



New ways to save energy

sail into Port Otago



Client: Port Otago Limited

EnergyMaster: Jonathan Pooch, DETA Consulting

Challenge: Minimise Port Otago's energy footprint and eliminate energy wastage.

Solution: A comprehensive Energy Management Programme developed. Energy management opportunities implemented, including utilising engine generators for maximum demand control, optimisation of the Administration Building HVAC, and introducing central lighting control.

In brief: DETA Consulting developed an Energy Management Programme for Port Otago that:

- Delivered sustainable annual energy savings of \$102,000. This is expected to rise to \$205,000 per annum once further recommendations have been implemented.
- Established an Energy Management Team that meets monthly to review energy efficiency opportunities across all Port Otago sites and operations.
- Drove significant behaviour changes around energy use across the staff team.
- Enabled the Port to recover costs for the project in just 10 months.

The project

Port Otago wanted to reduce energy costs. Jonathan Pooch, Managing Director of DETA Consulting, carried out an energy audit in 2005, identifying a number of opportunities – particularly around lighting and energy demand control.

DETA Consulting was then asked to review the energy management plan 18 months ago, and worked with the Port's General Manager – Infrastructure, Lincoln Coe to develop an Energy Management Programme.

The solution

The key component of the new Energy Management Programme was to establish an energy management group with cross-port representation including marine, operations, electrical and corporate teams. This group, facilitated by DETA Consulting, meets monthly to review energy performance, and to discuss opportunities that exist to better engage with staff and improve efficiency on-site in an ongoing way.

“This cross-port representation has proved an effective way to get everyone across the Port to engage and buy into energy efficiency and change the way they do things. A lot of benefits have come out of that. Energy audits are a valuable snapshot and a powerful tool but things change very quickly, with changing seasons for instance, and this group provides a constant focus” Jonathan says.

“Energy is now a key consideration in decision-making for Port Otago, such as when purchasing new equipment or designing new facilities. People are not just focusing on short-term costs – they are looking to the long-term energy benefits also.”

The group has focussed on a variety of technical and non-technical related opportunities. A key focus to date has been the aging heating and ventilation systems in the main Administration Building. The building had also been designed in the days when smoking was permitted indoors, requiring more ventilation.

“You still need fresh air circulating throughout the building, but not as much as it required when there were smokers inside. The excessive ventilation made the air cold, increasing heating costs,” Jonathan says.

“The heating and ventilation systems in the main administration building were also operating 24/7 when the building is only occupied for 10 hours a day, 5 days a week. There is a lot more awareness now around time clocks and demand management.”

Other technical opportunities implemented by the energy management group include actively managing the peak loads through the use of onsite engine

“The general perception was that energy is a fixed cost that cannot be actively managed. The reality is that this is simply not the case. Through active management of our energy costs, we have been able to make a significant, measureable reduction in Port Otago's operating costs. A lot of the changes implemented have not required significant investment or cost, but would not have happened without our staff spending time investigating and hunting out the opportunities and then implementing the solutions. We have quite simply found that investing time in energy management is something that we just cannot afford to ignore”.

Lincoln Coe, General Manager - Infrastructure, Port Otago

generators, and introducing a central lighting control system to ensure all wharf and other lights are switched off when not required.

For Jonathan, working across the client's business provides considerably more inside knowledge of energy use within the Port. The Energy Management Programme has picked up some smaller issues also. For instance, it was noticed that diesel for the fisherman's wharf was purchased in small amounts at a higher price while the larger amount of diesel for the terminal was purchased in bulk at a lower cost. Now the fuel is purchased together and the port transfers the required amount to the wharf, making significant savings from something quite simple.

The company

DETA Consulting works mainly with industrial clients, providing a wide range of solutions including energy and process optimisation to improve their bottom line.

“Energy is often a key processing bottleneck,” said Managing Director Jonathan Pooch, who is an EnergyMasters Auditor with extensive energy auditing experience. “We find that, by providing energy management solutions, we can often improve or expand processing capacity too.”



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