

WCLASS Energy & Carbon Management Programme FY20 - (To March 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	<table border="1"> <thead> <tr> <th>per rateable unit</th> <th>FY19</th> <th>FY20</th> <th>Improvement</th> </tr> </thead> <tbody> <tr> <td>Energy Intensity (kWh)</td> <td>709</td> <td>685</td> <td>3.4%</td> </tr> <tr> <td>GHG Intensity (kg)</td> <td>86</td> <td>83</td> <td>3.2%</td> </tr> </tbody> </table>			per rateable unit	FY19	FY20	Improvement	Energy Intensity (kWh)	709	685	3.4%	GHG Intensity (kg)	86	83	3.2%
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KEY ACTIONS THIS YEAR

Key Items Achieved Year To Date

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 will be held in 2020.
- 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 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.

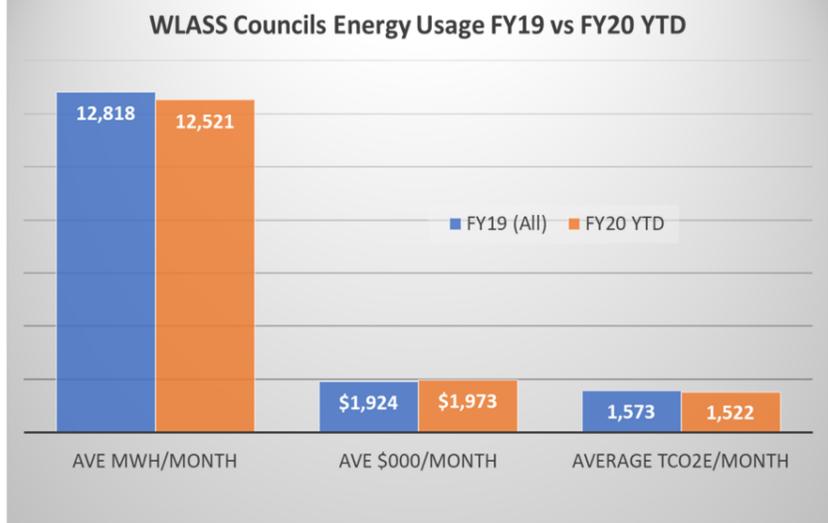
ENERGY EFFICIENCY & COST MEASURES

- 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.

CARBON RELATED INITIATIVES

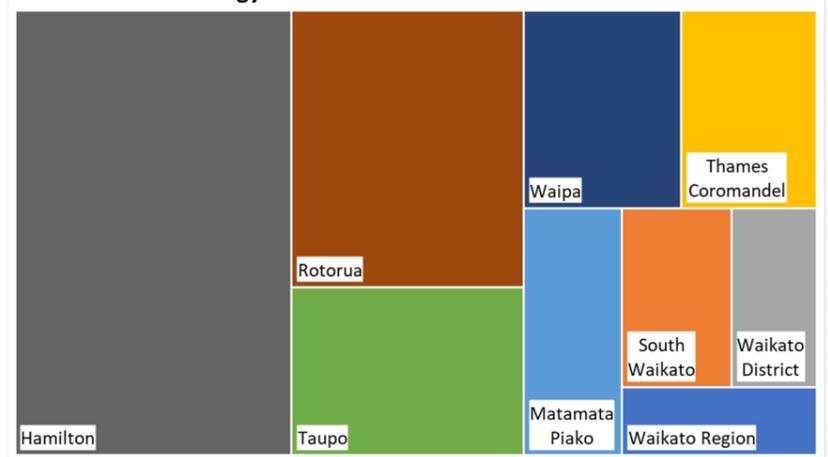
- Corporate carbon inventories have been prepared for Waikato District Council, Hamilton City Council and Hamilton Gardens.
- Waikato Regional Council approved a corporate Climate Action Plan which seeks to reduce GHG emissions by 70% by 2030.
- Hamilton City Council approved Hamilton's Climate Action 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 Wlass 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 Council are regularly considering alternative low carbon solutions to displace natural gas fired boilers in Council facilities as part of the renewal process. A recent example was the replacement of an LPG fired boiler with an electric hot water heat pump.

KEY STATISTICS FY20

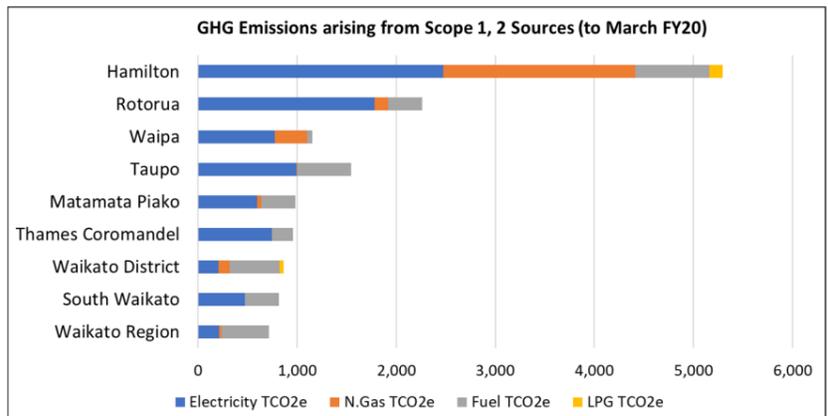


Energy use is down by 3.4%, costs are up by 2.5%, greenhouse gas emissions are down by 3.3%

Relative Energy Use of WCLASS Councils: 113Million kWh YTD



This Tree Map shows the proportion of energy use by each Council.



Not all fuel data is available for all Councils and some has been estimated for this report. GHG emissions from fleet activities are a significant component of the total. Collection of fuel data from all Councils will give us a better view of our collective performance.