

WCLASS CARBON ZERO NEWSLETTER

Issue 1 Sep 2019

WAIKATO DISTRICT WINS LOTTO!

Well, not quite. However Waikato District Council did receive a refund of just over \$31,000 last month from its energy retailer following an investigation by the WCLASS energy managers. It was found that network charges had been incorrectly calculated on a large streetlighting account over a 12 month period. The top 25 accounts of each Council are checked every month for discrepancies and from 1 August 2019 all invoices will be automatically checked via e-Bench and Epro to ensure the correct rates have been applied.

From the WCLASS energy managers

Welcome to our first newsletter as part of the WCLASS Energy and Carbon Management Programme. We are into the second stage of our journey following a successful three year collaboration with the Energy Efficiency and Conservation Authority. Across ten participating Councils we measured savings worth \$446,000 and exceeded our agreed collaboration energy target of 2,500,000kWh per annum. We are very pleased to have Matamata Piako and Hamilton City join as new participants in the second stage of the programme. This includes an increased focus on using energy efficiency to reduce carbon emissions. Understanding our carbon foot print and how we can shift to low carbon energy over time is now an important consideration. We are able to help you in this area.

Participation in the programme includes an energy monitoring service provided by Energypro and e-Bench across all gas and electricity accounts. For those who haven't had this previously, we think you will find it very useful.

In this newsletter we highlight a number of initiatives from Councils that you might want to consider in your own organisation. For more information please get in touch with us.

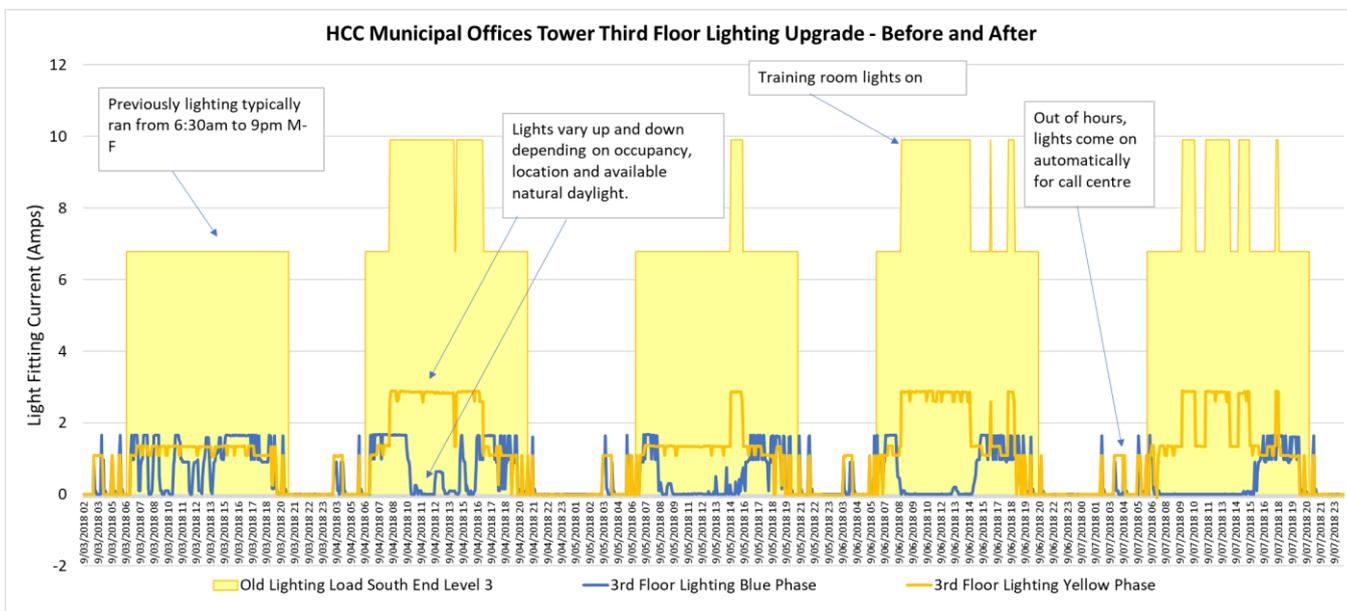
Kind regards

Martin Lynch and Kevin McGrath
WCLASS Energy Managers

Energy efficient lighting upgrades

Replacing fluorescent light fittings with LED fittings is fairly standard practice now, but the picture below shows what happens when you combine this with intelligent light sensors that detect occupancy, natural daylight and set light output to preset levels (500lux). Rather

than a fixed power draw whereby lights run all day (yellow area), the adaptive lighting system only draws the power it needs (fluctuating blue and orange lines) to maintain the preset light levels when the space is occupied. This system is rolling out at Hamilton and Rotorua's Municipal Offices. To date, energy savings of more than 75% have been achieved with a simple payback of less than 5 years.



Peak demand management

Those of us involved with large buildings, water and wastewater plants will be familiar with the concept of electricity demand charges. These are used by your local network company to assign costs to businesses according to their contribution to regional power demand. Over the last three years, a number of Councils have implemented control strategies to minimise demands and in doing so reduce their costs.

The energy team at TCDC delivered the latest initiative, an innovative system which uses existing diesel generator sets at three wastewater treatment plants (Pauanui, Whitianga, & Whangamata).

By running the generators at peak times over the festive season, maximum demand levels were able to be reduced, offering an ongoing monthly saving throughout the rest of the year. The project involved upgrading generator controls to automatically fire up generators when peaks occurred. The work was completed just in time for the 2018 Christmas holiday period and generators were largely controlled as intended.

Total annual savings across the three sites are \$36k with further increases possible, yielding a simple 3 year payback. Other benefits have been increased confidence in the readiness of the generators to start up in an emergency and a closer working relationship with Powerco.

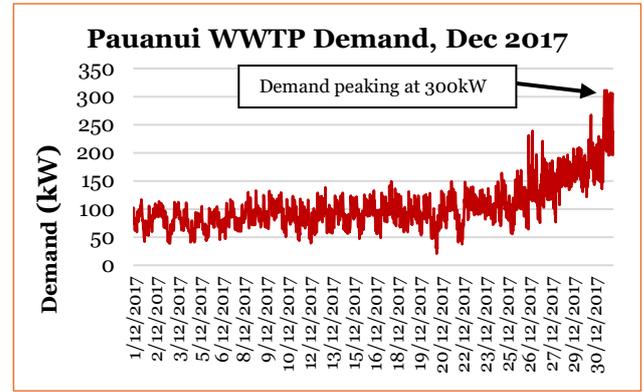


Figure 1. Note the jump in WWTP peak demand to 300kW as holiday makers arrive in Pauanui from the 25th Dec 2017

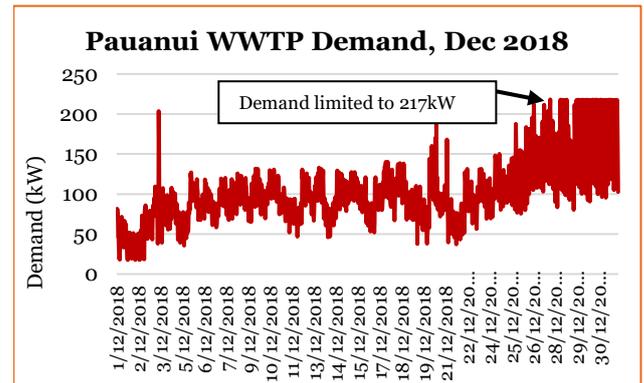
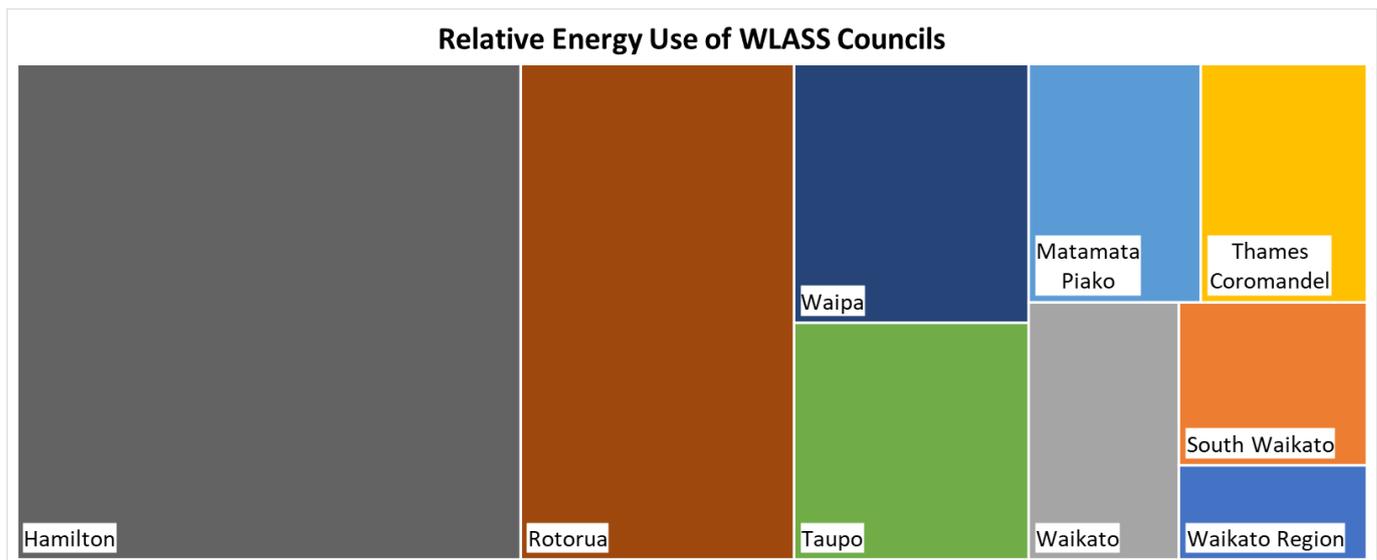


Figure 2. In Dec 2018, the diesel genset ran when demand exceeded 217kW. (Optimized value).

How the Councils stack up

This “Treemap” graph shows the relative weighting of each Council in regards energy use. Collectively the WLASS participating Councils use 128,000,000kWh of electricity and natural gas with a total energy spend of \$20.6M. This equates to 14,100 tonnes of carbon emissions equivalent.



Upcoming Events

November 2019: EnergyPro training. This will be a two – three hour training session for Council staff to learn how to utilize the Energypro system to run reports for their area of responsibility. Ideal for staff that have direct budget accountability or who operate energy intensive plant and buildings. Details to be advised.