

Snapshot

Economic impact assessment of 10 projects
completed in FY 2021/22

Project Code
2021-1044

Prepared by
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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 completed in the 2021/2022 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 grouped projects into research areas and used random numbers to select a sample of projects for evaluation from each grouping. 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 project are presented in Table 1 below with results expressed in 2021-22-dollar terms. BCR results of individual projects range from 1.3 to 12.7, with a weighted average of 7.5.

Table 1 Results from impact evaluations (Economic impact over 30 years)

Program Stream	Project Code	Project Name	PV Costs (\$m)	PV Benefits (\$m)	NPV (\$m)	BCR
1. Advanced Manufacturing	2019-1038	eMTC implementation including DAWR requirements	\$0.08	\$0.82	\$0.74	10.7
	2021-1223	Shadow Robot - Bandsaw Cutting of Beef Shank - Stage 1	0.24	0.99	\$0.75	4.1
	2021-1222	Artificial Intelligence (AI) - Non-X-ray Beef Cutting - Stage 2 (Intelligent Robotics)	\$0.27	\$2.64	\$2.37	9.9
2. Sustainability	2019-1060	Megasonic demulsification of oil and grease from meat processing wastewater	\$0.18	\$0.23	\$0.05	1.3
3. People and Culture	2022-1048	Developing a Voluntary Code of Conduct for Migrant Management (Stage 1)	\$0.32	\$2.89	\$2.57	9.0
	2022-1093	Business Plan for a Red Meat Industry Knowledge Hub	\$0.03	\$0.29	\$0.25	8.7
4. Markets and Market Access	2020-1066	Utilisation of Augmented Reality for the development of Remote Auditing	\$0.44	\$2.57	\$2.14	5.9
	2021-1091	Meat Hygiene Assessment 3 - An Industry Trial	\$0.41	\$4.79	\$4.38	11.8
5. Products and Process Integrity	2021-1131	Review of Traceability outcomes from electronic tagging of sheep- implications for small stock processors outside Victoria	\$0.02	\$0.27	\$0.25	12.7
	2021-1172	Traceability - Primal to Steak/Steak to Primal (Stage 2)	\$0.28	\$1.46	\$1.18	5.2

Table 2 shows the aggregated results from the ten project evaluations, with impact assessed at 5 year intervals in 2021/22 dollar terms. At each interval, and given the assumptions made for each assessment, investments are expected to make a positive net benefit to the Australian meat processing industry.

Table 2 Summary of overall results from evaluated projects

Years from project investment (2021/22)	0	5	10	15	20	25	30
Present value of benefits (\$m)	\$0.14	\$9.08	\$15.79	\$16.94	\$16.94	\$16.94	\$16.94
Present value of costs (\$m)	\$2.26	\$2.26	\$2.26	\$2.26	\$2.26	\$2.26	\$2.26
Net present value (\$m)	-\$2.12	\$6.82	\$13.53	\$14.68	\$14.69	\$14.69	\$14.69
BCR (weighted average)	0.1	4.0	7.0	7.5	7.5	7.5	7.5

The overall estimated economic return from the ten evaluated projects (7.5 weighted average BCR over 30 years) is above the typical assessed returns from 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 1 below compares the weighted average BCR from this analysis with previous annual evaluations of AMPC core projects completed by GHD. The results suggest slightly higher than average returns.

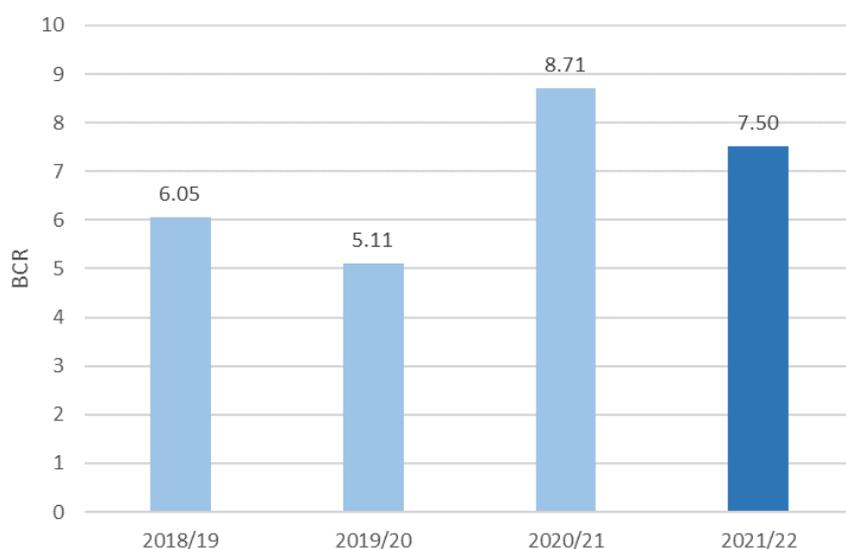


Figure 1 Weighted average BCR from annual evaluations of a sample of AMPC core projects

Overall, the results from the sample of evaluated projects suggests that AMPC R&D projects concluding in the 2021/22 financial year, are likely to yield substantial economic benefits to processors over the coming years, realised primarily through reduced costs and higher productivity.

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 RD&E investments.

Useful resources

The Council of Rural Research and Development Corporation’s (2018) *Impact Assessment Program: Guidelines*.