare	✓			
<b>Process control: HACCP</b>				
HACCP	✓	✓	✓	✓
<b>Activity Centre</b>				
<b>Product integrity/certification</b>				
Traceability and recall	✓	✓	✓	✓
Trade description	✓	✓	✓	
Halal <sup>20</sup>	✓	✓	✓	✓
Security/integrity (Meat Transfer Certificate)	✓	✓	✓	✓
Control of official marks	✓	✓	✓	✓
Importing country requirements	✓	✓	✓	✓
Export documentation (Request for Permit)	✓	✓	✓	✓

20 Halal Standard operating procedures only applicable if the facility is producing or storing Halal meat and meat products.

Approved Arrangement Certificate audits are conducted monthly for the first six months after a processor's entry into the Tier 2 export sector (i.e. the establishment has access to all eligible export markets and has the daily presence of department officers [e.g. on-plant veterinarians and food safety auditors] on site). Upon successful completion of the induction phase, the processor may opt for one of two ongoing audit requirements:

- A twice-yearly systems audit with the on-plant veterinarian or food safety auditor preparing a monthly periodic audit report in accordance with the *Meat Establishment Verification System Operational Policy* as defined by the department; or
- Periodic audits where an audit is conducted either monthly or quarterly for those establishments that have elected to opt out of the systems audit.

It should be noted that the difference between the department-related man-hours required to conduct these audits is not great. The systems audit generally requires two auditors each spending approximately 2.5 days on site, equating to 10 man-days per annum. A monthly periodic audit incurs one auditor spending one day per month on site, equating to 12 man-days per annum. The majority of red meat processing establishments responding to this survey had opted to be subject to a systems audit, requiring two audits per annum. However, one facility had recently entered the Tier 2 export sector and was subject to monthly audits.

The Approved Arrangement Certificate then enables the processor to obtain an Export Licence. However, the facility is also required to be registered with the department.

- Department of Agriculture and Water Resources Certificate of Registration – meat processing plants must be registered with the department to be eligible to export products. The fees associated with this include:<sup>21</sup>
  - Application fee \$600;
  - Levy per establishment \$588 per month; and
  - Throughput levy calculated based on the number of head of throughput at \$0.70 for cattle and \$0.18 for sheep.

While these costs are clearly significant, they have not been included in the overall audit costs calculation as they do not directly relate to audit requirements and are strongly influenced by the level of throughput.

### 9.3.2 Private standards, audits, accreditation and certification

All facilities examined in this project were accredited with either the *BRC Global Standard for Food Safety* (BRC) or the *Safe Quality Food Code* (SQF). These generally required one audit per annum to maintain compliance and were frequently undertaken as composite audits that would also provide compliance with other private standards such as those set down by ALDI, Coles, Costco, McDonalds (in part) and various North American customers. These generally also cover the requirements for the *Australian Animal Welfare Certification System* (AAWCS), commonly a prerequisite for supplying individual customers. These audit costs are impacted by the number of additional standards addressed over and above meeting the requirements to satisfy either BRC or SQF accreditation and certification. It was indicated that the amount paid for either BRC or SQF certification ranged from approximately \$14,000 to \$20,000, depending upon the level of additional private standard compliance sought.

While audits associated with either BRC or SQF certification may incorporate the additional requirements to be able to supply McDonalds in terms of food safety and animal welfare, they do not include the *McDonalds Supplier Code of Conduct*. This is a separate assessment that must be adhered to by all McDonalds suppliers and relates to human rights, the workplace environment, environmental management and business integrity.

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21 Fees correct as of November 2018



The facility must complete a self-assessment using the *Supplier Workplace Accountability Guidelines*, undergo an on-site baseline audit and participate in follow-up audits as required. Data from processors participating in this project indicates that these audits are generally conducted annually, with an average cost per audit (excluding time spent by employees in the facility) of approximately \$3,500.

Meat Standards Australia (MSA) was introduced in 2007. MSA is the result of industry-funded research which has identified the factors behind the eating quality of red meat. This is a voluntary program, but required for a number of accredited products sold in Australia. MSA-accredited graders are employed by the processors and determine the MSA grading of the individual cuts.

MSA-accredited beef processing facilities are required to pay an annual licence fee, which is calculated by throughput graded under the scheme:

- Less than 100 head per week put forward for grading \$1,500;
- 101 to 500 head per week put forward for grading \$3,000; and
- 501 or more head per week put forward for grading \$5,000.<sup>22</sup>

At the outset, to obtain approval to participate in MSA Beef Grading or MSA Sheepmeat, the facility must undergo an initial systems audit to demonstrate compliance with the MSA program requirements. Following initial approval, unannounced procedural audits are conducted at a minimum frequency of once per calendar month for an initial qualifying period of six months (assuming all audits are deemed satisfactory). On satisfactory completion of the initial qualifying period, audit frequency can be varied.

The majority of MSA-accredited facilities assessed in this project were audited quarterly, although one facility noted two audits per annum and another indicated that it was subject to six audits per year.

Not all facilities assessed during this project held Halal Capacity certification; however, for those that did an average of four audits per annum was reported. One facility reported holding ISO 9000 accreditation which required an audit every six months.

### **9.3.3 Expenditure on auditors and time incurred by plant employees**

On average, the plants contributing to this project recorded that approximately 335 man-days per annum were spent in activities associated with audits, although there was considerable variation. The average audit preparation time was 95 man-days (28% of total time spent). Time incurred during the audit process equated to an average of 161 man-days or 48% of the total time spent whilst audit follow-up time reported averaged approximately 78 man-days (24% of total time).

After adjusting for the number of audits per annum, the single biggest contributor to time spent by employees in-plant was audits associated with the Approved Arrangement Certificate. Time spent on either BRC or SQF audits was the second most significant after allowing for the multiple audits generally covered during this process. For those establishments holding the MSA licence, this was generally the next most significant contributor to time spent, followed by audits associated with AUS-MEAT accreditation.

When examined in terms of costs (i.e. expenditure on auditors), the Approved Arrangement Certificate audits were reported as the most significant. AUS-MEAT accreditation audits followed, and payments made for either BRC or SQF audits and MSA audits were almost equivalent.

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<sup>22</sup> Fees correct as of November 2018

### 9.3.4 Customer audits

The processors contributing to this project covered a wide range of individual customers that included but were not limited to:

- A&W
- Aldi
- Burger King/Hungry Jacks
- CAAB
- Cargills
- Coles
- Costco
- MARS
- McDonalds (and/or McAngus)
- North American customers
- Organic
- Saizeriya
- Thermo Fisher
- US Defence Force
- Whole Foods
- Woolworths

Each of the above was reported to have their own specific requirements in terms of the following:

- Product specifications
- Animal welfare
- Traceability and identification
- HACCP
- Pest control
- Sanitation
- Biosecurity
- Environmental issues
- WHS issues
- Social accountability
- Good management practices
- Transport-related issues
- Product recall processes

The differences in individual customers' standards were not necessarily significant in terms of content but did require the completion of additional checklists for each customer. This can be a time-consuming and costly exercise, both in terms of the auditor and the relevant employees at the processing facility.

### 9.3.5 Changes in number of audits

Processors who responded to the survey were asked to comment on whether the number of audits had increased, stayed the same or decreased over the past two years. For those facilities that had already managed to consolidate audits, there had generally been no change in the number of audits conducted per annum. These facilities generally appeared to use AUS-MEAT or AUS-QUAL to conduct composite audits which cover the requirement for BRC accreditation and additional requirements for major individual customers e.g. McDonalds, Woolworths Quality Assurance, Aldi, Costco and a range of North American customers.

For processors who indicated that the number of audits had decreased, this was seen to be a result of consolidating audits as above. Facilities that reported increased audit numbers over the past two years cited a number of factors including:

- A company decision to get more certification, generally to meet requirements of specific overseas customers; and
- An increase in individual customers being supplied, both domestically and overseas.

### 9.3.6 Costs associated with audits in red meat processing

Based on data provided by processors providing input into this project, the average estimated cost of external auditors for both government-regulated and private standards and associated certification is approximately \$0.56 per head of throughput for cattle and \$0.17 per head of throughput for sheep and lambs. Assuming that 90 per cent of all cattle are slaughtered in export-accredited facilities, this converts to a cost of almost \$4.1 million for beef processors, regardless of whether they export or not. Similarly, assuming that 80 per cent of all sheep and lambs are slaughtered in export-accredited facilities this equates to a cost of approximately \$4.2 million for sheep and lamb processors.

Based on the weighted average time employees spend in plant in preparing for, conducting and following up audits it is estimated<sup>23</sup> that beef processors across Australia incur audit-related wage costs of approximately \$3.0 million. For sheep and lamb processors, this cost is estimated at \$4.6 million.

Overall, across the national red meat processing sector these costs total almost \$16 million, comprising \$7.1 million for beef processors and \$8.8 million for sheepmeat processors – approximately 0.48% of total expenditure by processors (excluding livestock purchases). It should be noted that these costs do not include any allowance for the Department of Agriculture and Water Resources Certificate of Registration which, while not a direct audit cost, is a government requirement to export red meat products from Australia. It also does not include employment costs for meat inspectors which, while being a regulatory requirement, is again not directly associated with audit-related costs.

### 9.3.7 Commentary regarding multiple audits

An export establishment must achieve certain standards which are verified through audits to achieve the relevant level of accreditation. That accreditation enables the processor to apply for the relevant certification which in turn provides market access.

The government-regulated audits ensure that the processor meets the requirements to be an export facility, adhering to standards set down for importing countries in terms of food safety, hygiene, trade description and animal welfare. While the accreditation and associated certification provides access to particular export markets – defined as countries – the countries themselves are not necessarily the actual customer. In many cases, the government standards are the minimum required, with individual customers seeking extra assurance through compliance with additional standards which, in turn, are verified through audit processes.

As an example, the animal welfare requirements for an Approved Arrangement Certificate do not meet the more stringent levels applicable under AAWCS which are required for the facility to be able to supply a wide range of customers, particularly those from North America but also locally.

Government-related audits are conducted by departmental officers to determine compliance with the standards set for an Approved Arrangement Certificate. However, it was noted during discussions with processors that some of this can be fairly subjective e.g. the definition of “wholesomeness” and “suitable”. It was also noted that interpretation of the more subjective, qualitative components of the audit can vary between individual auditors i.e. the person conducting the audit. Where the systems audit is conducted by two auditors, one (as prescribed by the department) being the Area Technical Manager, the second auditor is attempted to be sourced from outside the local area to minimise bias.

It was also noted that while audits undertaken for private standards can reward the processor by reducing the number and frequency of audits provided that compliance is maintained and there are no non-conformity issues, this does not apply to government-related audits. In other words, audit costs could be the same for both the poorest and best performing plants.

Private standards required by individual customers may be based on government standards but, as they incorporate their own critical control points and addendums to the standard audit, the majority of respondents indicated that they sought BRC or SQF accreditation which can be undertaken as composite audits with the addendums required by individual customers.

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23 The costs associated with time incurred by employees in the processing facilities has been calculated based on average rates for personnel employed in Quality Assurance roles in a number of processing facilities, obtained during an earlier project conducted by the consultants (*AMPC 2013-1029 – Benchmarking labour application in plant, May 2015, S.G. Heilbron Economic and Policy Consulting*). These costs have been inflated to reflect 2015-16 using data from the Australian Bureau of Statistics (ABS) for the manufacturing sector (ABS Cat. No. 6302.0, Average Weekly Earnings, Australia). On-costs relating to superannuation, annual and personal leave, payroll tax and workers' compensation premiums have been included.

The main benefits, participants noted, of consolidating audits are time and cost savings at the facility, though consolidation may be limited by the capability of the individual auditor to assess all aspects of the process. For example, one processor cited that it was unlikely to have an auditor with the capability to audit both rendering and organics. Opportunities to improve the audit process are nonetheless addressed below, however the potential risk associated with audit consolidation is that a single audit failure could impact all markets supplied.

### 9.3.8 Potential for future improvements

The main drivers for audits with regard to number and duration of audit include:

- The risk profile/type of standard – this influences the number and frequency of audits;
- Who commissions the audit and who does the audit – not all auditors or auditing companies are acceptable to all customers;
- The nature of the standard – this influences the time spent on the audit and activity;
- Who is the licensing/trading partner (i.e. who does the plant supply); and
- Alignment with customer requirements/standards.

There are three key options for consolidation which could serve to minimise the number of audits, namely:

- Consolidation of standards;
- Consolidation of auditors; and
- Consolidation of audits.

Processors viewed the consolidation of standards as the preferred option, but this is dependent upon federal government acceptance of compliance with e.g. BRC standards for the purposes of meeting government requirements. The *Global Food Safety Initiative (GFSI)* recognises both BRC and SQF among others as meeting the requirements for processing of animal perishable products. Government acceptance of these standards could minimise duplication of effort with the department only being required to audit for specific components required for market access to individual countries. However, government recognition depends on its ability to secure agreement from overseas governments.

Within a consolidation of standards, adherence to key performance indicators which are measurable and meaningful to the customer could strengthen the acceptance of these standards. There is also the opportunity for consolidation of individual customer private standards, although it should be noted that these are, at least in part, used to differentiate a customer from its competitors. The individual standards are utilised to develop a competitive advantage, they are not necessarily “better” standards i.e. they do not necessarily result in a more economically efficient outcome for the industry or the economy as a whole. The same applies to the development of individual standards by processors.

Consolidation of auditors has, to a certain extent, already happened. AUS-MEAT and/or AUS QUAL are accepted as auditors for a range of private standards, as well as AUS-MEAT accreditation. However, currently the Approved Arrangement certification is audited by departmental officers. Government acceptance for the GFSI private standard certification would enable these organisations to conduct the main portion of audits, with departmental intervention only being required to verify compliance with standards required for market access to importing countries.

Audit consolidation has occurred in terms of composite audits being conducted as per the discussion above. When standards consolidate, in most circumstances, audits will follow. However, acceptance by the federal government of third-party certification such as GFSI could further enhance this.

Without some active intervention, the future is likely to see a continuation of recent trends with no consolidation between government and private standards and no consolidation within private standards. This is likely to lead to a further proliferation of audits and the associated transaction costs.



# FINAL REPORT

## PROCESSING COST COMPETITIVENESS



### Program 5. Industry Improvement & Economic Analysis

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# TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY	48
2.0	REGULATORY COSTS ASSOCIATED WITH RED MEAT PROCESSING IN NEW ZEALAND	48
2.1	Labour-related costs	49
2.2	Utilities-related costs	51
2.3	Certification-related costs	53
3.0	COMPARATIVE ANALYSIS OF OPERATING COSTS – AUSTRALIA AND NEW ZEALAND	53
3.1	Cattle processing	54
3.2	Sheep/lamb processing	56
3.3	Regulated cost comparison	57
4.0	SUMMARY OF INTERNATIONAL OPERATING COST COMPARISON FOR BEEF PROCESSING	59
4.1	Comparison of cattle processing between countries	59
4.2	Comparison of beef processing costs between countries	60
4.3	Comparison of regulated beef processing costs between countries	60
5.0	CONCLUSIONS AND RECOMMENDATIONS	61



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## 1.0 EXECUTIVE SUMMARY

This report incorporates analysis of data obtained from New Zealand investigations for beef and sheep/lamb processing. A direct comparison between processing costs for both beef and sheep/lamb in Australia and New Zealand is provided along with a summary comparison for beef processing in each of Australia, New Zealand, the United States, Brazil and Argentina.

Summarised findings for New Zealand's cattle processing compared to Australian grass-fed cattle are:

- **Australia's regulated costs are 46 per cent (\$53/head) higher than New Zealand's.**
  - New Zealand's costs are 38.8 per cent regulated compared to Australia's 56.7 per cent.
  - New Zealand's labour is less regulated, but its utilities and certification are more regulated.
- **Australia's processing costs are 2.6 per cent (\$8/head) lower than in New Zealand,** but much more comparable than against the United States, Brazil and Argentina.
  - Australia's costs are higher than New Zealand's in some categories: 10 per cent higher for labour, 20 per cent higher for utilities, and 34 per cent higher for repairs and maintenance.
  - However, Australian costs are lower than New Zealand's in certification (45 per cent lower), packaging (4 per cent lower), transport (24 per cent lower) and other costs (33 per cent lower).

Summarised findings for New Zealand's sheep and lamb processing compared to Australia are:

- **Australia's regulated costs are 37 per cent (\$6/head) higher than New Zealand's.**
  - New Zealand's costs are 37.5 per cent regulated compared to Australia's 50.4 per cent.
  - New Zealand labour is less regulated, but utilities and certification are more regulated.
- **Australia's processing costs are 2.1 per cent (\$0.85/head) higher than in New Zealand.**
  - Australia's costs are higher than New Zealand's in labour (5 per cent higher), utilities (10 per cent higher) and packaging (7 per cent higher), and 31 per cent higher for repairs and maintenance.
  - Australia's costs are lower in certification (25 per cent lower), less than 1 per cent lower for transport, and 58 per cent lower in other costs.

This report supplements data and findings from the previous *AMPC 2017-1062 Analysis of regulatory and related costs in red meat processing ("Cost to Operate Report")*, initially released in November 2018.

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## 2.0 REGULATORY COSTS ASSOCIATED WITH RED MEAT PROCESSING IN NEW ZEALAND

This section examines the regulated components of operating costs applicable in New Zealand. The impact of these on the red meat processing industry are indicated in Section 5 of this report.



## 2.1 Labour-related costs

The various components of total labour-related costs subject to government regulation in New Zealand are outlined below.

**Minimum wage rate and hours<sup>1,2</sup>** – in New Zealand, every employee must have a written employment agreement stipulating, among other things:

- a description of the work to be performed;
- the agreed hours or an indication of the hours that the employee will work; and
- the wage rate or salary payable (which must be equal to or greater than the relevant minimum wage) and how it will be paid.

A maximum of 40 hours per week may be worked before the employee must be paid overtime rates. The current minimum wage rate (effective from 1 April 2018) is NZ\$16.50 per hour or NZ\$660.00 per 40-hour week.

**Paid leave<sup>3,4,5</sup>** - all employees in New Zealand are entitled to a minimum of four weeks' annual leave per annum after completing 12 months of employment with an individual employer. Unlike in Australia, this applies to "casual" employees as well as full and part-time employees. However, casual employees in New Zealand are not paid a loading on top of the minimum (or other agreed) wage. New Zealand does not have a regulated leave loading payment; annual leave is paid at ordinary time rates.

Sick or personal leave is guaranteed for all employees at the rate of five days per annum, after the completion of six months' continuous employment with the same employer. It should be noted that sick leave is not pro-rated in any way: for example, if a part-time employee only works three days per week, they are still entitled to five days of sick leave in a year. If sick leave is not fully utilised in a given 12-month period, the balance can be carried forward up to a maximum of 20 days.

In addition to the above, employees are also entitled to bereavement leave provided that they have completed six months' continuous employment with the same employer. The amount of leave varies between one and three days depending upon the relationship with the deceased.

**Overtime payments<sup>6</sup>** - overtime rates are agreed between an employer and an employee and are a greater hourly rate than that paid during the 'normal' working week of 40 hours. Sometimes time-and-a-half and sometimes double-time are agreed to or offered but there is nothing in law requiring employers to pay extra per hour. Employers can continue to pay the same hourly rate when employees have completed 40 hours and then work more hours. With salaried employees, this is also applicable, provided that the total hours worked does not result in the average hourly rate dropping below the minimum wage.

**Superannuation<sup>7</sup>** - the minimum compulsory employer contribution to the employee's superannuation fund is set at 3 per cent of gross wages or salaries. Employers can, in line with any negotiated employment agreement, voluntarily increase this amount.

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1 <https://www.employment.govt.nz/starting-employment/employment-agreements/things-an-agreement-must-contain/>

2 <https://www.employment.govt.nz/hours-and-wages/hours-of-work/>

3 <https://www.employment.govt.nz/leave-and-holidays/minimum-leave-and-holidays-entitlements/>

4 <https://www.employment.govt.nz/leave-and-holidays/sick-leave/sick-leave-entitlements/>

5 <https://www.employment.govt.nz/leave-and-holidays/bereavement-leave/>

6 <https://www.employers.co.nz/overtime-pay-laws.aspx>

7 <https://www.ird.govt.nz/kiwisaver/employers/administering/employer-contributions/ks-emp-how-emp-contributions.html>

**Workers' compensation<sup>8</sup>** – in New Zealand, the Accident Compensation Corporation (ACC) is the main organisation responsible for collecting insurance premium levies for workers' compensation coverage. However, other insurance companies may also provide the compulsory cover for employers. The ACC base premium rate in 2015-16 was 2.4 per cent of gross wages and salaries although, as in Australia, this may be adjusted in relation to previous claims and/or safety record.

**Summary of regulated labour-related costs** – Table 1 provides a summary of regulated labour-related costs in each of Australia, New Zealand, Argentina, Brazil and the United States. It excludes costs associated with workers' compensation insurance which vary considerably in each country by type of activity, safety record and internal jurisdictions. It also excludes state-legislated payroll tax contributions in Australia which are not applicable in the comparison countries.

The data has been analysed to provide a comparison with regulated labour-related costs in Australia on the basis of "cost per hour worked" at the regulated minimum wage, assuming the following:

- No overtime work is undertaken in the year;
- The employee fully utilises their entitlements in relation to annual and personal or sick leave;
- No allowance has been made for public holidays; and
- For those categories where a range is provided, the mid-point has been adopted.

Based on the minimum wage category, it costs an employer in Australia approximately \$22.92 per hour actually worked (a total of 1,748 hours per annum). In New Zealand this equates to \$16.92 per hour worked (a total of 1,880 hours). A similar analysis for Argentina equates to \$5.01 per hour worked (a total of 2,328 hours). For Brazil, the cost per hour worked at the minimum wage is \$3.78 (a total of 1,928 hours) whereas for the United States the employer pays \$10.14 per hour worked (a total of 2,080 hours).

**Table 1 – Summary of regulated labour-related costs (2017)**

Component	Australia	New Zealand	Argentina	Brazil	United States
Minimum wage (2017)	\$18.29 per hour \$694.90 per week (38 hours)	\$15.75 per hour \$630.00 per week (40 hours)	AR\$8,800.00 per month (48 hours per week)	BR\$937 per month (44 hours per week)	US\$7.25 per hour US\$290.00 per week (40 hours)
Minimum wage per hour (2017) in \$AU (conversion as at 12/07/2017)	\$18.29	\$1 = NZ\$1.0576 \$14.89	\$1 = 13.01 peso \$3.52	\$1 = 2.49 real \$2.14	\$1 = US\$0.77 \$9.42
Annual leave (paid)	20 days per annum	20 days per annum	14 – 35 days per annum depending on length of service	30 days per annum	Not mandated
Annual leave loading	17.5%	Not mandated	Not available	33%	Not mandated
Sick / other leave (paid)	10 days per annum	5 days per annum	Variable	15 days per annum	Not mandated

<sup>8</sup> <https://www.acc.co.nz/about-us/who-we-are/what-we-do/>

Component	Australia	New Zealand	Argentina	Brazil	United States
Regulated bonus payments	Not applicable	Not applicable	Equivalent to 1 month's pay	Equivalent to 1 month's pay	Not applicable
Other benefits	Negotiated under Enterprise Agreements (e.g. shift allowances)	Negotiated	Negotiated	Transport subsidies	Negotiated
Overtime rates	50% surcharge for first 3 hours 100% surcharge thereafter	Negotiated – no legal requirement	150% surcharge weekdays 200% surcharge weekends	50% surcharge weekdays 100% surcharge weekends	50% surcharge
Employer payments related to superannuation, pensions, health funds etc	9.5%	3%	23% - 27%	36.6% - 38.6%	7.65%
Estimated cost per hour worked (normal time)	\$22.92	\$16.92	\$5.01	\$3.78	\$10.14
Comparison with regulated labour-costs in Australia	100.0%	73.8%	21.9%	16.5%	44.2%

## 2.2 Utilities-related costs

The following section summarises the various components of utilities-related costs in New Zealand and the estimated proportion subject to some form of government regulation.

### Electricity

New Zealand primarily relies on renewable resources for electricity, and hydro-generation is the main source. Between 2013 and 2017, the average proportion of electricity generated<sup>9</sup> from the following sources was:

- Hydro – 59 per cent;
- Geothermal – 17 per cent;
- Thermal (coal, diesel, gas) – 16 per cent;
- Wind – 5 per cent; and
- Cogeneration – 3 per cent.

Data provided by the Ministry of Business, Innovation and Employment (MBIE)<sup>10</sup> indicates that the average cost of electricity for industrial users in the year ending March 2018 was NZ\$0.1277 per kWh with those in the food processing sector paying NZ\$0.1254 per kWh. This equates to AU\$0.1184 per kWh for industrial users in general and AU\$0.1162 per kWh for the food processing sector. Estimates provided in AMPC 2017-1062 indicate that in Australia, industrial users were paying AU\$0.184 to AU\$0.226 per kWh, suggesting that electricity cost in New Zealand is approximately 53per cent to 64per cent of that paid in Australia.

9 <https://www.transpower.co.nz/power-system-live-data>

10 <https://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-data-modelling/statistics/prices>

The Electricity Authority<sup>11</sup> is responsible for regulation in the electricity market in New Zealand. It is estimated that, in New Zealand, the following components of electricity supply contribute to the overall price paid for electricity:

- Generation – 36.8 per cent;
- Transmission – 31.0 per cent;
- Distribution – 12.1 per cent;
- Retail – 14.9 per cent;
- Metering – 4.0 per cent; and
- Market governance and services – 1.2 per cent.

The national transmission grid is owned and operated by Transpower, a state-owned enterprise. The New Zealand Commerce Commission is responsible for setting Transpower's total regulated revenue requirements, while the Electricity Authority approves the methodology by which Transpower apportions those revenue requirements among its transmission customers. Accordingly, it has been assumed that the transmission component of electricity costs in New Zealand is regulated.

The costs levied by the majority of the 29 distribution companies in New Zealand are also subject to regulation by the Commerce Commission. The remaining companies not covered by Commerce Commission regulation are exempt as they are deemed to meet the definitions of community ownership. For the purposes of this analysis, it has been assumed that the distribution component of electricity prices is subject to some form of government regulation.

Therefore, it is estimated that approximately 43 per cent of total electricity costs in New Zealand are subject to regulation, compared with the estimated 45 per cent for Australia.

### **Natural gas**

Natural gas is only available on the North Island of New Zealand. Customers on the South Island wishing to use gas must rely on LPG. Data provided by the MBIE indicates that the average price for natural gas in New Zealand for industrial users in the year ending March 2018 was NZ\$6.99 per GJ (approximately AU\$6.48 per GJ). In the year ending September 2017, the average wholesale price for natural gas in Australia ranged from AU\$6.72 to AU\$9.03. It should be noted that, in New Zealand, the industrial price for natural gas equates to approximately 110 per cent of the wholesale price.

Transmission and distribution of natural gas through First Gas<sup>12</sup> is subject to regulation by the Commerce Commission in relation to the prices that can be charged. It is estimated that approximately 50 per cent of the total end-user price is subject to some form of government regulation.

### **Water and waste management**

In New Zealand, water and waste management services are generally the responsibility of the relevant local council, which sets the rates for access to these services and associated supply. Accordingly, these costs have been deemed to be 100 per cent regulated.

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11 <https://www.ea.govt.nz/>

12 <http://firstgas.co.nz/about-us/regulatory/distribution/>

## 2.3 Certification-related costs

Export-related certification for meat processors in New Zealand is under the control of the Ministry for Primary Industries (MPI)<sup>13</sup>. MPI calculates fees and charges on a cost-recovery basis. It charges fees for:

- Registration as a meat exporter;
- Registering or updating the facility's risk management program;
- Per head levies for meat processed<sup>14</sup>, currently set at NZ\$1.047 for cattle, NZ\$0.169 for sheep and NZ\$0.15 for lambs and bobby calves;
- Completion of export certificates;
- Audits of risk management programs; and
- Meat inspection.

Both audits of risk management programs and meat inspection can be carried out by MPI or an authorised third-party provider. The major portion of this work is undertaken by AsureQuality<sup>15</sup>, a government-owned enterprise. That organisation not only undertakes mandatory audits and meat inspections but is also accredited as an auditor for external certification including:

- EU Tare Weight Audits
- British Retail Consortium (BRC)
- Safe Quality Food (SQF)
- ISO Standards (including FSSC 22000)
- Woolworths Quality Assurance (WQA)
- Coles Approved suppliers
- Aldi Supplier Addendum
- Subway suppliers
- Hungry Jacks (including Burger King) suppliers
- McDonalds SQMS suppliers.

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## 3.0 COMPARATIVE ANALYSIS OF OPERATING COSTS – AUSTRALIA AND NEW ZEALAND

Many of the red meat processing facilities in New Zealand are multi-species processors. In addition, a significant proportion of livestock slaughtered are bobby calves which is generally not a major component of red meat processing in Australia. A number of facilities also process deer for both the domestic and export markets. While both bobby calves and deer have been excluded from the following analysis, it should be noted that the multi-species aspect of New Zealand's processing makes it difficult to accurately allocate the individual cost components by species.

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13 <https://www.mpi.govt.nz/exporting/food/meat/fees-and-charges/>

14 These levies are in addition to those charged by Beef & Lamb New Zealand.

15 <https://www.asurequality.com/our-industries/meat/meat-certification/>

In order to facilitate the distribution of costs, the consultants have drawn on data provided in a report prepared by GHD in 2014.<sup>16</sup> While that report does not disaggregate cost components to the level examined in this analysis, it does provide comparative estimates of costs per head for cattle (excluding bobby calves) and sheep/lambs in the following categories:

- Direct labour costs;
- Water, waste water and energy;
- Packaging;
- Transport; and
- Total costs.

While the absolute dollar values adopted in that report have not been used in this analysis, the various ratios have been applied where relevant to verify the distribution of costs in multi-species facilities. This is in line with the analysis undertaken for AMPC Project 2017-1062 where a mixture of public and private data was utilised.

The private data for New Zealand is derived from aggregated private information covering 28 processing facilities for the year 2015-16.

### 3.1 Cattle processing

The majority of cattle produced and processed in New Zealand are grass-fed and are not generally finished on grain.<sup>17</sup> Consequently, an overall comparison of operating costs in New Zealand with those applicable in Australia has been prepared using the estimates for grass-fed cattle in Australia.<sup>18</sup>

Table 2 provides a summary of the key cost components in total and assessed as a percentage of total operating costs (excluding livestock purchases) in New Zealand compared with facilities processing grass-fed cattle in Australia. The rate used to convert NZ\$ values to AU\$ values was the average for 2016, equating to 1 NZ\$ equalling \$0.933 AU\$<sup>19</sup>.

Overall, the cost of processing cattle in Australia is approximately 2.6 per cent lower than in New Zealand when measured on a per head basis, or 12.4 per cent lower when measured per kilogram. It is worth noting that the average weight of cattle processed in New Zealand is lower than in Australia (244 kg compared with 271 kg). In addition, the average daily throughput per facility in New Zealand (approximately 297 head) is significantly lower than the average found in Australia (815 head).

Labour-related costs, measured on a per head of throughput basis, are approximately 10 per cent higher in Australia than in New Zealand although almost identical when analysed per kilogram of production. The higher labour costs in Australia are a result of the state-related payroll taxes applicable (not relevant in New Zealand), higher workers' compensation premiums and substantially higher compulsory superannuation contributions (9.5 per cent of base payroll in Australia, compared with 3 per cent in New Zealand).

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16 GHD NZ Ltd. (2014) The size of the prize – NZ Export Meat Industry Reform.

17 <https://www.mbie.govt.nz/info-services/sectors-industries/food-beverage/documents-image-library/folder-2017-investors-guides/investors-guide-to-the-new-zealand-meat-industry-2017.pdf>

18 It should be noted that a number of Australian processing facilities, for which data was supplied as part of 2017-1062, process both grain and grass-fed cattle and their information has been excluded from the specific analysis of the individual feed types in that report's analysis. It should also be noted that not all processors contributing to the study provided the same level of data. Accordingly, the analysis for grain and grass-fed in that report each reflect a small proportion of the total dataset and should not be used to calculate an overall weighted average.

19 <https://www.oanda.com/currency/average>

Utilities-related costs in Australia are approximately 20 per cent higher than in New Zealand when measured on a per head basis (8 per cent higher when assessed per kilogram of production). As noted above, electricity charges per kWh in New Zealand are substantially lower than in Australia. The relative electricity price differential compared with other fuel sources between the two countries may impact on the mix of power sources utilised.

Certification and audit-related costs are significantly higher in New Zealand compared with Australia, as are transport-related costs. New Zealand's certification cost recovery policies include an allocation of total ministry overhead costs to certification services, which does not occur in Australia. In Australia the overhead costs recovered relate only to those incurred by the relevant branch of the department rather than a proportion of overall departmental overhead costs. This may be a factor in the higher costs in New Zealand.

**Table 2 – Operating cost structure, beef processors, New Zealand compared with Australia**

Average number of head per day	297			815		
Average kg per head	244			271		
	New Zealand - Grass-fed			Australia - Grass-fed		
Cost components	Cost per head (NZ\$)	Cost per head (AUS\$)	As % of total costs (excl. livestock purchases)	Cost per head (AUS\$)	As % of total costs (excl. livestock purchases)	Australia costs as a percentage of New Zealand costs
Processing wages (incl. paid leave)	\$142.05	\$132.52	43.3%	\$140.58	47.2%	106.1%
Salaries	\$28.46	\$26.56	8.7%	\$21.28	7.1%	80.1%
Payroll taxes	\$0.00	\$0.00	0.0%	\$6.06	2.0%	N.A.
Workers' compensation premiums	\$0.75	\$0.70	0.2%	\$1.91	0.6%	272.9%
Retirement benefits (superannuation)	\$4.75	\$4.43	1.4%	\$10.61	3.6%	239.5%
<b>Sub-total - Labour-related costs</b>	<b>\$176.01</b>	<b>\$164.20</b>	<b>53.7%</b>	<b>\$180.44</b>	<b>60.6%</b>	<b>109.9%</b>
Electricity	\$9.68	\$9.03	3.0%	\$9.49	3.2%	105.1%
Other fuel	\$4.37	\$4.07	1.3%	\$8.10	2.7%	199.0%
Water & sewerage	\$2.67	\$2.49	0.8%	\$1.13	0.4%	45.4%
Waste disposal	\$1.07	\$1.00	0.3%	\$1.27	0.4%	127.0%
<b>Sub-total - Utilities-related costs</b>	<b>\$17.79</b>	<b>\$16.59</b>	<b>5.4%</b>	<b>\$19.98</b>	<b>6.7%</b>	<b>120.4%</b>
Certification /audit costs	\$13.89	\$12.95	4.2%	\$7.15	2.4%	55.2%
Packaging	\$28.54	\$26.63	8.7%	\$25.58	8.6%	96.1%
Transport - finished goods	\$48.54	\$45.29	14.8%	\$34.21	11.5%	75.5%
Repairs & maintenance	\$12.30	\$11.48	3.8%	\$15.40	5.2%	134.1%
Processing consumables	\$6.63	\$6.18	2.0%	N.A.	N.A.	N.A.
Other costs	\$24.07	\$22.45	7.3%	\$14.94	5.0%	66.5%
<b>Total (excl. livestock costs)</b>	<b>\$327.76</b>	<b>\$305.78</b>	<b>100.0%</b>	<b>\$297.71</b>	<b>100.0%</b>	<b>97.4%</b>
<i>Cost per kg</i>	<i>\$1.34</i>	<i>\$1.25</i>		<i>\$1.10</i>		<i>88.0%</i>



## 3.2 Sheep/lamb processing

Overall, the cost of processing sheep/lambs in Australia is approximately 2.1 per cent higher than in New Zealand when measured on a per head basis but 19.4 per cent lower when measured per kilogram. It is worth noting that the average weight of sheep/lambs processed in New Zealand is lower than in Australia (18 kg compared with 23 kg). In addition, the average daily throughput per facility in New Zealand (approximately 2,714 head) is substantially lower than the average found in Australia (3,978 head).

**Table 3 – Operating cost structure, sheep / lamb processors, New Zealand compared with Australia**

Average number of head per day	2,714			3,978		
Average kg per head	18			23		
	New Zealand			Australia		
Cost components	Cost per head (NZ\$)	Cost per head (AUS\$)	As % of total costs (excl. livestock purchases)	Cost per head (AUS\$)	As % of total costs (excl. livestock purchases)	Australia costs as a percentage of New Zealand costs
Processing wages (incl. paid leave)	\$18.35	\$17.12	43.0%	\$16.89	41.5%	98.7%
Salaries	\$3.88	\$3.62	9.1%	\$2.37	5.8%	65.5%
Payroll taxes	\$0.00	\$0.00	0.0%	\$0.83	2.0%	N.A.
Workers' compensation premiums	\$0.09	\$0.08	0.2%	\$0.97	2.4%	1212.5%
Retirement benefits (superannuation)	\$0.61	\$0.57	1.4%	\$1.39	3.4%	243.9%
<b>Sub-total - Labour-related costs</b>	<b>\$22.94</b>	<b>\$21.40</b>	<b>53.7%</b>	<b>\$22.45</b>	<b>55.2%</b>	<b>104.9%</b>
Electricity	\$1.24	\$1.16	2.9%	\$0.81	2.0%	69.8%
Other fuel	\$0.57	\$0.53	1.3%	\$0.57	1.4%	107.5%
Water & sewerage	\$0.39	\$0.36	0.9%	\$0.28	0.7%	77.8%
Waste disposal	\$0.15	\$0.14	0.3%	\$0.74	1.8%	528.6%
<b>Sub-total - Utilities-related costs</b>	<b>\$2.35</b>	<b>\$2.19</b>	<b>5.5%</b>	<b>\$2.40</b>	<b>5.9%</b>	<b>109.6%</b>
Certification /audit cost	\$1.80	\$1.68	4.2%	\$1.26	3.1%	75.0%
Packaging	\$3.67	\$3.43	8.6%	\$3.66	9.0%	106.7%
Transport - finished goods	\$6.56	\$6.12	15.4%	\$6.10	15.0%	99.7%
Repairs & maintenance	\$1.57	\$1.46	3.7%	\$1.91	4.7%	130.8%
Processing consumables	\$0.81	\$0.75	1.9%	\$1.71	4.2%	228.0%
Other costs	\$2.99	\$2.79	7.0%	\$1.18	2.9%	42.3%
<b>Total (excl. livestock costs)</b>	<b>\$42.69</b>	<b>\$39.82</b>	<b>100.0%</b>	<b>\$40.67</b>	<b>100.0%</b>	<b>102.1%</b>
<i>Cost per kg</i>	<i>\$2.31</i>	<i>\$2.16</i>		<i>\$1.74</i>		<i>80.6%</i>

Labour-related costs, measured on a per head of throughput basis, are approximately 5 per cent higher in Australia than in New Zealand but approximately 17 per cent lower when analysed per kilogram of production. Australia's higher labour-costs are a result of state payroll taxes, higher workers' compensation premiums and substantially higher compulsory superannuation contributions (9.5 per cent of base payroll in Australia, compared with 3 per cent in New Zealand). However, it is estimated that direct labour costs are marginally lower in Australia. This may be impacted in New Zealand by the processing of bobby calves which are generally processed on the lamb line.

Utilities-related costs in Australia are approximately 10 per cent higher than in New Zealand when measured on a per head basis (14 per cent higher when assessed per kilogram of production). While electricity charges per kWh in New Zealand are substantially lower than in Australia, electricity costs in sheep/lamb processing in Australia are actually lower than in New Zealand. The average daily throughput in Australia is substantially higher than in New Zealand (46.6 per cent greater) which may impact on electricity cost, taking fixed and variable components into account. In addition, the relative electricity price differential compared with other fuel sources between the two countries may impact on the mix of power sources utilised. New Zealand's bobby calf processing may also impact on this assessment.

Certification and audit-related costs are significantly higher in New Zealand compared with Australia. However, costs associated with repairs and maintenance and processing consumables are higher in Australia.

### **3.3 Regulated cost comparison**

The following section provides a summary of the total operating costs and the regulated component thereof for cattle and sheep/lamb processing in Australia and New Zealand.

#### **Cattle processing**

Earlier analysis has indicated that approximately 57 per cent of total operating costs (excluding the cost of livestock) in Australia are subject to some form of regulation. By comparison, only approximately 39 per cent of operating costs in New Zealand are regulated. While certification-related costs in New Zealand are substantially higher in absolute terms and are primarily subject to regulation, this component still forms only a relatively small proportion of overall costs.

It is also estimated that although a higher proportion of utilities-related costs in New Zealand are subject to regulation when compared with Australia (56.7 per cent compared with 48.6 per cent), the dollar value remains lower as a result of lower utilities prices in general.

The key component influencing the differential in the regulated component of operating costs is labour-related costs. This is a result of a number of factors. While there is a minimum wage requirement in New Zealand, employment in the meat processing sector is not subject to mandated Awards. This factor, combined with a lower allowance for personal leave (5 days per annum in New Zealand compared with 10 days per annum in Australia), means that only 65 per cent of direct wages are regulated in New Zealand compared with an estimated 90 per cent in Australia. Compulsory superannuation contributions in New Zealand are currently only 3 per cent of wages and salaries, compared with 9.5 per cent in Australia. State-regulated payroll taxes in Australia comprise approximately 3.4 per cent of total labour-related costs in Australia but are not applicable in New Zealand. Premiums for workers' compensation insurance are also lower in New Zealand.

**Table 4 – Regulated cost structure, beef processors, New Zealand compared with Australia**

Cost components	Costs per head (\$AU)				Regulated costs per head (\$AU)			
	Australia	% of total cost	New Zealand	% of total cost	Australia	% of total component	New Zealand	% of total component
Labour-related costs	\$180.44	60.6%	\$164.20	53.7%	\$153.92	85.3%	\$93.41	56.9%
Utilities-related costs	\$19.98	6.7%	\$16.59	5.4%	\$9.71	48.6%	\$9.41	56.7%
Certification-related costs	\$7.15	2.4%	\$12.95	4.2%	\$5.01	70.0%	\$12.64	97.5%
<b>Total (excl. livestock costs)</b>	<b>\$297.71</b>	<b>100.0%</b>	<b>\$305.78</b>	<b>100.0%</b>	<b>\$168.64</b>	<b>56.7%</b>	<b>\$115.45</b>	<b>38.8%</b>

A further comparison across all countries examined is provided in Section 6 of this report.

### Sheep/lamb processing

Adopting the same methodology used for beef processing data in AMPC 2017-1062, it is estimated that approximately 50.4 per cent of total sheep/lamb processing operating costs (excluding livestock costs) in Australia are subject to regulation. Approximately 83 per cent of labour-related costs are regulated as a result of Award wages, mandatory annual and personal leave allowances, compulsory superannuation contributions, payroll tax liabilities and workers' compensation premiums.

Approximately 38.9 per cent of utilities-related costs in sheep/lamb processing in Australia are estimated to be subject to regulation. This is lower than for cattle processing as a result of the contribution of the various sub-components (electricity, other fuel, water and waste disposal) to total utilities-related costs.

Approximately 70 per cent of Australia's certification-related costs are estimated to be the result of government regulation.

By comparison, it is estimated that approximately 37.5 per cent of total operating costs (excluding livestock costs) in sheep/lamb processing in New Zealand are subject to regulation. As with beef processing, the principal differentiating factor is Australia's labour-related costs. These are estimated to make up approximately 55.2 per cent of costs in Australia, with 83.1 per cent being regulated; whereas in New Zealand, labour-related costs comprise approximately 53.7 per cent of costs, with 56.4 per cent subject to regulation.

The regulated component of both utilities and certification-related costs for sheep/lamb processing in New Zealand is also higher than Australia. However, these components are relatively small in terms of their contribution to total costs when compared with labour-related costs, and consequently have a lower impact on total regulated costs.

**Table 5 – Regulated cost structure, sheep / lamb processors, New Zealand compared with Australia**

Cost components	Costs per head (\$AU)				Regulated costs per head (\$AU)			
	Australia	% of total cost	New Zealand	% of total cost	Australia	% of total component	New Zealand	% of total component
Labour-related costs	\$22.45	55.2%	\$21.40	53.7%	\$18.67	83.1%	\$12.08	56.4%
Utilities-related costs	\$2.40	5.9%	\$2.19	5.5%	\$0.93	38.9%	\$1.26	57.7%
Certification-related costs	\$1.26	3.1%	\$1.68	4.2%	\$0.88	70.0%	\$1.60	95.0%
<b>Total (excl. livestock costs)</b>	<b>\$40.67</b>	<b>100.0%</b>	<b>\$39.82</b>	<b>100.0%</b>	<b>\$20.48</b>	<b>50.4%</b>	<b>\$14.94</b>	<b>37.5%</b>

## 4.0 SUMMARY OF INTERNATIONAL OPERATING COST COMPARISON FOR BEEF PROCESSING

This section draws on data collected for AMPC Project 2017-1062, augmented with the additional data for beef processing in New Zealand. It does not address sheep/lamb processing as this is minimal in each of the United States, Brazil and Argentina and no data has been collected for sheep/lamb processing in those countries.

### 4.1 Comparison of cattle processing between countries

Table 6 provides a comparison of the number of cattle and calves slaughtered, meat produced and quantity of meat exported for the calendar year 2017. This data is provided to demonstrate the size of the industry in each country and the significance of exports. It is derived from data collected by the United States Department of Agriculture<sup>20</sup> rather than from individual country data to ensure consistency of data and has been updated to incorporate data for New Zealand.

**Table 6 – Cattle and calves, slaughter numbers, meat production, imports and exports, 2017**

Cattle and calves					
2017					
Measurement	Australia	New Zealand	United States	Brazil	Argentina
Number slaughtered	7,665,000	4,157,000	33,193,000	38,160,000	12,300,000
Meat produced (tonnes)	2,125,000	654,000	12,109,000	9,450,000	2,760,000
Meat imported (tonnes)	14,000	13,000	1,341,000	55,000	0
Total supply (tonnes)	2,139,000	667,000	13,800,000	9,505,000	2,760,000
Domestic consumption (tonnes)	689,000	74,000	12,191,000	7,745,000	2,480,000
Meat exported (tonnes)	1,450,000	593,000	1,285,000	1,760,000	280,000
Meat exported as % of production	68.2%	90.7%	10.6%	18.6%	10.1%
Average production per head (kg)	277.2	157.3	364.8	247.6	224.4

In Australia, the average meat production per head equates to 277.2 kg. Depending on geographical location within the country, cattle are either predominantly grass or grain fed. With the latter, the animal generally spends most of its life on grass but is finished on grain for the last 70 – 100 days. Cattle fed grain for more than 300 days form only a small proportion of the cattle supply in Australia.<sup>21</sup> Domestic consumption accounts for less than one-third (32.2 per cent) of total supply of beef in Australia and imports are minimal (0.7 per cent of total supply). It is estimated that in 2017, Australia exported approximately 1.45 million tonnes of beef and veal, representing more than two-thirds of total meat produced locally, demonstrating the significance of the international market in supporting the ongoing viability of both beef cattle farmers and processors.

<sup>20</sup> <http://www.indexmundi.com/agriculture/?country=au&commodity=beef-and-veal-meat&graph=total-supply>

<sup>21</sup> <https://www.mlahealthymeals.com.au/meat-nutrition/grassfed-and-grainfed/>

In New Zealand, few cattle are finished on grain. In addition, the average production per head is substantially lower as a result of the significant number of bobby calves processed, with an average weight of approximately 16 kg per head, compared with calves slaughtered in Australia where the average weight is approximately 46 kg per head. Domestic consumption accounts for less than 10 per cent of total supply of beef in New Zealand and imports are minimal (1.9 per cent of total supply). In 2017, New Zealand was estimated to have exported approximately 0.59 million tonnes of beef and veal, representing more than 90 per cent of total meat produced locally.

## 4.2 Comparison of beef processing costs between countries

Table 7 summarises the key components of operating costs (excluding livestock costs) across Australia, New Zealand, the United States, Brazil and Argentina. It should be noted that the data provided for Australia differs from that in the previous sections of this report as it reflects all cattle processed, irrespective of feed type.

**Table 7 – Operating cost structure summary (excl. livestock costs), beef processors, Australia, New Zealand, United States, Brazil and Argentina**

Component	Australia		New Zealand		United States		Brazil		Argentina	
	Cost per head (AU\$)	As % of total costs	Cost per head (AU\$)	As % of total costs	Cost per head (AU\$)	As % of total costs	Cost per head (AU\$)	As % of total costs	Cost per head (AU\$)	As % of total costs
Labour-related costs	\$210.54	58.4%	\$164.20	53.7%	\$129.46	44.6%	\$75.63	43.9%	\$88.31	42.9%
Utilities-related costs	\$21.62	6.0%	\$16.59	5.4%	\$12.26	4.2%	\$19.93	11.6%	\$13.05	6.3%
Certification-related costs	\$7.29	2.0%	\$12.95	4.2%	\$1.49	0.5%	\$0.52	0.3%	\$2.28	1.1%
<b>Total</b>	<b>\$360.62</b>	<b>100.0%</b>	<b>\$305.78</b>	<b>100.0%</b>	<b>\$290.15</b>	<b>100.0%</b>	<b>\$172.29</b>	<b>100.0%</b>	<b>\$205.96</b>	<b>100.0%</b>
<i>Cost per kg HSCW</i>	<i>\$1.22</i>		<i>\$1.25</i>		<i>\$0.80</i>		<i>\$0.70</i>		<i>\$0.92</i>	

The inter-country comparison indicates that Australia has the highest operating costs per head of throughput, although New Zealand has the highest costs per kg HSCW produced as a result of smaller cattle size.

## 4.3 Comparison of regulated beef processing costs between countries

Table 8 summarises the regulatory components of operating costs across Australia, New Zealand, the United States, Brazil and Argentina. Again, it should be noted that the data provided for Australia differs from that in the previous sections of this report as it reflects all cattle processed, irrespective of feed type.

**Table 8 – Regulated cost summary, beef processors, Australia, New Zealand, United States, Brazil and Argentina**

Component (item)	Australia		New Zealand		United States		Brazil		Argentina	
	Reg. cost per head (AU\$)	As % of total cost item	Reg. cost per head (AU\$)	As % of total cost item	Reg. cost per head (AU\$)	As % of total cost item	Reg. cost per head (AU\$)	As % of total cost item	Reg. cost per head (AU\$)	As % of total cost item
Labour-related costs	\$179.60	85.3%	\$93.41	56.9%	\$79.65	61.5%	\$50.34	66.6%	\$75.26	85.2%
Utilities-related costs	\$10.51	48.6%	\$9.41	56.7%	\$8.27	67.4%	\$10.96	55.0%	\$13.05	100.0%
Certification-related costs	\$5.10	70.0%	\$12.64	97.5%	\$1.49	100.0%	\$0.00	0.0%	\$1.14	50.0%
<b>Total</b>	<b>\$195.21</b>	<b>54.1%</b>	<b>\$115.45</b>	<b>37.8%</b>	<b>\$89.41</b>	<b>30.8%</b>	<b>\$61.30</b>	<b>35.6%</b>	<b>\$89.45</b>	<b>43.4%</b>

The inter-country comparison demonstrates that Australia has the highest regulatory burden of all countries examined with more than 54 per cent of operating costs being subject to some form of regulation.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

It is apparent that sheep and beef processing costs in Australia and New Zealand are broadly comparable on a per head basis – certainly the differences between them are significantly less than those between Australia and other countries (relevant for beef only, since sheep processing costs were not gathered for countries other than New Zealand). The comparability of costs between Australia and New Zealand is somewhat surprising because the scale of processing and the slaughter weights of animals are so much higher in Australia.

Even though the analysis does not cover fixed costs per head which could be expected to reduce as scale increases, one would expect Australian operating costs to be meaningfully lower than New Zealand costs. This is because scale efficiencies could also be expected to result in some variable costs being lower for high volume operations, for example through volume discounts for some inputs, and higher slaughter weights would, all things being equal, result in lower costs per kilogram. Lamb operating costs per head in Australia are similar to those in New Zealand, and although throughput is 47 per cent higher in Australia and Australian lamb slaughter weights are around 27 per cent higher, the Australian costs per kilogram are only 20 per cent lower, somewhat less of a difference than would be expected based on the much higher scale and slaughter weights.

A significant difference between Australian and New Zealand costs is the regulatory component. Australia has a far higher regulatory burden than New Zealand and all the other countries examined. It is difficult to envisage the Australian red meat processing industry making significant headway in improving its cost competitiveness advantage against New Zealand without a reduction in the costs associated with the regulatory burden in this country.

This analysis reinforces the key elements of the recommendations for research identified in the AMPC Project 2017-1062 which focus on the need to maintain and update the costs analysis and undertake research on the regulatory issues affecting Australian red meat processing, as well as factors determining productivity in the red meat industries of the various countries investigated.

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