

MEAT INDUSTRY ENVIRONMENT NETWORK 2017-2019

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PREPARED BY: National Meat Industry Training Advisory Council (MINTRAC)

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1.0 EXECUTIVE SUMMARY

The primary target for the Meat Industry Environment Network is industry personnel. The Environment Network seeks to provide a forum for industry personnel to give input into their priority issues, challenges and potential projects for research and development. It also provides a forum for industry discussion, input and feedback into R&D projects in progress and for extension services for AMPC research and development activities to plant environment personnel to encourage uptake of research outcomes.

Other stakeholders participate in the network meetings as appropriate, including broader industry personnel, researchers, regulators, trainers and industry consultants.

The Network promotes engagement with environment managers from processing establishments and other stakeholders to ensure that all parties are meeting new regulatory requirements and that new information is disseminated.

The network also provides a means of showcasing new technologies and initiatives being undertaken by meat processing plants and other industries such as energy efficiency, water harvesting and reuse, solid waste management, and greenhouse gas emissions management.

Initially it was planned that MINTRAC would run six Environment network meetings each year. Meetings scheduled in WA and SA were to be combined Engineering and Environment meetings, since in these States these functions are usually carried out by the same person. The other four meetings were scheduled for locations in Queensland, NSW and Victoria.

Following the June 2018 Major project review, it was agreed that all future meetings, except for Brisbane, would be combined meetings with the Engineering Network.

As a result, a total of eleven meetings were run, with the Perth meeting cancelled due to lack of registrations, and a webinar also cancelled.

Over fifteen AMPC R&D projects were presented over the course of this project. Other AMPC presentations included the AMPC Strategic Plan and funding opportunities. MINTRAC presented on areas such as new training developments, available resources, the environment film series and training available for environment personnel. Other presenters included EPA representatives, MLA and scholarship students.

There were two site visits:

- / to the solar farm project at Hardwick Processors in Kyneton. The site visit showed the potential power savings solar energy can provide for meat processors and the participants were very interested in the project's development
- / the Carlton Brewery water treatment plant which highlighted the differences in scale compared to most abattoirs, however the basic principles are the same and the participants enjoyed having a look around and learning how the plant worked.

Two short films were also completed:

- / the first took place at Teys' feedlot in Condamine on 14th December 2108. The film showcased the energy savings Teys' are making through using solar to power up to 50% of the plant's electricity needs.
- / filming of the cogeneration project at Teys in Naracoorte occurred in the first week of June 2019.

Throughout this project, numbers for meetings have been lower than anticipated. This may be because engineers and environment personnel on plants find it difficult to get away from the plant for a whole day, especially on the smaller plants. In Brisbane where the number of participants tends to be higher a lot of the bigger plants are within a short driving distance. Although attendance was low, participants at the meetings did engage with the presenters and topics discussed.

There have been some excellent presentations to the environment meetings, and the combining of the meetings after June 2018 certainly increased interest.

The films are very popular, but people do need to be regularly reminded of their availability, and we addressed this by providing copies of the complete sets at the last three meetings as well as promoting their availability at other network meetings.

From July 2019, AMPC will be running these meetings as part of a revised program of network meetings. Therefore, the following recommendations are made to assist planning for those meetings:

- / It is recommended that recorded webinars be used in addition to face to face meetings to support the dissemination of AMPC R&D projects.
- / It is recommended that wherever possible direct contact be made with the environment person on each plant when promoting the meetings.
- / It is recommended that issues affecting training which are raised at the meetings are recorded and passed on to MINTRAC, including:
 - o new research outcomes which need to be included into training materials
 - o new technology requiring new skills
 - o issues around funding, training availability and RTO provision.

2.0 INTRODUCTION

The primary target for the Meat Industry Environment Network is industry personnel. The main aims of the network are to:

- / provide a forum for industry personnel to give input into their priority issues, challenges and potential projects for research and development.
- / provide a forum for industry personnel discussion, input and feedback into R&D projects in progress
- / provide extension services for AMPC research and development activities to plant environment personnel to encourage uptake of research outcomes.
- / provide an efficient method of distribution of new information for processing plant environment personnel
- / give plant-based environment personnel, researchers and regulators a very useful forum to explain, explore and discuss new issues and innovations.

Other stakeholders participate in the network meetings as appropriate including broader industry personnel, researchers, regulators, trainers and industry consultants.

The network meetings provide a means to share information on the research, development and extension (RD&E) activities relating to AMPC's Environment and Sustainability RD&E Program.

The Network promotes engagement with environment managers from processing establishments and other stakeholders to ensure that all parties are meeting new regulatory requirements and that new information is disseminated.

The network also provides a means of showcasing new technologies and initiatives being undertaken by meat processing plants and other industries such as energy efficiency, water harvesting and reuse, solid waste management, and greenhouse gas emissions management.

Funding for this project includes three state-based network meetings per year in each of Qld, NSW and Victoria. In addition, there will be combined Engineering and Environment Network meetings held in WA and SA, and these will be funded under the Engineering Network.

Short films of two relevant environment initiatives will also be prepared. These films are produced into showcase clips including interviews with site managers and engineers for loading onto the AMPC website.

3.0 PROJECT OBJECTIVES

The objectives of the project are to:

- / create a network which facilitates processor inputs and sharing of information and ideas in response to current and ongoing research and development in the areas of environment and sustainability

- / facilitate the transfer of knowledge from AMPC's environment project outcomes to the meat processing industry
- / act as a communication channel between industry, regulators, researchers and consultants to ensure industry is managing its environmental responsibilities
- / ensure the timely and structured dissemination of R&D outcomes throughout the industry
- / develop a dynamic and informative series of showcase clips to promote the positive approach industry has in addressing its environmental responsibilities.

4.0 METHODOLOGY

Initially it was planned that MINTRAC would run six Environment network meetings each year. Meetings scheduled in WA and SA were to be combined Engineering and Environment meetings, since in these States these functions are usually carried out by the same person. The other four meetings were scheduled for locations in Queensland, NSW and Victoria.

Following the June 2018 Major project review, it was agreed that all future meetings, except for Brisbane, would be combined meetings with the Engineering Network.

Under the revised structure, MINTRAC management of the program for 2018-2019 included:

- Organisation of seven combined network meetings in Queensland, New South Wales, and Victoria as agreed with AMPC. Costs are being apportioned according to the original contractual requirements, as the total number of meetings remains the same.
- Organisation of site visits to accompany each network meeting (where possible).
- The filming of one onsite project and organizing interviews and material for the showcase clips
- Preparing the showcase films to be uploaded onto the AMPC website
- Development of communication channels between the various parties involved including processors, researchers, regulators and industry consultants.
- Inclusion at every meeting of information about current and completed AMPC projects as provided by AMPC
- Ensuring that new requirements and practices are incorporated into the nationally accredited qualifications
- Advising on training material that need modification due to changes in regulations, research outcomes, new technologies etc.
- Collection and analysis of data to determine the success of the networks in meeting their objectives.

5.0 PROJECT OUTCOMES

5.1 Summary report on outcomes of 2017-18 meetings

The combined Engineering and Environment Network meeting in Adelaide was reasonably well attended with Thomas Foods Murray Bridge, Macro Meats and Big River Pork being represented. There were presentations on two AMPC research projects and the EPA also presented an update on current policies.

Numbers at the Melbourne meeting were initially good, but several people sent in their apologies on the day. Two AMPC research projects were discussed and there was a site visit to the solar farm project at Hardwick Processors in Kyneton. The site visit showed the potential power savings solar energy can provide for meat processors and the participants were very interested in the project's development.

The Brisbane meeting had better attendance with three plants represented - Oakey Beef, Teys and JBS. The workshop on the AMPC Strategic plan provided opportunities for an interesting discussion amongst the participants. The site visit to the water treatment plant at Carlton Brewery highlighted the differences in scale compared to most abattoirs, however the basic principles are the same and the participants enjoyed having a look around and learning how the plant worked.

The meeting in Tamworth had reasonable numbers. The meeting included a workshop on a benchmarking tool developed by Energetics as an AMPC project which was well received and a presentation on the bioenergy plant at Southern Meats in Goulburn. There was also a good discussion with attendees about how future meetings could be structured to attract more attendees.

5.2 Summary report on outcomes of the 2018-2019 meetings

Following is a summary of all meetings planned/held for 2018-2019.

Location	Date	Type
Adelaide, SA	28 August 2018	Combined meeting
Perth, WA	25 September 2018	Cancelled due to low registrations
Brisbane, Qld	26 February 2019	Combined meeting
Melbourne, Vic	30 April 2019	Combined meeting
Wagga Wagga NSW	7 May 2019	Combined meeting
Tamworth, NSW	28 May 2019	Combined meeting
National webinar	June 2019	Cancelled due to inability to get common date for speakers

A total of 53 people attended.

Key topics presented and matters discussed included:

- AMPC Project: Research into conveyor belt materials and Refrigeration technologies coming our way, presented by Cold Logic
- AMPC Project: Integrated robotic picking and packing of primal cuts, presented by Strategic Engineering
- AMPC Project - Converting solid waste from abattoirs into hydrochar, presented by RMIT University
- AMPC Project - Comparison between struvite precipitation and traditional chemical phosphorus removal, presented by Johns Environmental
- MINTRAC update
- Content for new units of competency:
 - Operate biogas collection facilities
 - Manage biogas operations
- AMPC Strategy update, presented by Stephanie Oates, Broad Aperture
- AMPC Projects update: Oil and grease value assessment tool, and Struvite vs traditional chemical phosphorus precipitation, presented by Bronwen Butler, Johns Environmental
- MLA carbon neutral by 2020, presented by Doug McNicholl, MLA
- Augmented and virtual reality for maintenance, presented by Scott Automation and Robotics
- AMPC Project presentation, presented by Jane Gaffel, Eco Efficiency Group:
 - Evaluation of electrocoagulation as a wastewater treatment technology for meat processors
 - Water recycle and reuse opportunities using risk management framework
 - Stormwater Management Guidelines - Melbourne
 - Updating wastewater extension materials
- AMPC Project presentation: Teys Condamine presentation and short film, presented by Carl Duncan, Teys Australia
- AMPC Project presentation: Energy sufficient red meat processing facility, presented by Carl Duncan, Smart Business Hub
- Funding opportunities, presented by Matt Deegan, AMPC
- The AMPC Environmental Films Series, presented by MINTRAC
- EPA regulatory and policy information for environment protection licence holder, presented by Martin Puddey, EPA

- Energy from waste, presented by Flynn Reyners, EPA
- Designing and assessing the viability of renewable energy along the red meat supply chain, presented by Max Barnes, All Energy
- AMPC Project presentation: Water recycling for red meat processors presented by Rui Zhang & Keng Han Tng, University of New South Wales
- MINTRAC update and general discussion, presented by MINTRAC
 - current environment and engineering training opportunities
 - newly released products and resources of interest
 - new and planned training developments.

5.3 Completion of two short films

Filming for the first short film took place at Teys' feedlot in Condamine on 14th December 2108. The film showcased the energy savings Teys' are making through using solar to power up to 50% of the plant's electricity needs.

Filming of the cogeneration project at Teys in Naracoorte occurred in the first week of June 2019. The film has been completed and approved by both Teys and AMPC, and we are just waiting for the final permissions from those who appear in the film.

6.0 DISCUSSION

Throughout this project, numbers for meetings have been lower than anticipated. This may be because engineers and environment personnel on plants find it difficult to get away from the plant for a whole day, especially on the smaller plants. In Brisbane where the number of participants tends to be higher a lot of the bigger plants are within a short driving distance.

Although attendance was low participants at the meetings did engage with the presenters and topics discussed. The two site visits (to the solar farm at Hardwicks Meats and the wastewater treatment plant at Carlton Brewery) proved popular and informative for those who attended.

There have been some excellent presentations to the environment meetings, and the combining of the meetings after June 2018 certainly increased interest. Actual participation by processors continued to be a challenge, especially in smaller plants when the full scope of responsibilities often falls on a single person and it is difficult for them to get away.

The films are very popular, but people do need to be regularly reminded of their availability, and we addressed this by providing copies of the complete sets at the last three meetings as well as promoting their availability at other network meetings. .

We also discuss many of the developments with environment staff during on-site visits.

7.0 CONCLUSIONS/RECOMMENDATIONS

From July 2019, AMPC will be running these meetings as part of a revised program of network

meetings. Therefore, these recommendations are made to assist planning for those meetings.

1. It is recommended that recorded webinars be used in addition to face to face meetings to support the dissemination of AMPC R&D projects.
2. It is recommended that wherever possible direct contact be made with the environment person on each plant when promoting the meetings.
3. It is recommended that issues affecting training which are raised at the meetings are recorded and passed on to MINTRAC, including:
 - a. new research outcomes which need to be included into training materials
 - b. new technology requiring new skills
 - c. issues around funding, training availability and RTO provision.