

Snapshot

ECONOMIC IMPACT ASSESSMENT OF 10 PROJECTS COMPLETED IN 2023/24

Project code
2021-1044

Prepared by
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Date submitted
28/10/24

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Project description

GHD undertook ex-post economic impact evaluations of a sample of ten (10) Australian Meat Processor Corporation (AMPC) projects (or clusters) completed in the 2023/2024 financial year. The evaluation accorded with The Council of Rural Research and Development Corporation's (CRRDC) Impact Assessment Program: Guidelines (2018), drawing on available data and feedback from relevant stakeholders. It forms part of the AMPC Evaluation Framework, which provides a systematic and objective approach to Research, Development and Extension (R,D&E) decisions. The findings of the evaluation were used to:

- Calculate the expected return on investment from R,D&E projects
- Identify the key drivers of investment success
- Highlight lessons learned for future investments

Project content

Projects were selected for evaluation to ensure a representative spread across different AMPC research areas. GHD independently selected 10 project (or cluster) investments for evaluation to ensure a balanced representation across AMPC program streams that were suitable for evaluation. Evaluations involved a review of project reports and consultation with researchers. The benefits were described qualitatively according to their contribution to the triple bottom line of economic, environmental and social benefits. While a range of benefits for each project were identified, the analysis focused on the most significant, quantifiable benefits. As a result, the estimated net benefits of some projects may be considered conservative.

Broadly, the assessments were completed by modelling the marginal costs and benefits from a project over a 30-year period, then discounted to present day amounts (applying a 5% discount rate), to determine net economic impact in terms of:

- Net Present Value of Benefits (NPV): Discounted value of costs minus benefits
- Benefit Cost Ratio (BCR): Discounted value of benefits divided by costs

Project outcome

Individual evaluation results of each of the ten projects are presented in Table 1 below with results expressed in 2023-24-dollar terms. Modelled benefit cost ratios (BCRs) range from 1.3 to 8.0, and with a weighted average of 6.3.

Table 1 Results from impact evaluations (Total Project Investment, 30 years)

Project Code	Project Name	PV Costs (\$m)	PV Benefits (\$m)	NPV (\$m)	BCR
2020-1040	Hot carcass grading: driving quality assurance and processing efficiency	\$4.44	\$34.50	\$30.05	7.8
2021-1047	Low-cost assessment & arrangement of PV opportunities	\$0.27	\$1.98	\$1.70	7.3
2022-1055	Diverting plastics from landfill – business case scenario	\$0.41	\$0.65	\$0.24	1.6
2023-1038	Beef striploin fat removal – stage 2B: controlled variable thickness robotic fat trimming	\$0.28	\$1.5	\$1.22	5.3
2023-1047	Beyond border analysis of regulatory and related costs	\$0.15	\$0.69	\$0.54	4.6
2018-1050	In Plant Trial of Robotic Picking and Packing System	\$0.25	\$1.03	\$0.78	4.1
2023-1061-1062	Empowering Women in Maintenance Trades	\$0.15	\$0.45	\$0.29	3.0
2022-1127-1131, 2022-1139	Smallstock Traceability Pilot (5 plants) and Smallstock Traceability Pilot Study	\$0.69	\$0.87	\$0.18	1.3
2023-1005	Transport Emissions, Efficiency and Sustainability Roadmap	\$0.57	\$3.38	\$2.81	5.9
2024-1087	Kokumi Flavour Peptide Production from Beef Offal Co-Products	\$0.16	\$1.25	\$1.09	8.0

Table 2 shows the aggregated results from the ten project evaluations, with impact assessed at 5-year intervals in 2023-24-dollar terms. The results suggest most of the net benefits will be realised in five to ten years' time. This is typical of rural R,D&E as innovations often take up to five years to become fully developed and adopted. After 10 years many innovations are likely to be superseded, or similar outcomes achieved, under the counterfactual scenario.

Table 2 Summary of overall results from evaluated projects

Years from project investment (2023/24)	0	5	10	15	20	25	30
Present value of benefits (\$m)	-\$3.72	\$17.83	\$39.76	\$45.56	\$45.87	\$46.14	\$46.29
Present value of costs (\$m)	\$7.37	\$7.37	\$7.37	\$7.37	\$7.37	\$7.37	\$7.37
Net present value (\$m)	-\$11.16	\$10.39	\$32.32	\$38.12	\$38.43	\$38.70	\$38.85
BCR (weighted average)		2.4	5.4	6.2	6.2	6.3	6.3

Figure 1 below shows the modelled flow of (undiscounted) costs and benefits from the evaluated projects. The results indicate benefits will peak briefly in 2028/29 and again in 2031/32.

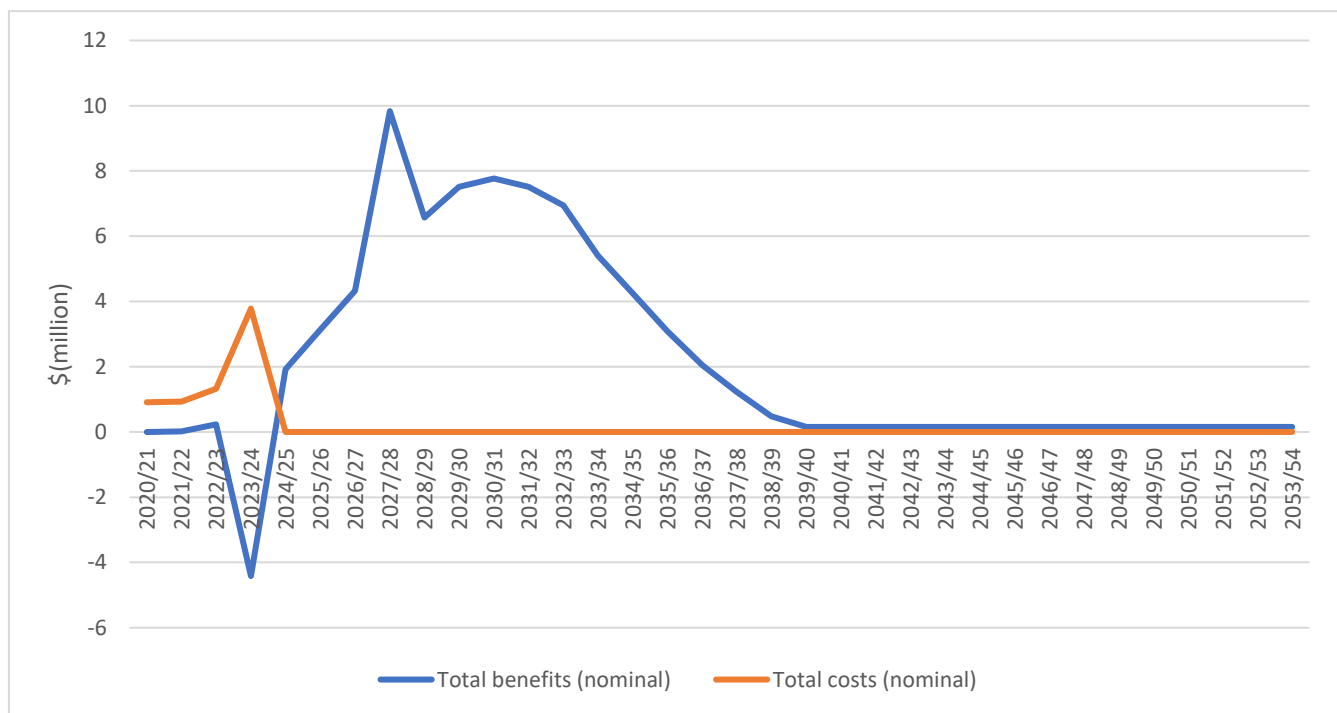


Figure 1 Flow of undiscounted costs and benefits from selected projects

There is a positive overall estimated economic return from the ten (10) evaluated projects (6.3 weighted average BCR over 30 years). This has been significantly impacted by the high investment, and in turn weighed average, for project 2020-1040 *Hot carcass grading: driving quality assurance and processing efficiency*. The weighted average without this project would be 4.0.

The overall estimated economic return from the ten evaluated projects (6.3 weighted average BCR over 30 years) is comparable with assessed returns from other RDC investments. An assessment of 111 RDC project cluster evaluations, between 2014 and 2019, found a comparable weighted average BCR of 5.5, with annual weighted average BCRs from 3.3 to 9.1 (Agtrans Research 2019).

Figure 2 below compares the weighted average BCR from this analysis with previous annual evaluations of AMPC core projects completed by GHD. The comparison shows that this year's results are close to the average BCR over the period 2018/19 to 2023/24 of 6.5.

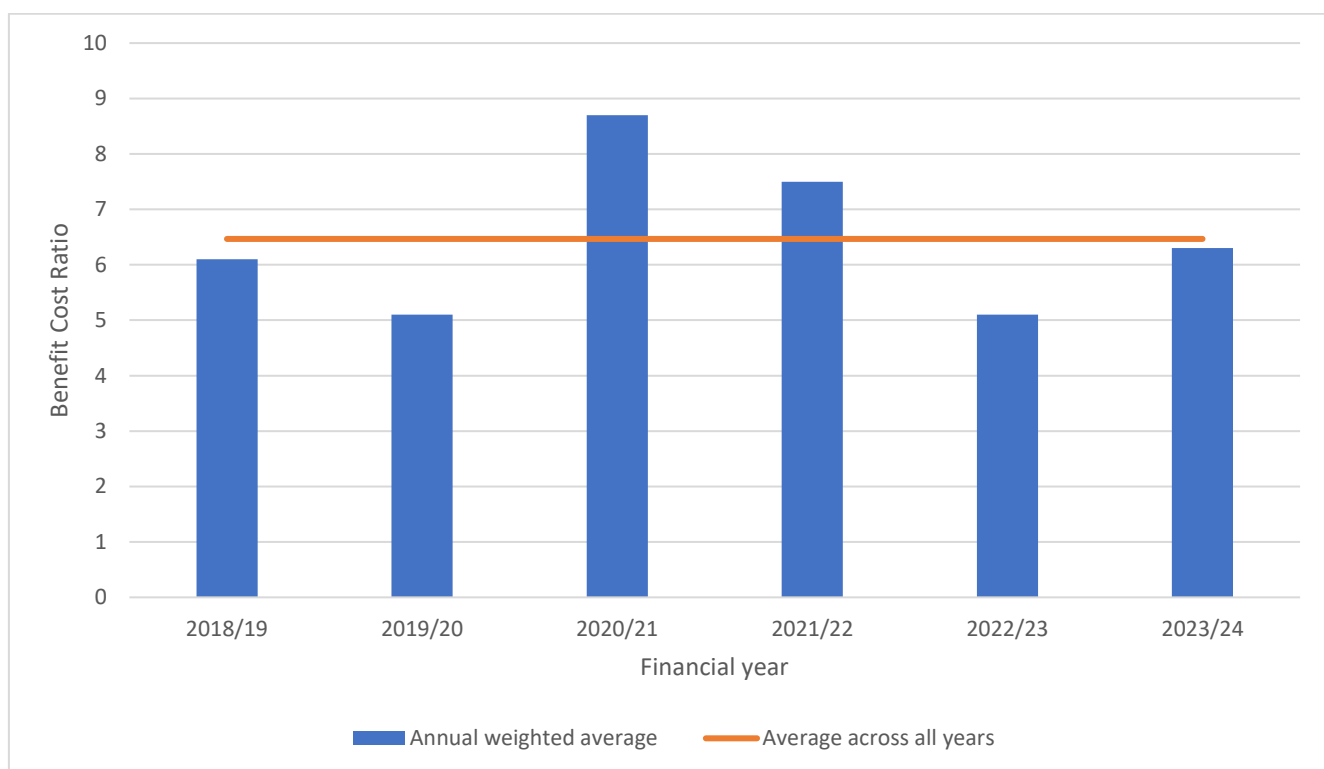


Figure 2 Weighted average BCR from annual evaluations of a sample of AMPC core projects (total investment, 30 years)

Overall, the results from the sample of evaluated projects suggests that AMPC R&D projects concluding in the 2023/24 financial year are likely to yield substantial economic benefits to processors, the larger red meat supply chain and the broader public over the coming years.

Benefit for industry

The evaluation results will help industry understand the expected outcomes and return on investment from R&D levy contributions, and help inform future R,D,&E investments.

Useful resources

Agtrans Research (2019) *Cross-RDC Impact Assessment 2019*. Prepared for The Council of Rural Research and Development Corporations.

Council of Rural Research and Development Corporations (CRRDC) 2018, *Cross-RDC impact assessment program: guidelines*.

Council of Rural Research and Development Corporations (CRRDC) 2018a, *Cross-RDC Impact Assessment Program: Management Procedures*.