

WCLASS Energy & Carbon Management Programme FY20 - (To Jun 2020)

OBJECTIVE	To improve corporate energy performance and reduce carbon emissions for WCLASS Councils			
MEDIUM TERM TARGET	Across all Councils achieve a 15% energy intensity reduction in kWh/rateable units by 2025. This will be measured against a base year of FY19. Across all Councils achieve a 50% greenhouse gas intensity reduction in kg CO2e/ratepayer by 2030. This will be measured against a base year of FY19 (Scope 1 & 2 only excluding biogenic emissions)			
LONG TERM TARGET	Across all Councils work towards net zero carbon emissions (scope 1 & 2) by 2050.			
PROGRESS TO DATE		FY19	FY20	Improvement
	Energy Intensity (kWh/RU)	694	648	6.6%
	GHG Intensity (kg CO2e/RU)	88	82	6.7%

KEY ACTIONS THIS YEAR

Key Items Achieved This Year

ENERGYPRO (energy account monitoring system)

- Energypro was implemented for all Council electricity and gas connections with historical data entered back to July 2017. From 1 July 2019, all invoices are validated for correct tariffs and charges each month. Rotorua and WRC use a similar system called e-Bench.
- Validation of invoices by Energypro has identified incorrectly charged fees such as cancellation and debt management charges. These have been refunded. New accounts set up on non-contracted rates are also being detected and corrected.
- An Energypro training workshop was held in October 2019 and attended by twelve Council staff and the WCLASS Energy Managers. This was well received and a second workshop was postponed due to Covid-19.
- Additional data is starting to be entered into Epro which will allow us to compare energy performance across libraries, offices and swimming pools.

WCLASS ENERGY MANAGERS

- Agreed fixed price work components are on track and being delivered. Review and monitoring is being undertaken for key accounts, energy team meetings have been held with designated Council staff, demand management has been reviewed as appropriate, and four Carbon Zero newsletters have been sent. Waikato District Council received a refund of \$31k and then \$14.6k following the WCLASS Energy Manager picking up irregularities in streetlight invoices.
- Past energy efficiency initiatives have been monitored to confirm they remain operational and accumulated savings arising from these are reported at the Council energy meetings.

ENERGY EFFICIENCY & COST MEASURES

- Rotorua has gone out to tender for an LED streetlight upgrade. Once implemented, this would reduce streetlight energy use by 50%.
- Demand management discussions with Taupo's Three Water teams has supported evaluation of opportunities at Water and Wastewater plants. A new control strategy implemented in May 2020 has the potential to save \$28,000 p.a.
- TCDC are investigating a solar powered array at the Council office in Thames and have looked into the viability of solar systems at various Water plants. Investigations into electric vehicle and charging are underway.
- A capacity charge review identified a \$2,300 saving for Waipa's Municipal Offices at TeAwamutu.
- Remote monitoring was installed on TCDC's diesel gensets to support peak demand minimisation over the holiday season. This is the 2nd year of operation. TCDC have repaired defective power factor correction units eliminating penalty charges from WWTP's.
- HCC is displacing natural gas with bio-gas to provide hot water heating at its WWTP and is minimising peak demands by use of a natural gas fired generator. These two initiatives are collectively saving more than \$200k p.a.
- An energy efficiency study at HCC's Waterworld swimming facility identified multiple opportunities and a number have been implemented, reducing energy costs by more than \$10k per month.
- Increased focus on HCC's Building Management Systems is paying dividends with low cost control improvements delivering improved space conditions, energy and cost savings. Buildings reviewed include the Municipal Offices, Gallagher Aquatic Centre, Central Library and Waikato Art Museum.
- A recent lighting upgrade at the HCC Municipal Offices uses daylight control and occupancy sensors with LED light fittings which has been proved to deliver electricity savings of 80%.
- Rotorua Lakes Council have installed LED lighting at the Energy Events Centre Arena and Sportsdrome, while a staged energy efficient refurbishment of the Civic Centre is 75% completed. Power factor improvements have been completed at the WWTP.
- Matamata Piako have also conducted LED lighting upgrades at the Te Aroha Offices reducing the overall office electricity use by 16% and also at the Spas. Installation of a 10kW solar PV system at Matamata Civic Offices and Library is complete and due for commissioning.
- South Waikato undertook a power factor upgrade at Tokoroa pools and is considering a Building Management System upgrade at the Tokoroa Events Centre.
- Analysis of Waipa DC accounts shows potential savings of \$11,000 p.a. by changing tariffs. Savings have been made in June.
- Analysis of electricity tariff rates at Waipa District Council have identified savings of \$10,800 by simply changing meter configurations.

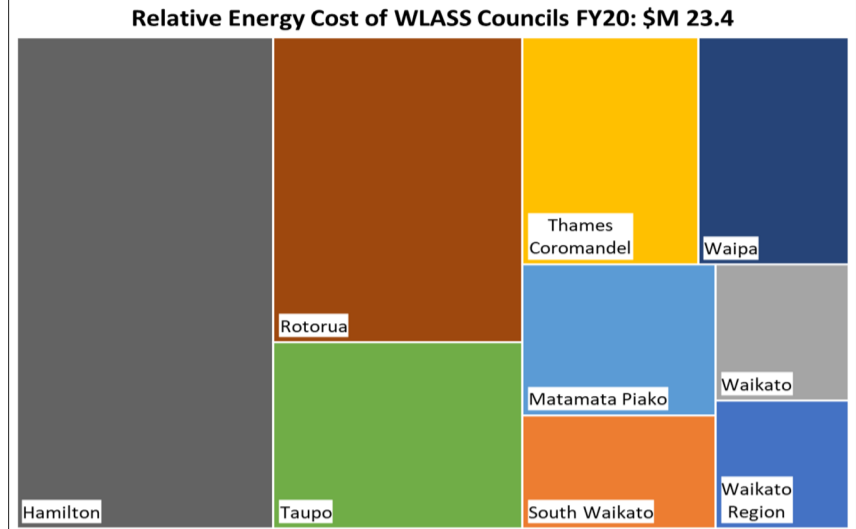
CARBON RELATED INITIATIVES

- Corporate carbon inventories have been prepared for Waikato District Council, Hamilton City Council and Hamilton Gardens. A draft carbon inventory has been prepared for Waipa District Council.
- Waikato Regional Council approved a corporate Climate Action Plan which seeks to reduce GHG emissions by 70% by 2030.
- Hamilton City Council approved Hamilton's Climate Action plan and committed to a 50% reduction in corporate GHG emissions by 2030.
- Waikato Regional Council has completed a Waikato region carbon emissions inventory with emissions allocated by TLA.
- Taupo District Council appointed WCLASS to undertake a carbon inventory for its corporate activities.
- TCDC are considering proposals to develop a corporate Climate Action Plan.
- Facilities officers at Hamilton City are regularly considering alternative low carbon solutions to displace natural gas fired boilers in Council facilities as part of the renewal process.

Key Items To October 2020

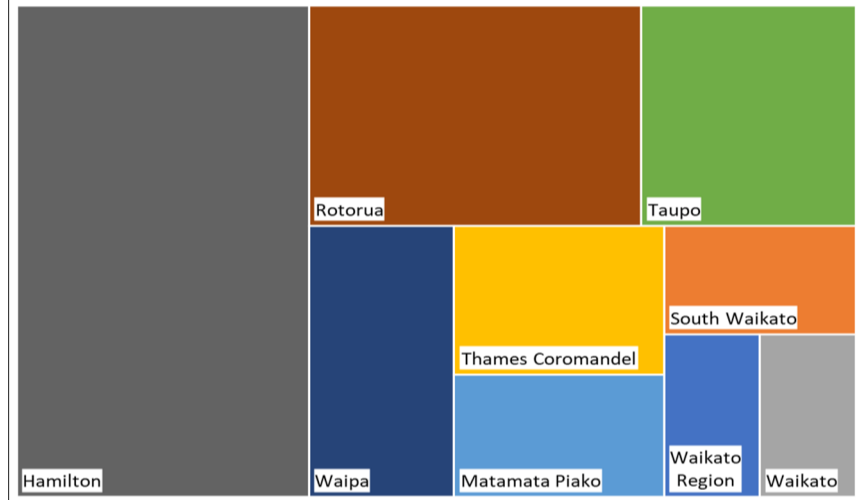
- Confirm Council programme champions and meet with them
- Complete carbon inventories and road maps for Taupo and Waipa Councils
- Undertake a second Energypro workshop in October 2020 (Covid 19 permitting)
- Complete capture of fuel data by Council for FY19 and FY20 to enable energy benchmarking
- Increased analysis across the Councils to support cost reduction and energy efficiency opportunities
- Increase awareness of energy managers' technical skills to support low carbon pathways

KEY STATISTICS FY20



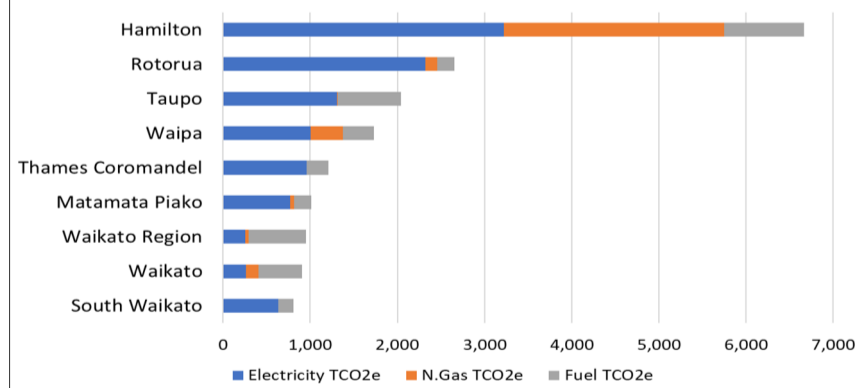
This Tree Map shows the proportion of electricity, gas and fuel spend by each Council.

Relative Energy Use of WCLASS Councils FY20: 142.2 M kWh



This TreeMap shows the proportion of electricity, natural gas and fuel used by each Council. Energy used is

GHG Emissions arising from Scope 1, 2 Sources (to June FY20)



Fuel data is becoming available for most Councils so we can view our collective performance.

WCLASS Councils Electricity, Gas & Fuel FY19 vs FY20

