

LA IONICA POULTRY FINDS MAJOR RESOURCE SAVINGS THROUGH EREP



Through EPA Victoria's EREP program, La Ionica Poultry has cut hard waste in half, is investigating the separation of clean and dirty waste water, and estimates it may save up to 45 ML of water annually through reuse and process improvements. This chicken processor in Thomastown is participating in the EREP program because it uses more than 120 ML of water annually.

Operations Manager Rob Peterson heads up the company's EREP team, assisted by two production managers, six production supervisors, a maintenance manager and contract electricians and plumbers.

Which areas did you focus on at the start?

'Most of the focus was on water and waste, because power usage is well below the EREP threshold,' Mr Peterson said. 'An electrical audit carried out before EREP identified main power usages, but a second audit, run over a full week, validated initial findings.'

The biggest users are three refrigeration compressor units which chill or freeze chicken. Costing \$1.5 million, they were installed about three years ago and, prior to EREP, each worked independently. They now operate sequentially as the workload demands, and run at full capacity only when required.

You have already reduced your hard waste by half – how?

'An assessment of the plant showed large rubbish bins were filled with paper and cartons from raw materials packaging. These were replaced with smaller rubbish bins and bigger bins for recycling. Hard waste was halved for an outlay of less than \$500 on new bins.'

Last year the site averaged 191 m³ of waste per month. In July 2008 this dropped to 95 m³.

Everything remaining from chicken processing is sent to rendering plants.

How are you tackling trade waste?

La Ionica has a trade waste management plan, a water plan and a close working relationship with Yarra Valley Water. A water treatment plant has been considered, but has an extremely long payback period and is cost prohibitive.

One drain currently accepts all trade waste, which comprises about 50 per cent clean water and 50 per cent dirty water. A lot of water is already recycled, for example to the live bird holding area, which is continually washed down.

'We're looking at various options, including segregating water through two different systems to try and reduce it overall,' Mr Peterson says. 'We might have to improve our metering to understand how much is used through each system before it goes to trade waste.'





How did the company identify potential water savings?

An internal audit identified the major uses of water, then our team identified that we could possibly save around 45 ML of water annually.

The company exports its chicken feet, which require water-intensive processing. The initial plan was to reuse relatively clean water in a scald tank which runs at about 52 °C; however, the high volume of water cooled the tank below this temperature. The team then found it could recapture and reuse the water through the foot peeling process, saving close to 25 ML a year.

In another process, chilled water is used to wash chicken necks and giblets, producing clean, very cold waste water. This is now recaptured for foot processing, saving 4.5 ML of chilled water annually.

Further savings have been made from the water defrost in freezer facilities, and about 1.17 ML annually is now redirected to the cooling towers.

'Another initiative is the gut tumbler,' Mr Peterson says. 'All waste products go to rendering plants, and we need to remove as much water as possible.'

'Gut tumblers sieve the water out, but fat within the guts blocked the sieves, so we used water sprays. Now we use compressed air to blow them clean without using water at all, saving us 7.8 ML a year.'

A walk around the plant out of operating hours resulted in further water savings, simply by Mr Peterson identifying leaks which were hard to detect when systems were in use, and having them repaired.

La Ionica will also install valves on each of its main processing lines, as Mr Peterson believes excess water may be used in some processes. Optimum flow levels will be locked in throughout the plant.

On the advice of Yarra Valley Water, Mr Peterson also installed three meters linked via the internet to 'us' Utility Services. He can monitor water at any time and, if usage is excessive, investigate causes.

Do you have any suggestions that would benefit other businesses in EREP?

Mr Peterson admits to an initial negative response to EREP, because of perceived increases to costs and workloads.

'When we started looking at it, we realised there were things we'd previously put on the back burner. Once you focus on the key points, you find there are huge savings in it and not a lot of work.'

'You need to embrace EREP and take ownership of it. People are ready - like Yarra Valley Water who have been really helpful to work with you if you talk to them.'

What sorts of costs, savings and payback periods have been calculated?

Hard waste

- Rubbish reduced by half, immediate financial payback
- Upfront investment < \$500 on infrastructure.
- Rubbish removal cost \$38,500 last year, now around \$20,000.

Water

- About \$25,000 invested in equipment
- Return on Investment will be very significant if target savings of 45 ML are achieved

Trade waste

- Cost/ payback for water treatment plant currently prohibitive
- Segregation of trade waste being investigated

Energy

- Massive expense/long payback to change compressor units
- Closer consideration of impacts on energy use in future refrigeration plans
- Alternative to cooling towers to save energy and water over long term