

EastPack's energy efficiency programme packs hefty punch

Energy efficiency has packed quite a punch for New Zealand's largest kiwifruit packer EastPack – they've bagged big savings on their \$3.2 million annual power bill while improving staff health and safety.

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OVERVIEW

The Bay of Plenty company operates across seven sites storing and packing over 30 million trays of kiwifruit a year. It is a large consumer of energy - requiring the same amount of energy as used by 3,400 homes a year (25 GWh).

Since focusing on energy efficiency eighteen months ago, the company, which employs over 3,000 staff at season peak, has reduced its energy use by 8% and saved around \$240,000 in energy costs.

Chief Executive Officer Hamish Simson knew there were low hanging savings to be picked after partnering with the Energy Efficiency and Conservation Authority (EECA) and Energy Management Solutions (Emsol) in his former job as chief executive of meat company AFFCO.

Project Manager Nathaniel (Nate) Street was there from the start.

"I took the ball and started running with it. It was a great opportunity to look at where energy was being spent, such as in lighting," Nate said.

He said all staff quickly engaged including key IT and coolstore staff – areas in the company where most energy is used.

"EastPack is a great example of how an energy efficiency programme can be successfully implemented by getting all staff, especially senior management, to fully engage," said EECA General Manager Greg Visser.

As well as getting advice and support from EECA on its programme, EastPack partnered with industrial energy management specialist Emsol to help drive its energy management programme.

They started at two of their Te Puke sites - Washer and Quarry Roads - with Emsol conducting audits, installing metering equipment and setting up reporting.

With new cool stores planned, the company was able to design energy efficiency into buildings. One of the most effective energy saving initiatives was an industrial design review that specified higher than industry standard insulation. This small extra capital outlay, together with installing the best refrigeration equipment for their business, gave EastPack a significantly lower energy bill.

Other significant savings came from improved design of refrigeration control to allow more accurate temperature settings.

Monitoring where and how energy is used also turned up some easy fixes that saved money. The company was one of the first in New Zealand to install a Cisco power management suite which can track where and how much energy is being used in their IT system. It clearly showed where energy was being wasted.

Much of EastPack's energy bill comes from graders to sort fruit, label printers and computers.

New software allows staff to find out when something is being left on when it shouldn't or when there are energy spikes that staff can query why they are occurring.

"With the software, we can delve down now and find out where energy is being used," Nate said.

"We put timers on all main printers around the sites and they are turned off evenings/weekends in off season. The software paid for itself within three weeks."

“The culture started to change,” Nate says.

“From the packing floor right through to upper management, people started thinking about different ideas to more be smarter with how we use energy.”

This kind of thinking wasn't the norm at the start of the energy efficiency journey – in fact changing attitudes was one of the biggest challenges that Nate and his team faced.

We could make big wins quickly by upgrading old plant and installing new systems, but changing the culture took time. We knew we needed culture change to achieve long term savings. Initially staff didn't see how they could make a difference or what energy efficiency had to do with them.

“Once we got the software in, we could drill down and make the connection with staff real. It was a culture change, to save the company money and help save the environment.”

Energy efficiency has been folded into everyday work with staff and combined with health and safety awareness but this is a work in progress.

The company replaced lights with LEDs which are a good example of how benefits are not contained to saving money and energy, but have provided for a safer and healthier workplace. During the picking season work goes on nearly every minute of every day, including weekends. In the coolstores, cool-tone lights were replaced with energy efficient lights that were brighter and warmer in tone.

“From a health and safety point of view, we were able to say ‘we've done this for you, not just for energy savings’.”

Health and safety discussions now also include energy efficiency.

Having achieved such success at the pilot sites, EastPack is doing replicating the work at its other sites - Opotiki, Edgecumbe, Katikati, Collins Lane and Glenbervie. Starting with energy audits and monitoring systems.

WHAT THEY DID

- Connected with EECA for advice and support to get started. EECA worked with the company on a collaboration agreement and plan to meet energy reduction targets.
- Partnered with Emsol for expertise on monitoring, energy audits, plant upgrade design and developing and implementing an energy management plan
- Installed monitoring equipment
- Convened an energy management committee from various parts of their business and an Emsol expert which meets monthly
- Enabled energy and production information to be collated together in a revamp of Information Systems. Bought and installed the Cisco power management suite.
- Identified and drove energy saving projects throughout the group as well as a culture change in energy efficiency

WHAT THEY SAVED AND WHERE

1. 1.87 GWh of electricity in first 18 months, worth \$240,000
2. 8% energy savings so far and increasing
3. 26 kWh per tonne (packed) improvement in energy performance

Where they saved it:

- Refrigeration – Energy audits led to enhancements of existing plant including the tuning of VSDs and discovery of parasitic loads. Several large plant upgrades included energy efficient designs underpinned by payback calculations by Emsol.
- Network connected devices – EastPack was among the first in NZ to implement the Cisco Power Management suite, which monitors up to 700 separate devices across all their sites.
- Took action on power-hog equipment. For example, leases for large printers have been renegotiated to introduce more efficient equipment.
- Lighting – Lighting is far more than just changing over to LEDs; effective upgrading has meant adding more accessible switches, using light and motion sensor switches where appropriate, and educating staff about switching lights off.
- General Operations – Early wins in the energy management programme came from improving energy usage and reducing losses. For example, from better management and maintenance of coolstore doors.

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