CASE STUDY

Austco Polar

An energy assessment conducted for Austco Polar’s cold storage and blast freezing facility identified opportunities to save more than $444,000 per annum through a variety of projects that include lighting upgrades and improvements to compressors and condensers. The projects have an average payback period of approximately five years and deliver additional benefits such as improvements to plant management.

Business snapshot
Austco Polar is a cold storage and blast freezing facility located in Laverton North, Melbourne. It has been in operation for 25 years and provides storage and freezing for meat, pastry, processed foods, nuts & dairy products, as well as transport, export and quarantine services.

Project
“Austco Polar’s Plant Manager, Rob Buoy said that “the spiralling power cost has meant that energy efficiency has become a focus for our company”. The company successfully applied for funding through the Victorian government’s Smarter Resources, Smarter Business (SRSB) program for an energy assessment in 2013 followed by two successful SRSB capital funding applications each for $25,000 in 2014. Austco Polar also received a $3,000 bonus through the SRSB program towards a recommended lighting upgrade.

The energy assessment reviewed Austco Polar’s entire operation including lighting, heating ventilation and air conditioning (HVAC), refrigeration, and forklifts to identify key energy consuming machinery and opportunities for energy efficiency improvements. The first SRSB capital funding grant provided for the purchase and installation of a variable speed drive to a refrigeration compressor, and the second was for purchase and installation of a new evaporative condenser with variable speed drive on the fan motor as well as new wiring.
Outcomes

The assessment found that Austco Polar’s total annual energy bill is more than $1 million, with refrigeration (compressors, evaporators and condensers) responsible for approximately 80 percent. The assessment report made 10 recommendations, which, if all are implemented, would save Austco Polar an estimated $444,000 per annum with an average payback period of 5.5 years (four recommendations had payback periods of less than two years).

The total energy savings from the improvements to compressors and condensers funded by the two SRSB capital grants is estimated to be 86,300 kWh (310 Gj), or more than $116,000 per year and a greenhouse gas reduction equivalent to 100t CO$_2$. Based on two months operational data Austco has seen a 30% increase in productivity of blast freezing operations due to improved operation of the compressors and condensers. This amounts to a saving of 78kWh and 0.11 CO$_2$ per tonne of product.

Although it is too early to have any actual savings data, Buoy said that “we are monitoring plant pressures and overall power usage and over time, comparing this data against stock levels should give us an idea of power savings and plant efficiency.”

“The resource efficiency project has also benefited our business by reducing variations in pressures and temperatures making the plant much easier to manage, improved lighting inside the freezers and plant area and also highlighting the need for staff to consider power conservation”, Buoy added.

Future plans

Austco Polar is continuing its lighting upgrade and has now replaced 40 percent of the old sodium and MH lighting. It is hoped that all lighting will be replaced over the next 24 months at a total cost of around $55,000, generating savings of $30,000 per year, with additional savings anticipated as equipment is upgraded and all major refrigeration components are fitted with variable speed drives (VSDs).

“Our experience of being involved in the program has been very positive. The project highlighted power saving opportunity across our business and how easy it was to implement them. I believe other power intensive businesses should consider resource efficiency as a way of lowering ongoing costs,” said Buoy.

Energy assessment conducted by Energy Action

Rob Buoy, Plant Manager

“The project highlighted power saving opportunity across our business and how easy it was to implement them.”