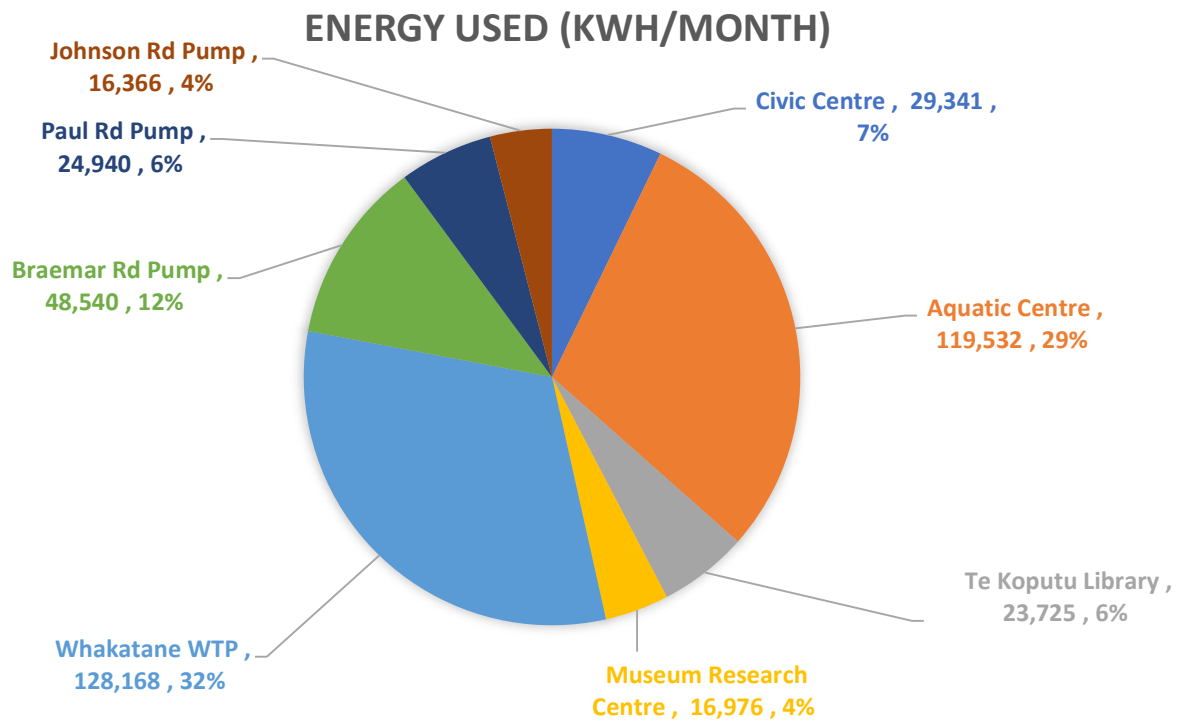


Whakatāne District Council Energy Performance Report

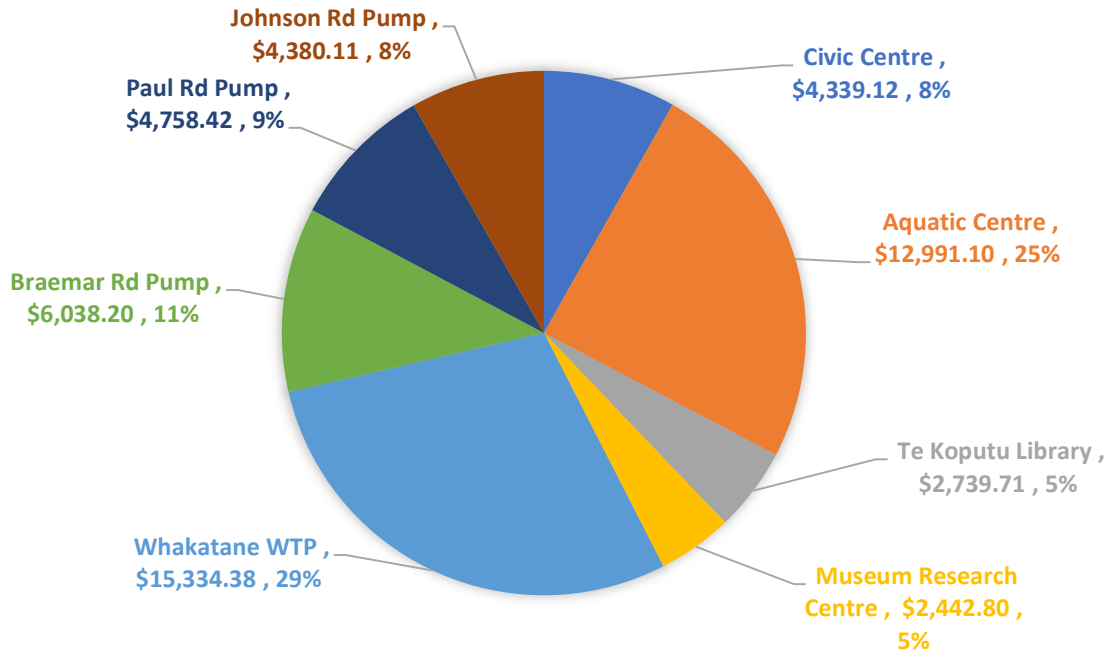
Summary

For Eight of Whakatāne District Council’s largest energy using sites:

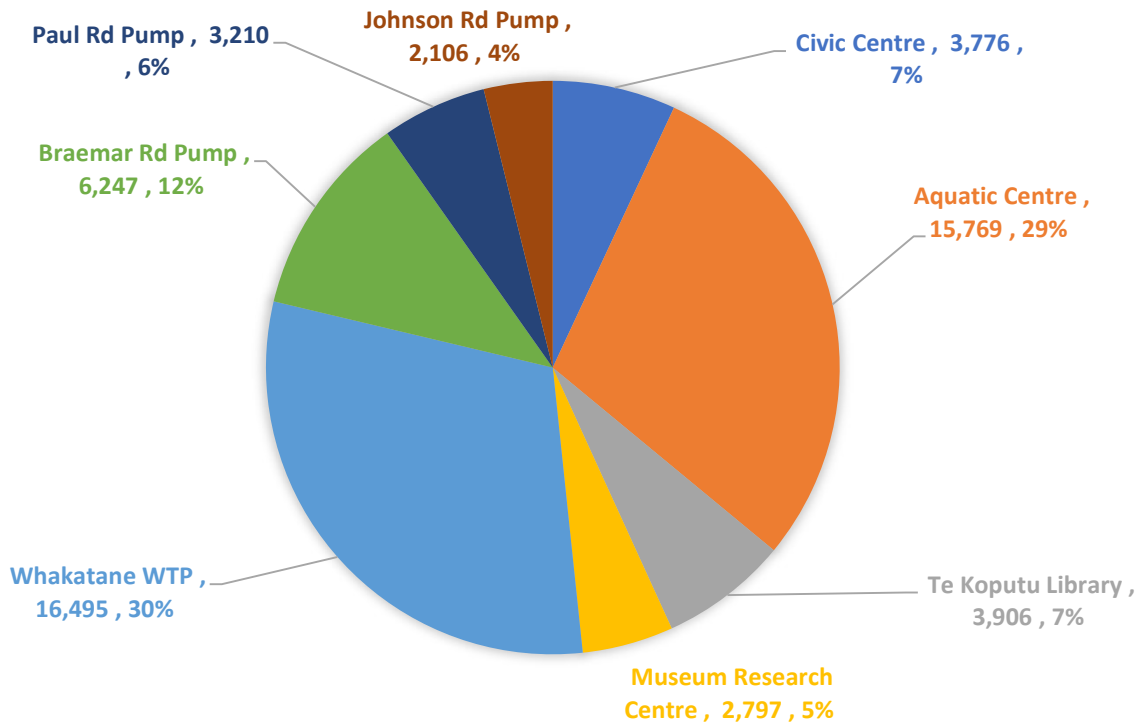
- Total energy cost savings for the month were -\$433
- Total energy cost for the month was \$56,003
- Total energy used for the month was 421,119 kWh
- Total carbon emissions for the month were 56,048 kgCO₂e
- Rolling 12-month energy savings total 570,863 kWh
- Rolling 12-month energy cost savings total \$37,470
- Rolling 12-month carbon savings total 104,863 kgCO₂e



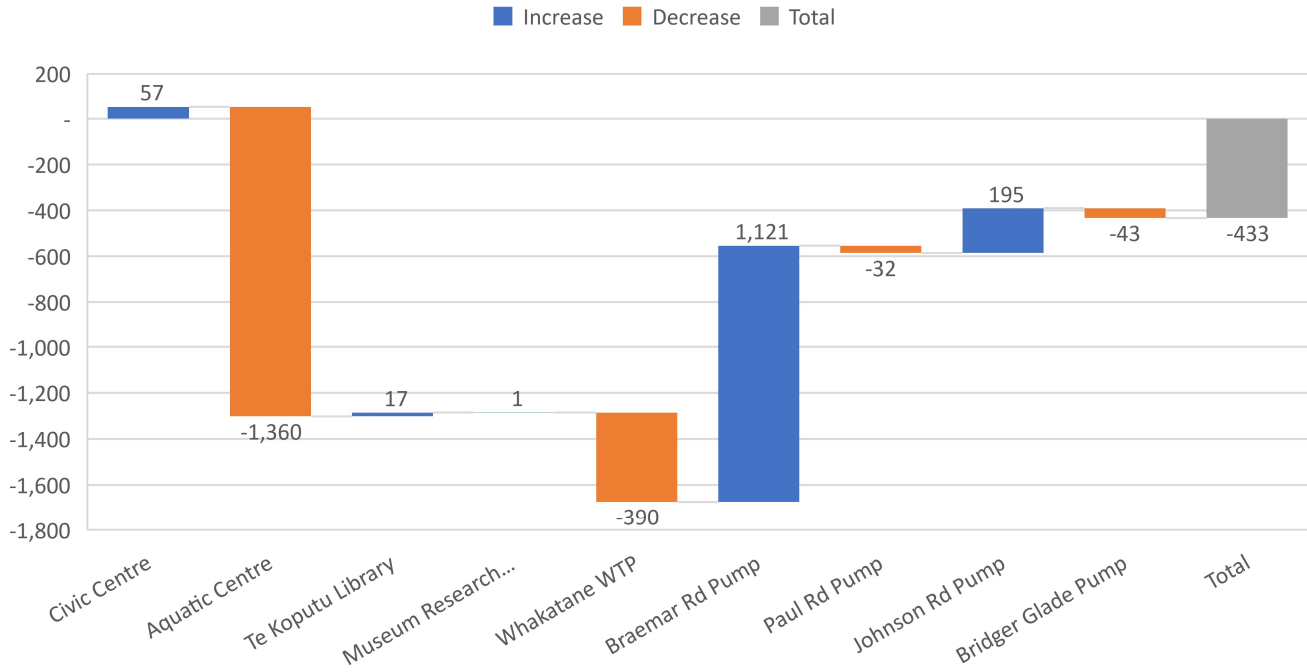
ENERGY COST (\$/MONTH)



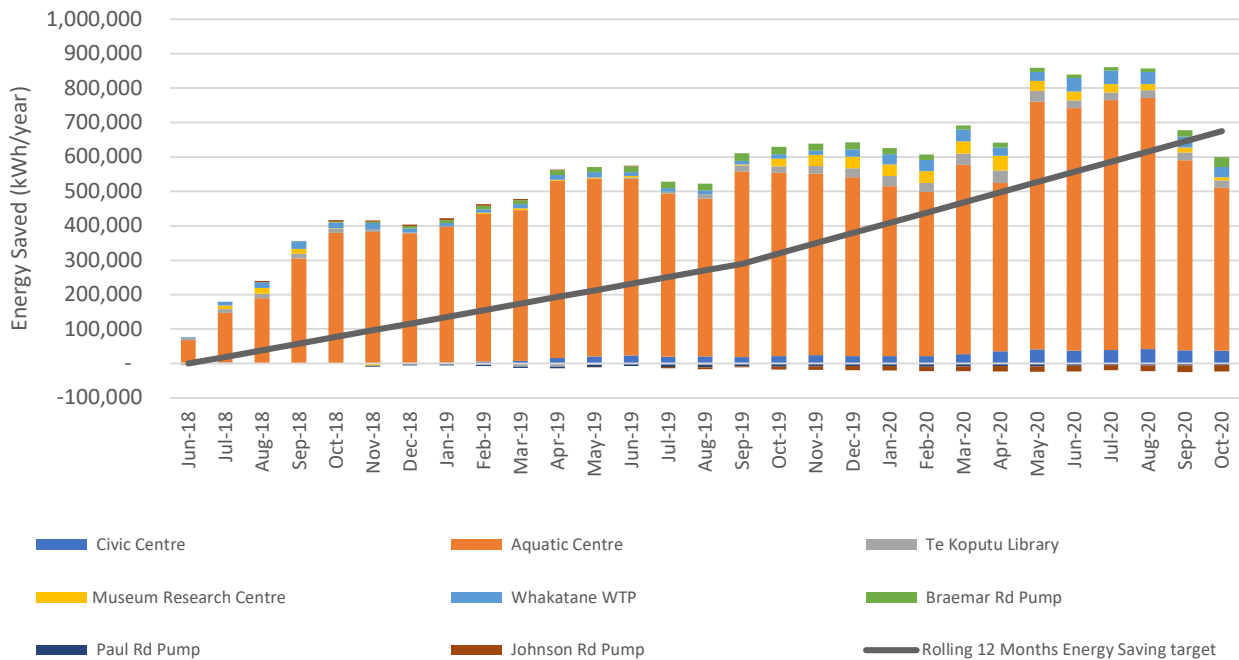
CARBON EMISSIONS (KGCO2E/MONTH)



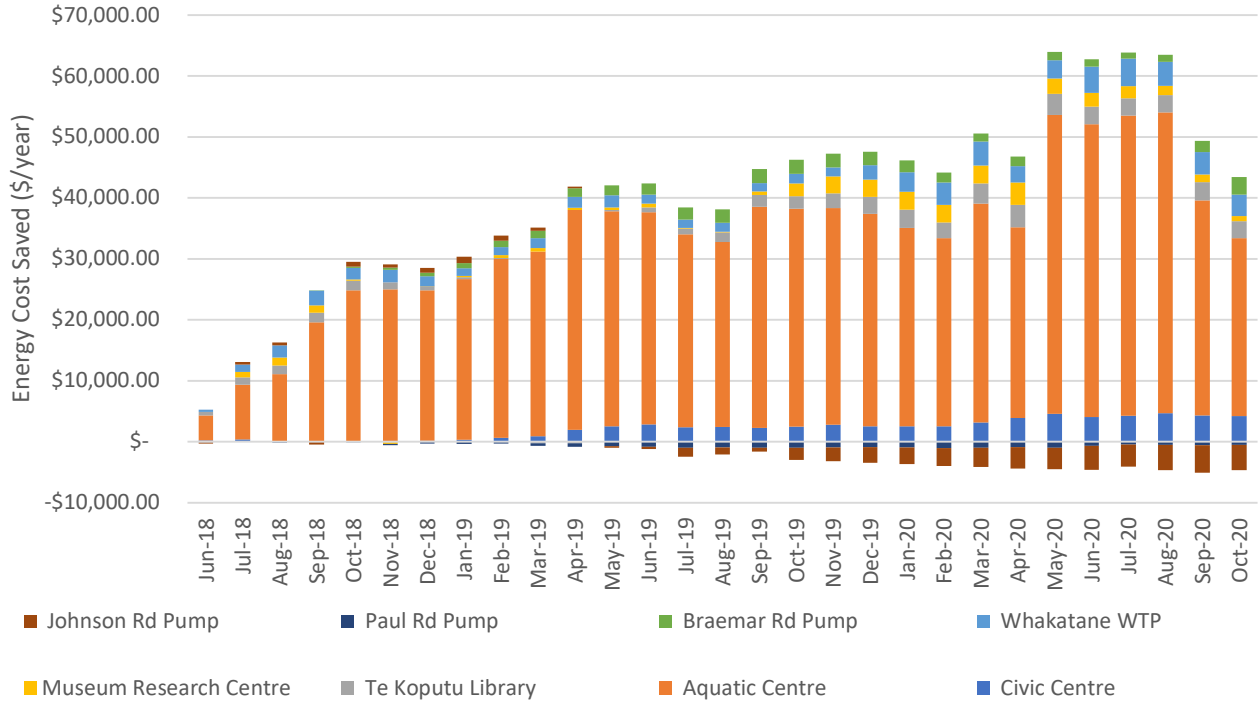
Monthly Energy Cost Savings



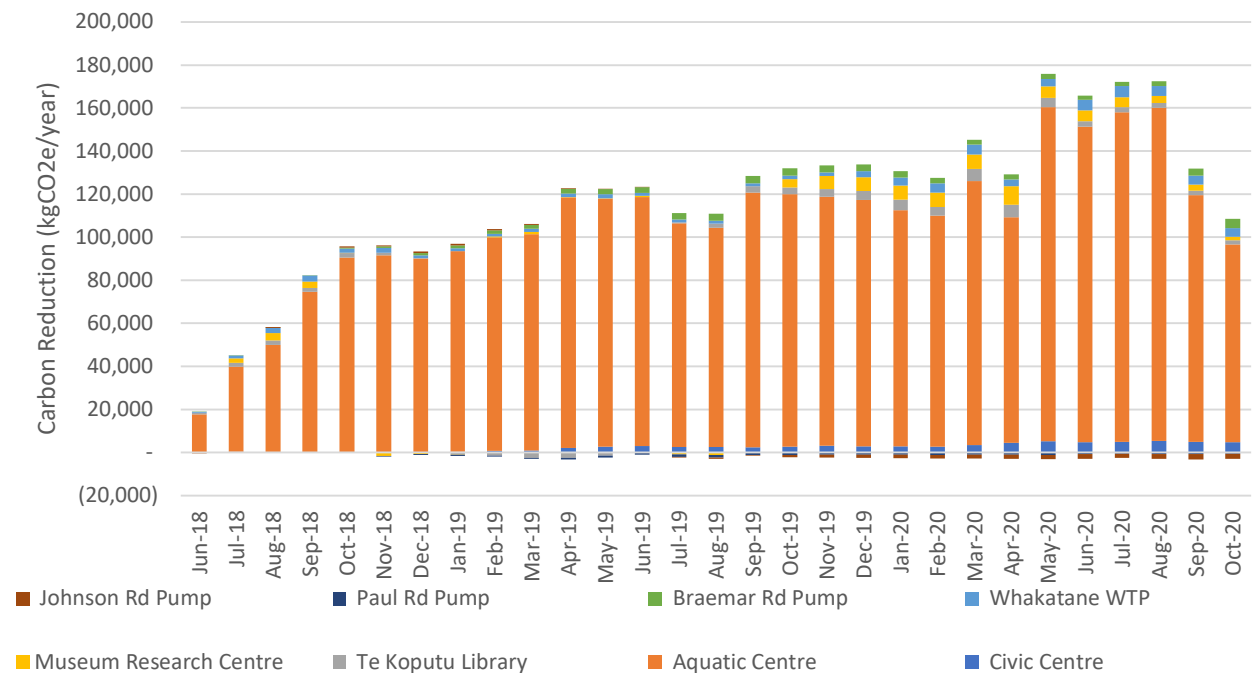
Rolling 12 month Energy Savings



Rolling 12 month Energy Cost Savings



Rolling 12 month Carbon Savings





Civic Centre

Summary

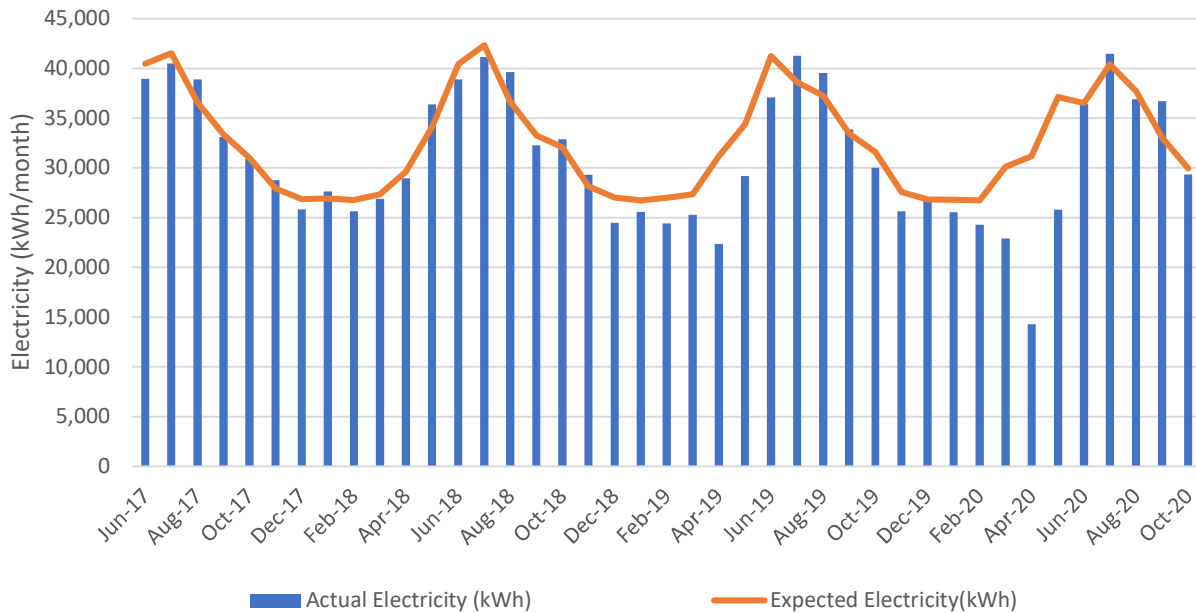
- Electricity savings for the month were 593kWh, a saving of 2%.
- Energy cost savings for the month were \$57.
- Carbon savings for the month were 76 kgCO₂e, a saving of 2%.
- Rolling 12-month electricity savings are 37,848 kWh, a saving of 9.9%.
- Rolling 12-month energy cost savings are \$4,194.
- Rolling 12-month carbon savings are 4,871 kgCO₂e, a saving of 9.9%.

Comments

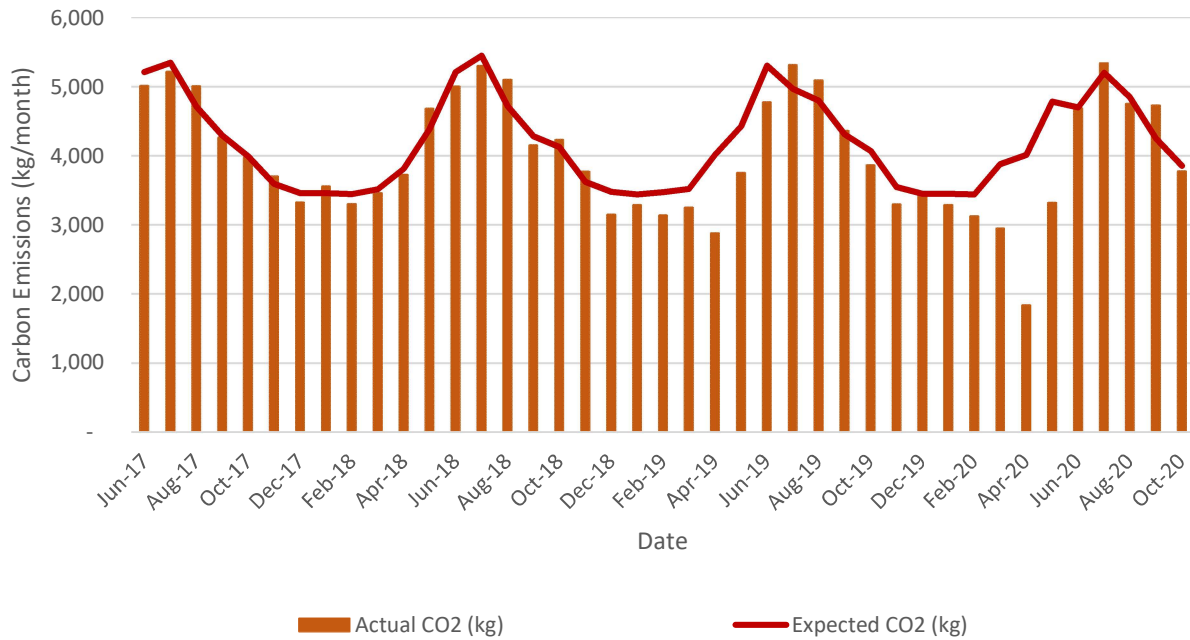
Monitoring electricity use at the Civic Centre identified extra electricity use in September. Time of use data identified a change in electricity use patterns in late August, which coincided with a failure of the system that controls central heating at the Civic Centre. Recovery of the system inadvertently changed the control scheme of heating, resulting in unnecessary heating and electricity use. Extra heating was identified and was able to be manually turned off.

Energy use in October significantly improved compared to September and was 2% less than baseline. Compared to October 2019, electricity use was also 2% less, however, it was a warmer month, which normally requires less electricity because less heating should have been required.

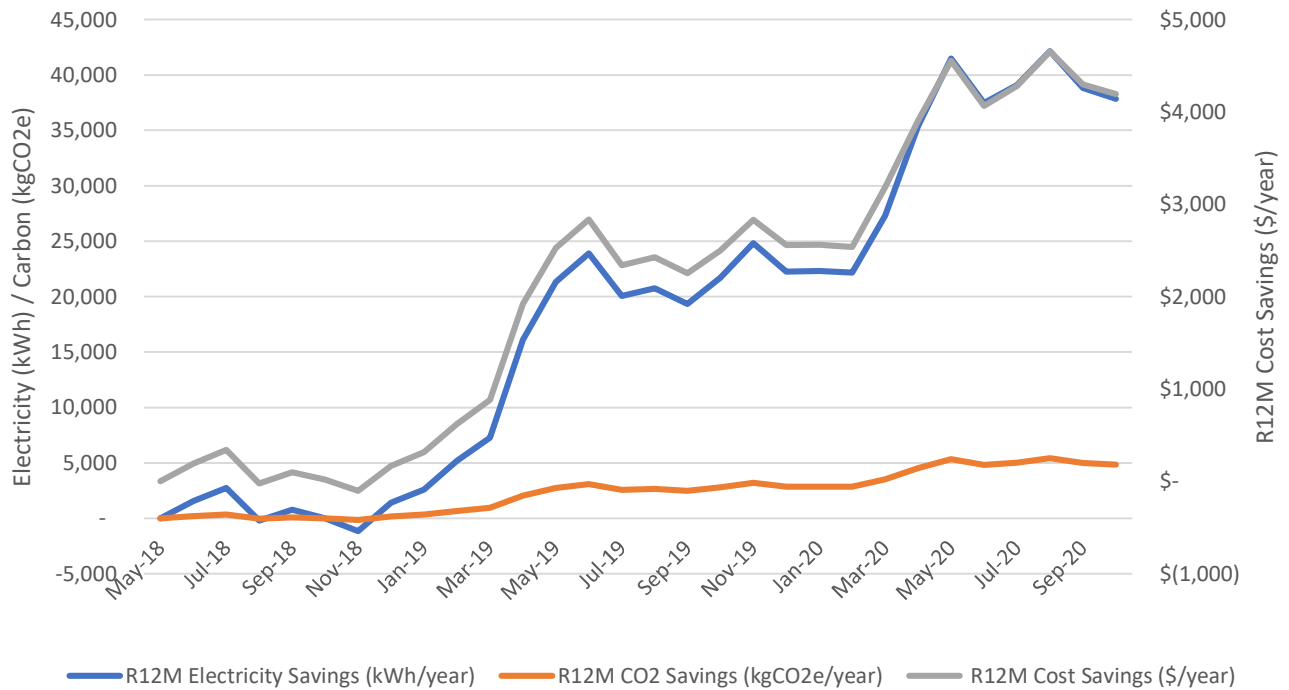
Civic Centre Actual versus Expected Electricity



Civic Centre Actual versus Expected CO2



Civic Centre Cumulative Rolling 12 Month Savings



Aquatic Centre

Summary

- Electricity savings for the month were -30,162kWh, an extra 35.5%.
- Natural gas savings for the month were 19,560 kWh, a saving of 81.7%
- Energy cost savings for the month were -\$1,360, which is an increase.
- Carbon savings for the month were -7,594 kgCO₂e, an extra 92.9%.
- Rolling 12-month electricity savings are -107,809 kWh, an extra 9%.
- Rolling 12-month natural gas savings are 580,198 kWh, a saving of 63.3%
- Rolling 12-month energy cost savings are \$29,147.
- Rolling 12-month carbon savings are 91,797 kgCO₂e, a saving of 27.6%.

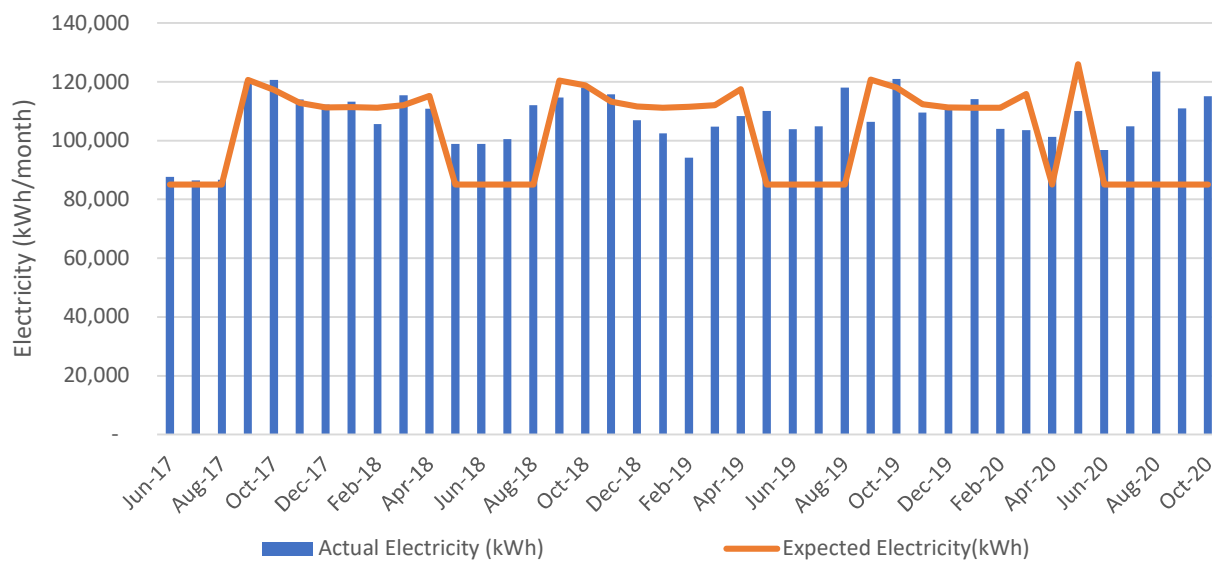
Comments

For the month of October the outdoor pool was not in use and a baseline was used which excludes outdoor pool use.

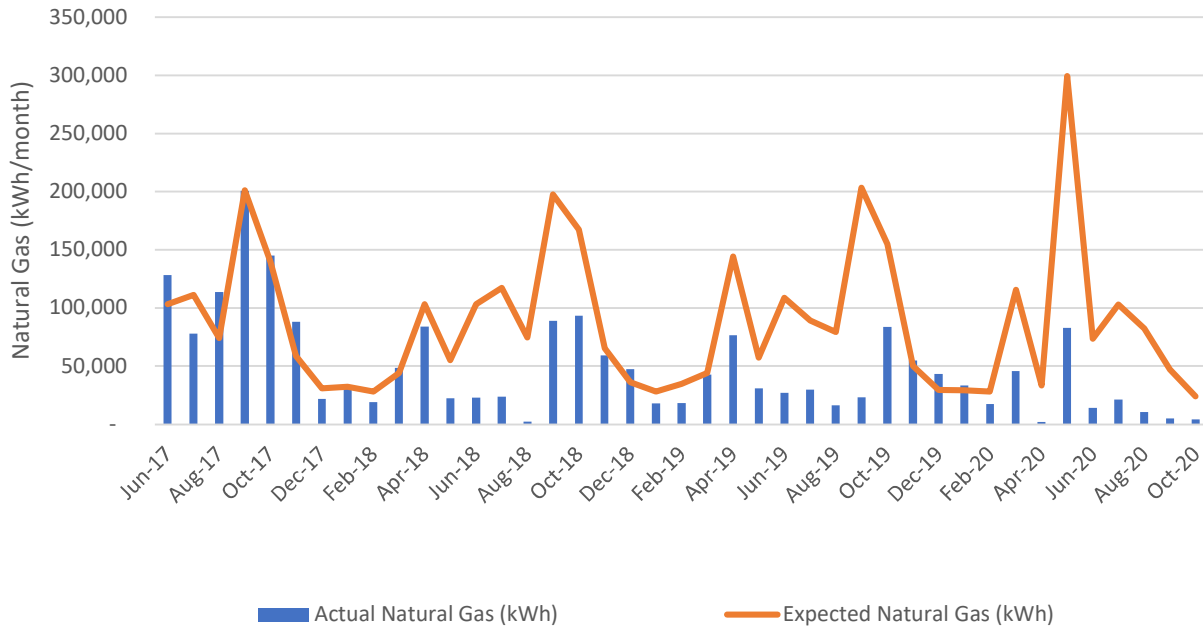
Historically, the outdoor pool has been open during October, however, it is closed due to upgrades, with expected completion late in summer. Electricity use was similar to months when the outdoor pool is in use, and increased compared to Sep 2020. Heating requirements should be lower with warmer ambient conditions. There may also be some contractor electricity during the upgrades.

Natural gas use was well below baseline this month, which can be attributed to the outdoor pool being closed. Gas use represents the boilers idling, without necessarily doing any heating.

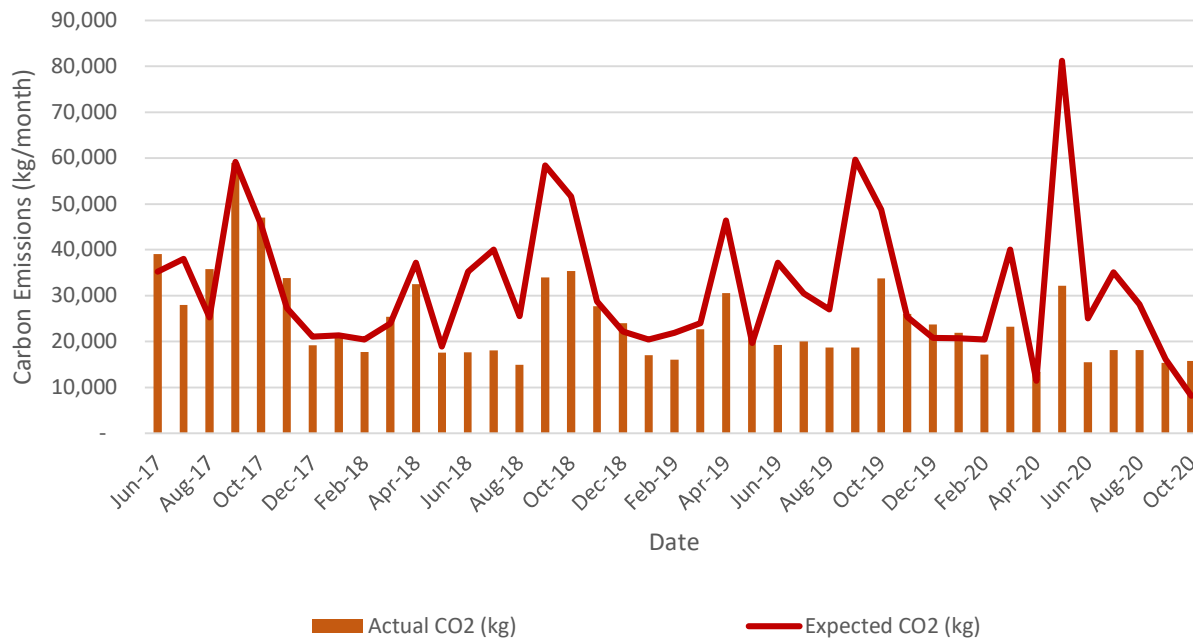
Aquatic Centre Actual versus Expected Electricity



Aquatic Centre Actual versus Expected Natural Gas

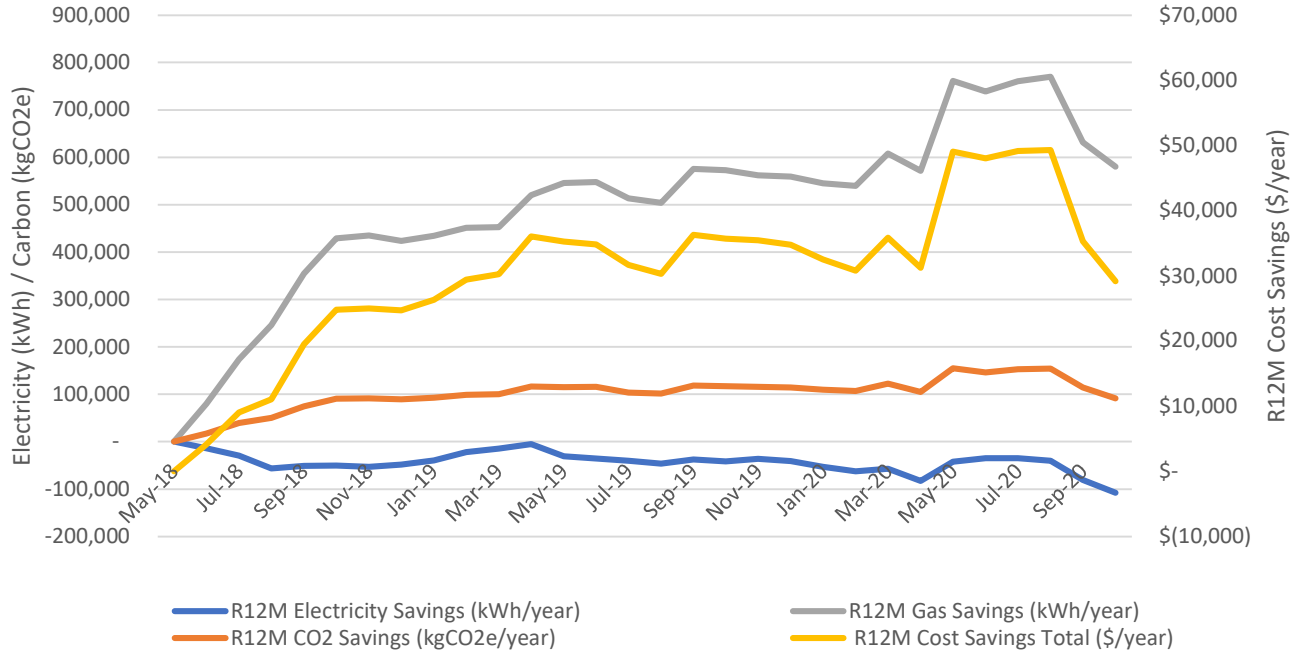


Aquatic Centre Actual versus Expected CO2





Aquatic Centre Cumulative Rolling 12 Month Savings



Te Koputu Library

Summary

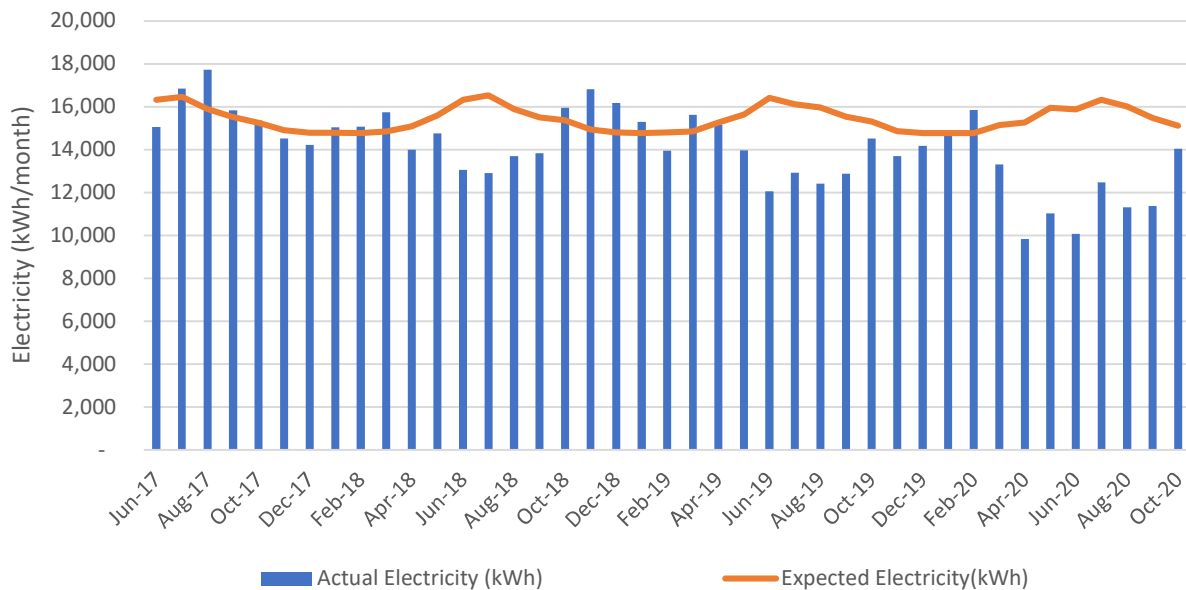
- Electricity savings for the month were 1,083kWh, a saving of 7.2%.
- Natural gas savings for the month were -1,145 kWh, an extra 13.4%
- Energy cost savings for the month were \$17.
- Carbon savings for the month were -105 kgCO₂e, an extra 2.7%.
- Rolling 12-month electricity savings are 32,519 kWh, a saving of 17.6%
- Rolling 12-month natural gas savings are -11,087 kWh, an extra 9.4%
- Rolling 12-month energy cost savings are \$2,832.
- Rolling 12-month carbon savings are 1,835 kgCO₂e, a saving of 3.7%.

Comments

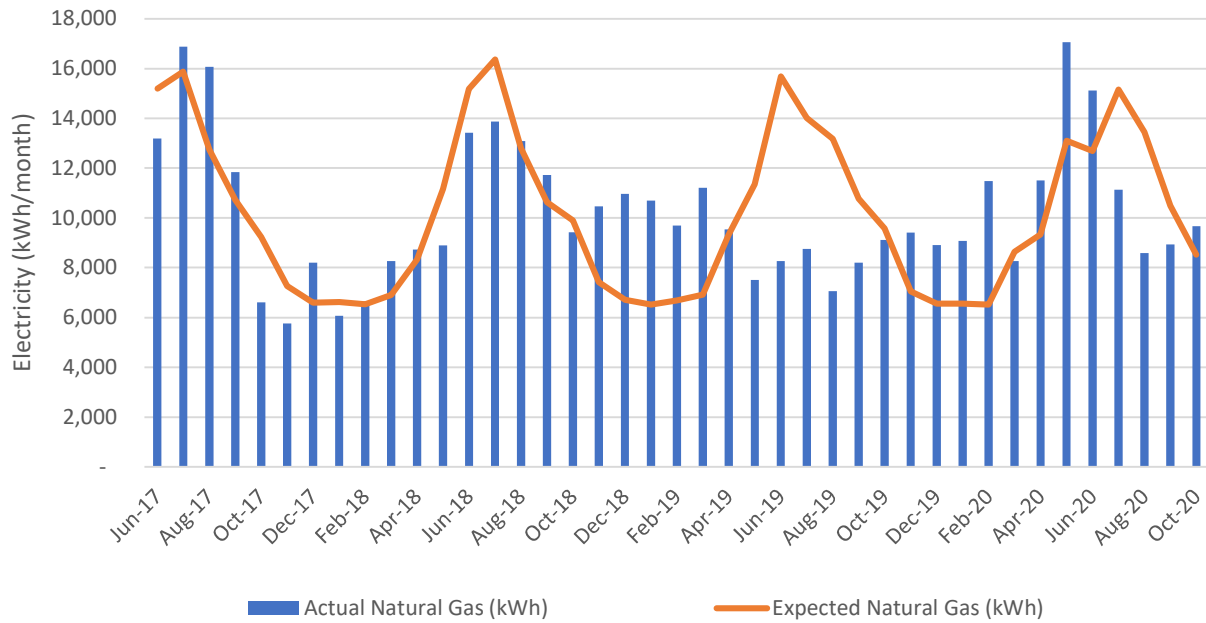
Electricity use was less than the baseline in October, however it increased compared to September. This may be the result of increased cooling and dehumidification load as ambient temperature increases. Oct 2020 electricity use was slightly lower than Oct 2019.

Natural gas use was higher than expected in Oct and increased compared to Sep. It is interesting that both electricity and gas increased in Oct, since electricity is used for cooling and gas is used for heating. This is also indicative of a temperature hunting issue in AUH1, whereby heating and cooling coils are alternately opening about the temperature setpoint and never settling on the desired temperature.

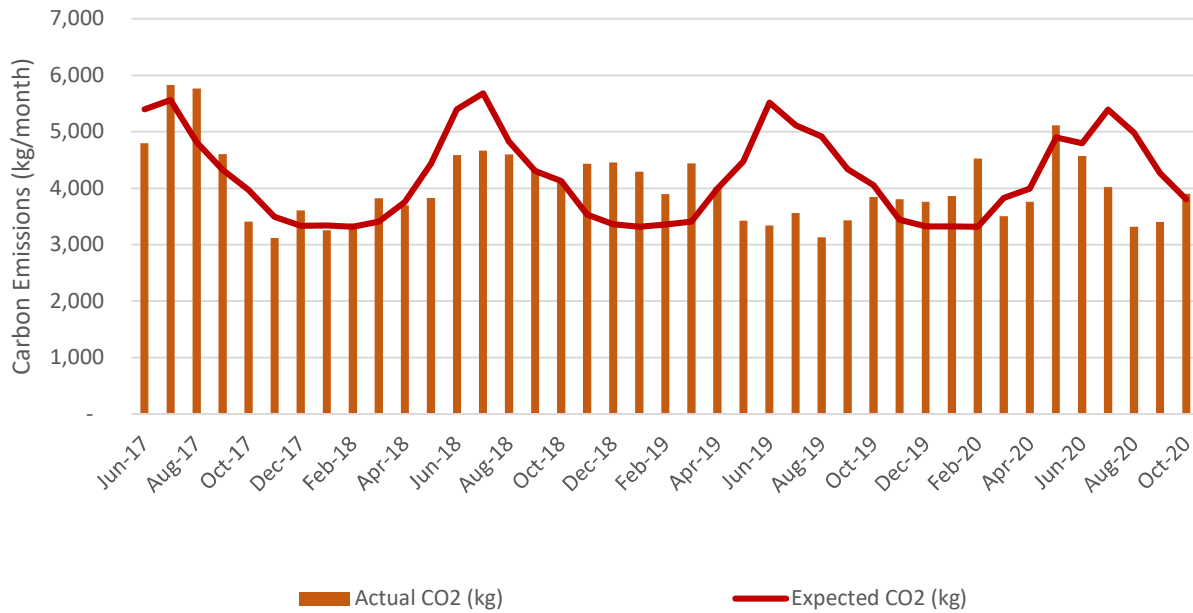
Te Koputu Library Actual versus Expected Electricity



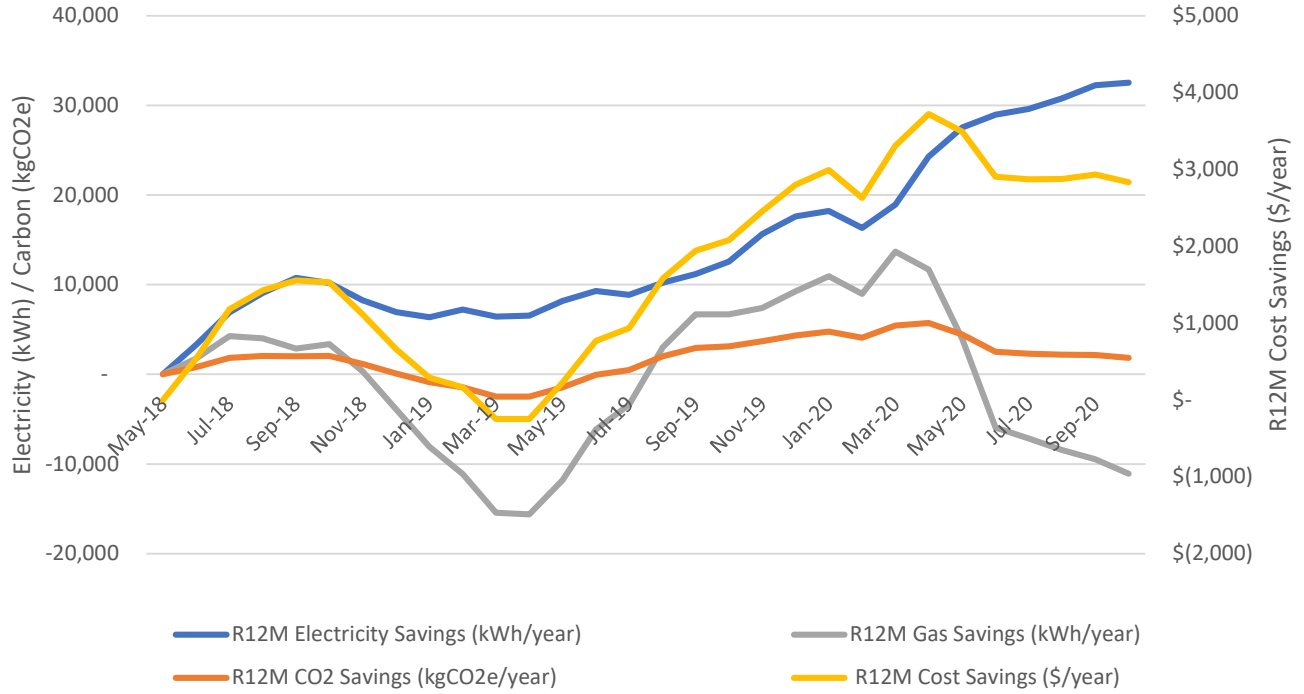
Te Koputu Library Actual versus Expected Natural Gas



Te Koputu Library Actual versus Expected CO2



Te Koputu Library Cumulative Rolling 12 Month Savings



Museum Research Centre

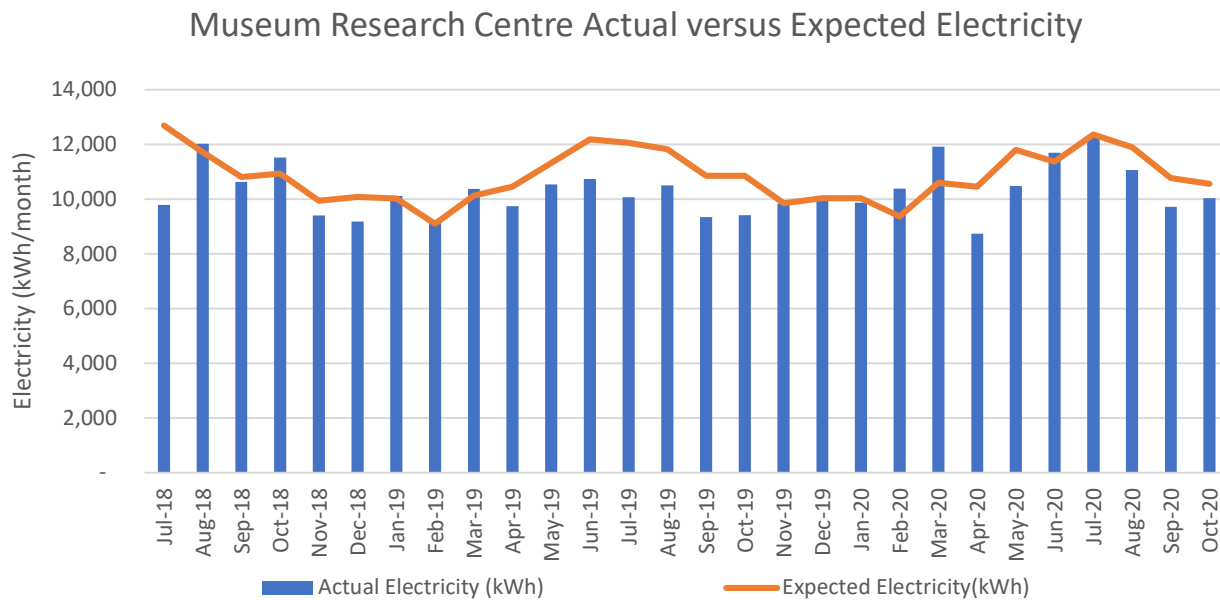
Summary

- Electricity savings for the month were 539kWh, a saving of 5.1%.
- Natural gas savings for the month were -676 kWh, an extra 10.8%
- Energy cost savings for the month were \$1.
- Carbon savings for the month were -77 kgCO₂e, an extra 2.8%.
- Rolling 12-month electricity savings are 2,998 kWh, a saving of 2.3%
- Rolling 12-month natural gas savings are 5,760 kWh, a saving of 7.5%
- Rolling 12-month energy cost savings are \$811.
- Rolling 12-month carbon savings are 1,635 kgCO₂e, a saving of 4.9%.

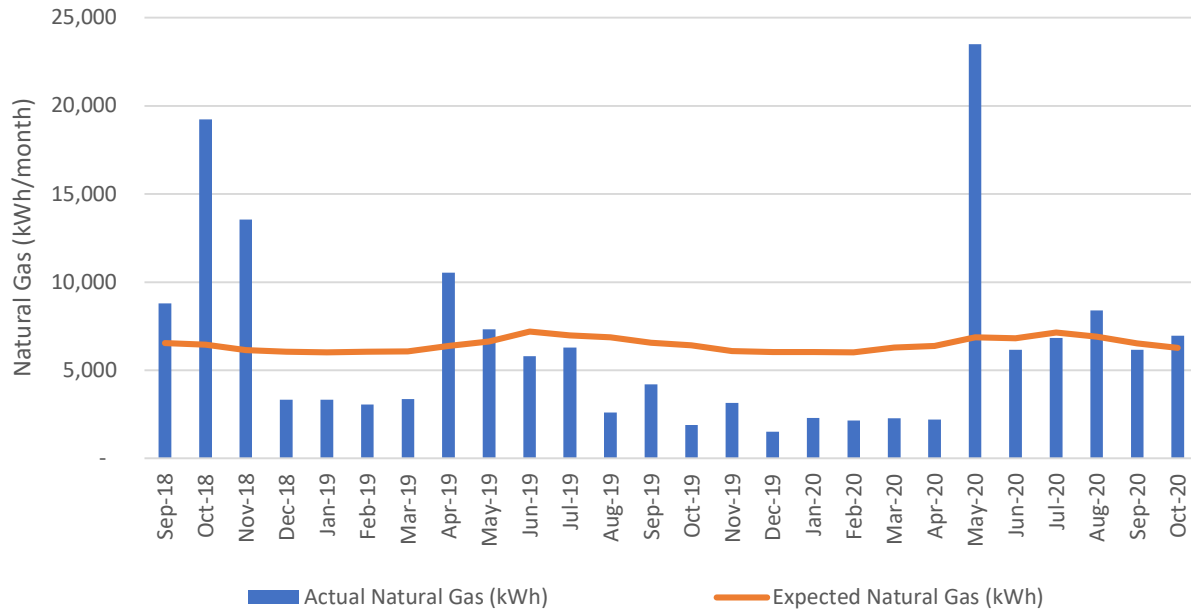
Comments

Electricity use at the Museum and Research Centre is below baseline for October 2020. Compared to 2019, electricity use has increased by 6%; however, October 2019 was a warmer month on average, which typically requires less energy for heating.

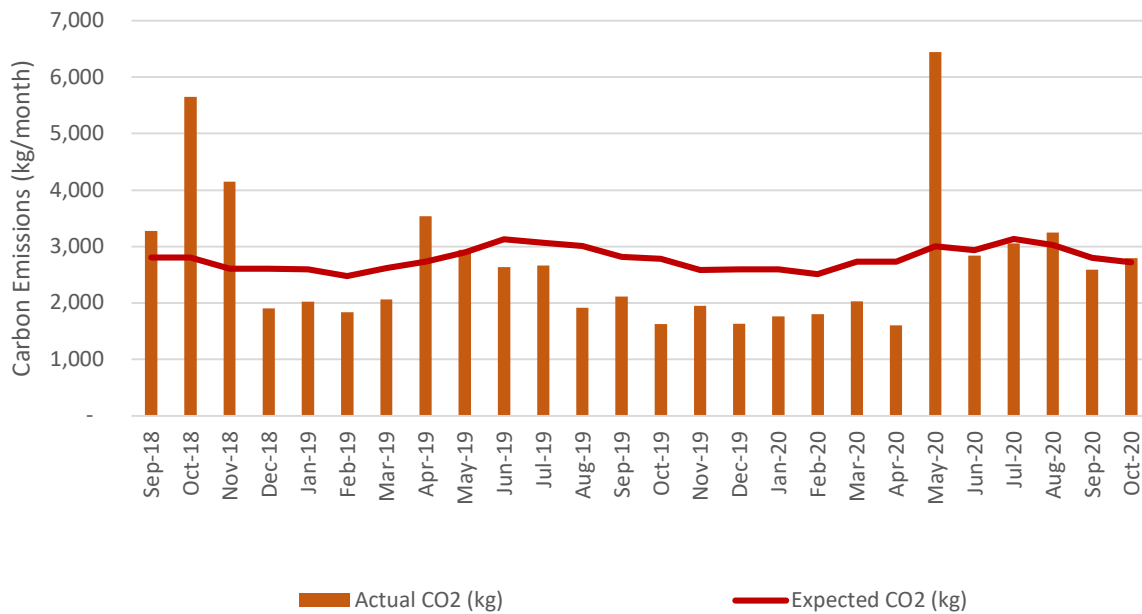
The Museum and Research Centre also used 2.7 times more natural gas in October 2020, compared to October 2019. These seems to be the result of the meter not being read for several months from Aug 2019 to Apr 2020.

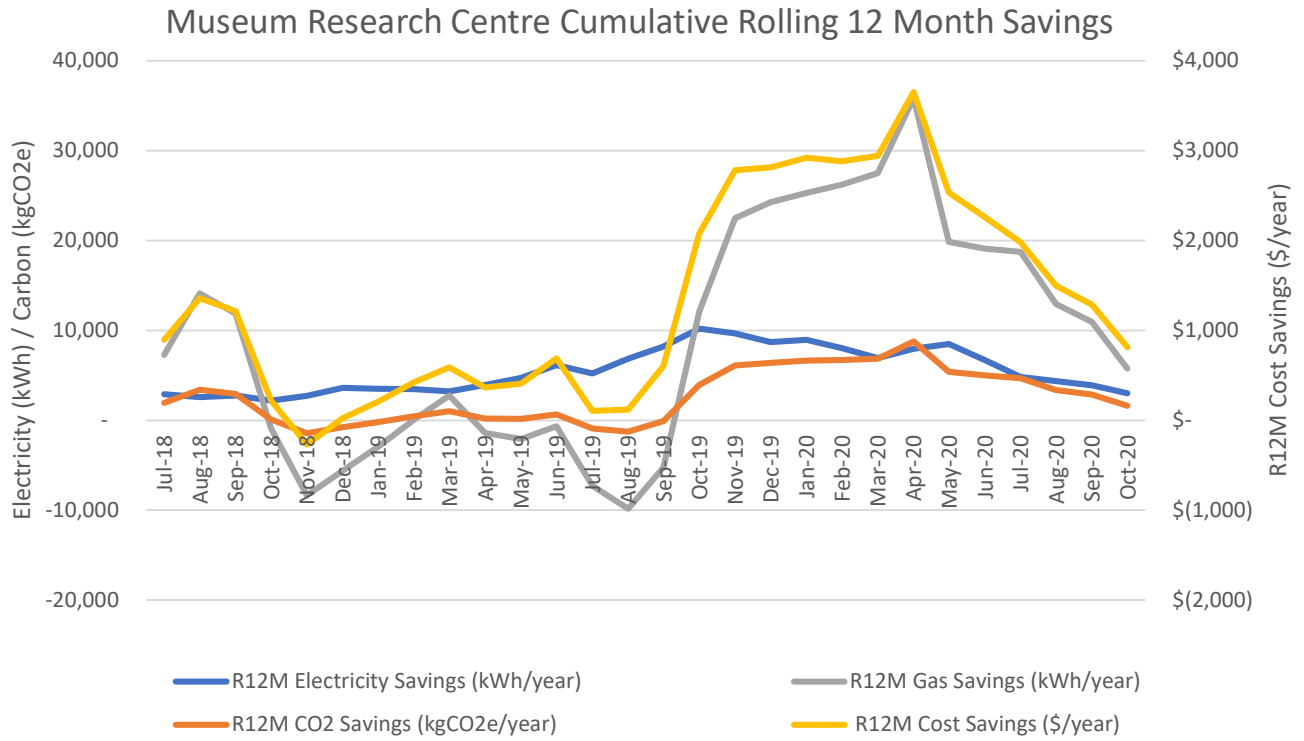


Museum Research Centre Actual versus Expected Natural Gas



Museum Research Centre Actual versus Expected CO2







Whakatāne Water Treatment Plant

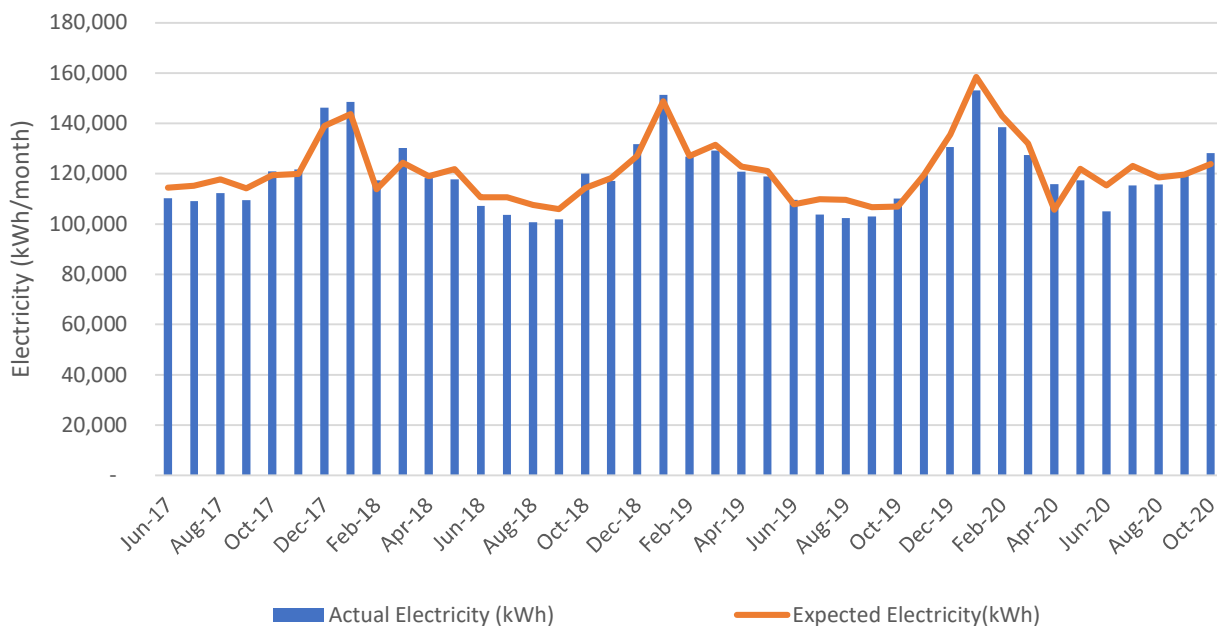
Summary

- Electricity savings for the month were -4,278kWh, an extra 3.5%.
- Energy cost savings for the month were -\$390, which is an increase.
- Carbon savings for the month were -551 kgCO₂e, an extra 3.5%.
- Rolling 12-month electricity savings are 31,010 kWh, a saving of 2%.
- Rolling 12-month energy cost savings are \$3,550.
- Rolling 12-month carbon savings are 3,991 kgCO₂e, a saving of 2%.

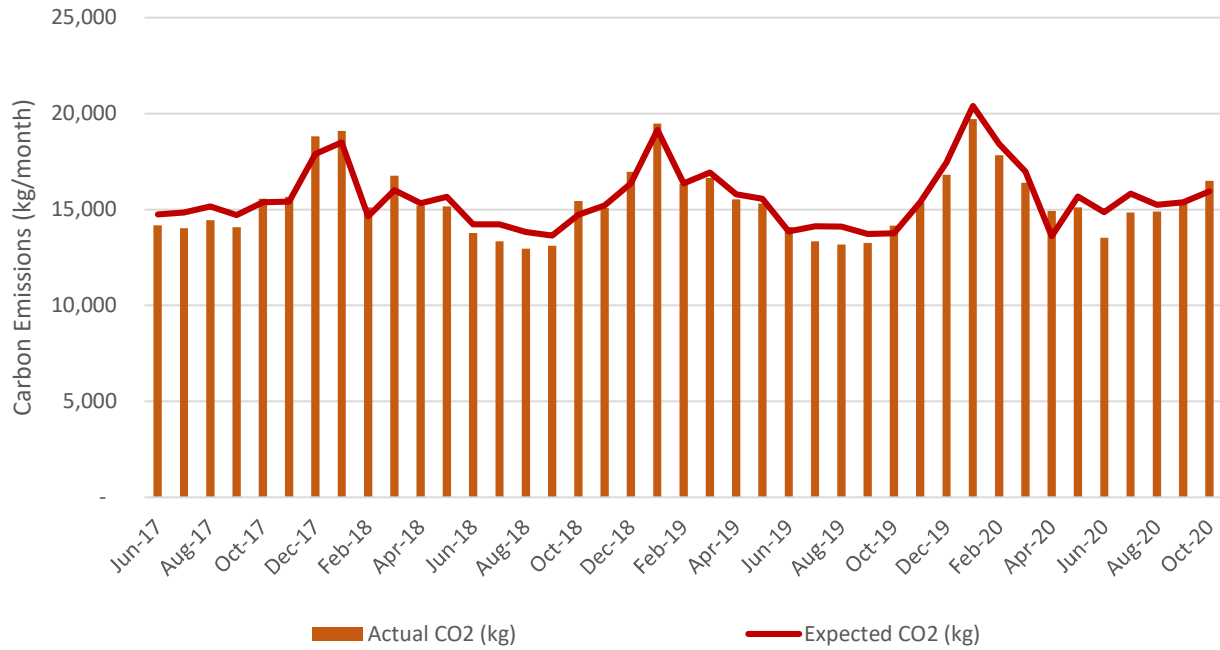
Comments

Demand for water increased slightly in October compared to recent months. Electricity increased by a greater amount and was above the baseline in October 2020. This is consistent with historic trends in which electricity use has been above expected frequently in October. In the past, this has been the start of an increased pattern of energy use during the high demand summer period. Last summer was an exception to this, with electricity remaining less than the baseline throughout the summer months.

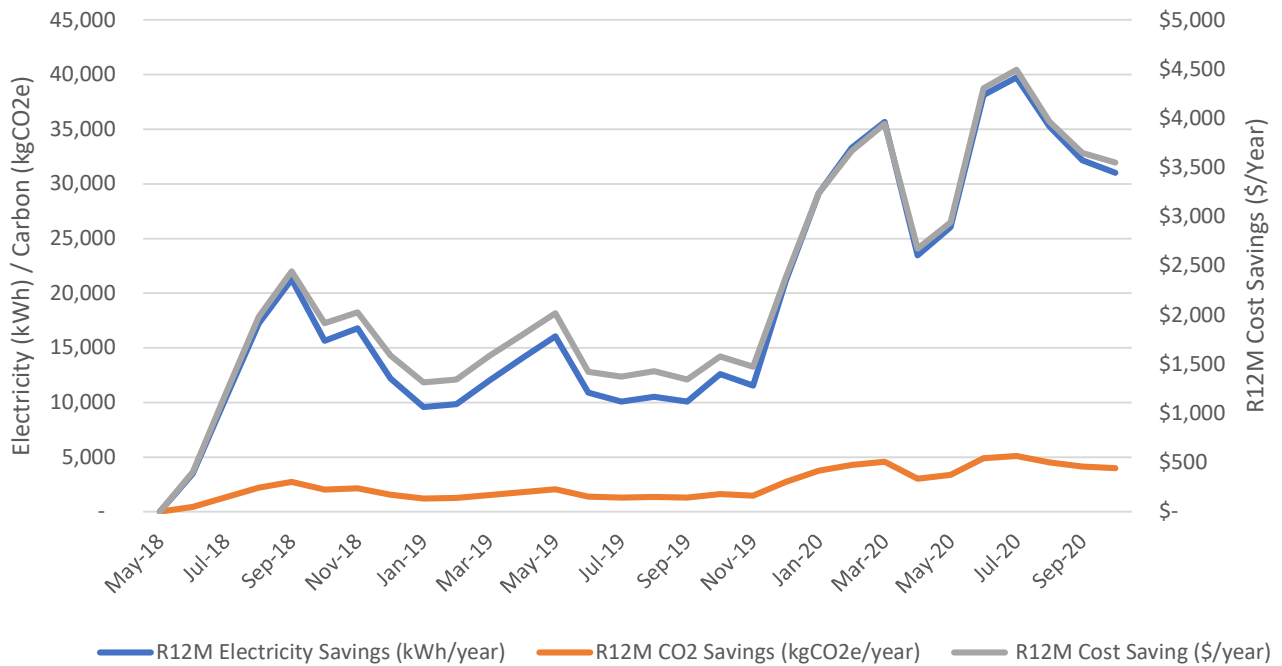
Water Treatment Plant Actual versus Expected Electricity



Water Treatment Plant Actual versus Expected CO2



Whakatane Water Treatment Plant Cumulative Rolling 12 Month Savings





Braemar Rd Pump Station

Summary

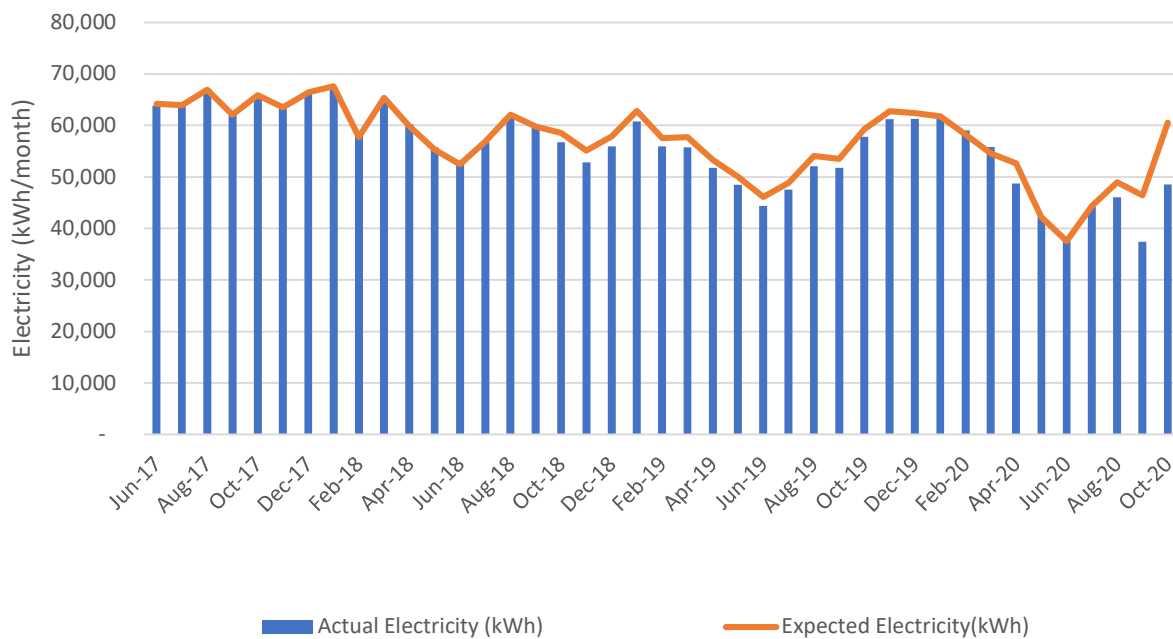
- Electricity savings for the month were 11,982kWh, a saving of 19.8%.
- Energy cost savings for the month were \$1,121.
- Carbon savings for the month were 1,559 kgCO2e, a saving of 19.8%.
- Rolling 12-month electricity savings are 28,606 kWh, a saving of 4.5%.
- Rolling 12-month energy cost savings are \$2,857.
- Rolling 12-month carbon savings are 4,469 kgCO2e, a saving of 4.5%.

Comments

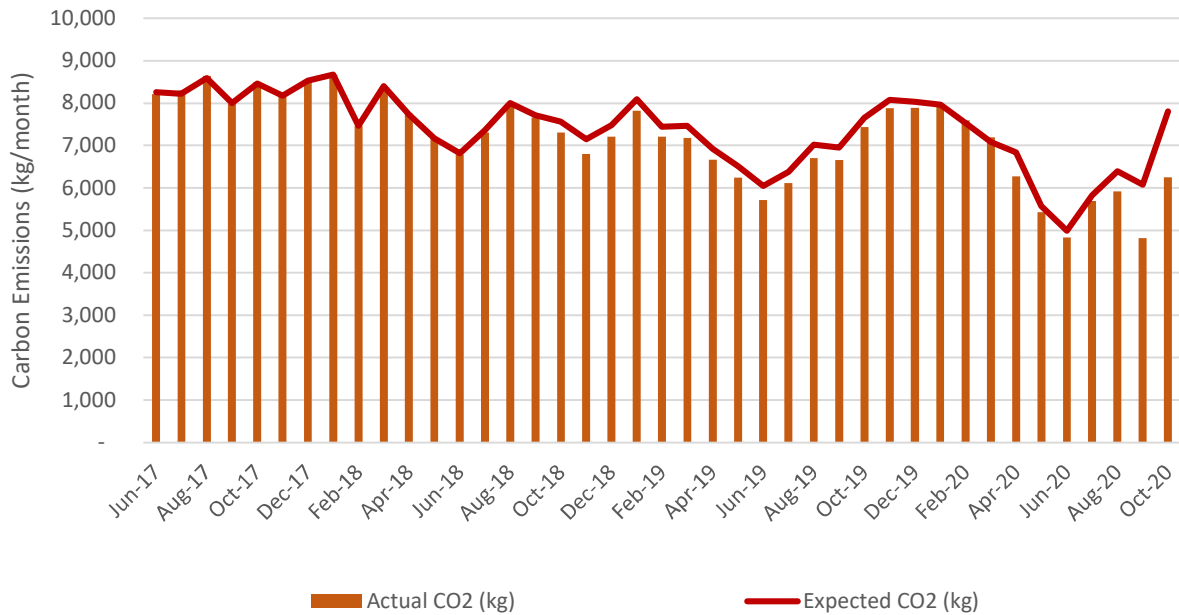
Compared to baseline, Braemar Rd. achieved a 20% savings for October 2020. New, more efficient pumps were installed late in August and these have shown consistent savings since.

In Sep 2020, the saving achieved ad Braemar Rd was partially offset by an increase in electricity at Johnson Rd. In October 2020, savings at Braemar increased from 16% to 20% and Johnson Rd electricity was also below baseline for the month.

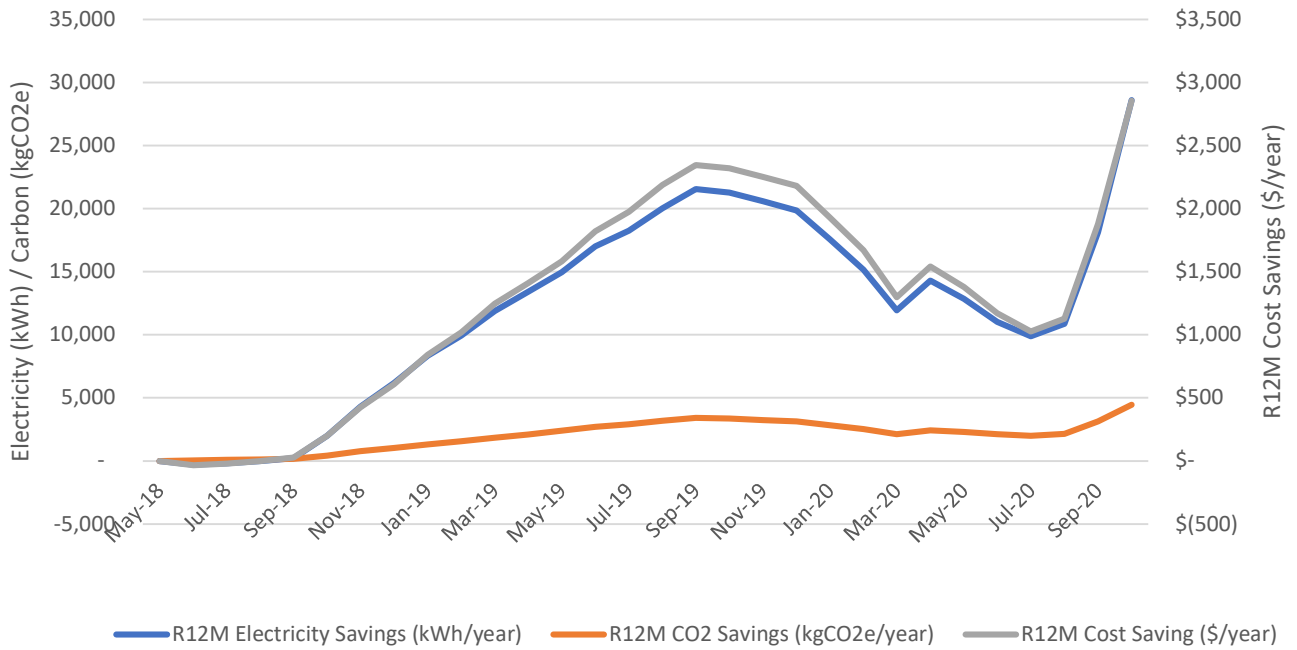
Braemar Rd Actual versus Expected Electricity



Braemar Rd Actual versus Expected CO2



Braemar Rd Pumps Cumulative Rolling 12 Month Savings





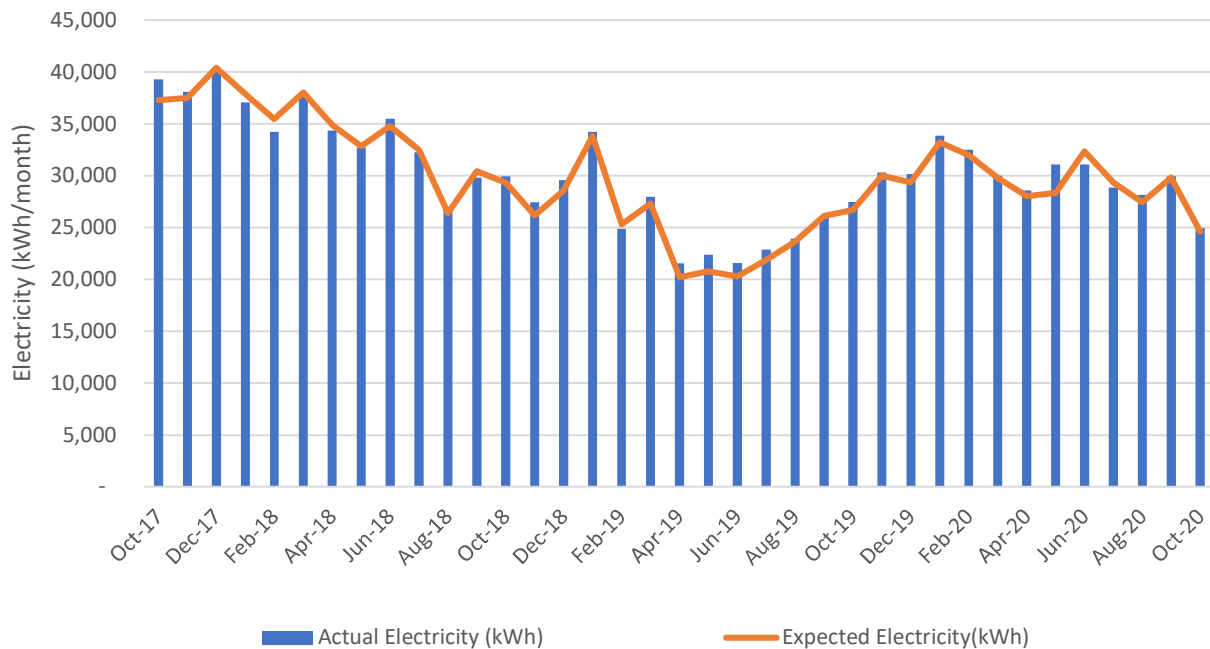
Paul Rd Pump Station

- Electricity savings for the month were -344kWh, an extra 1.4%.
- Energy cost savings for the month were -\$32, which is an increase.
- Carbon savings for the month were -44 kgCO₂e, an extra 1.4%.
- Rolling 12-month electricity savings are -5,199 kWh, an extra 1.5%.
- Rolling 12-month energy cost savings are -\$532, which is an increase.
- Rolling 12-month carbon savings are -662 kgCO₂e, an extra 1.5%.

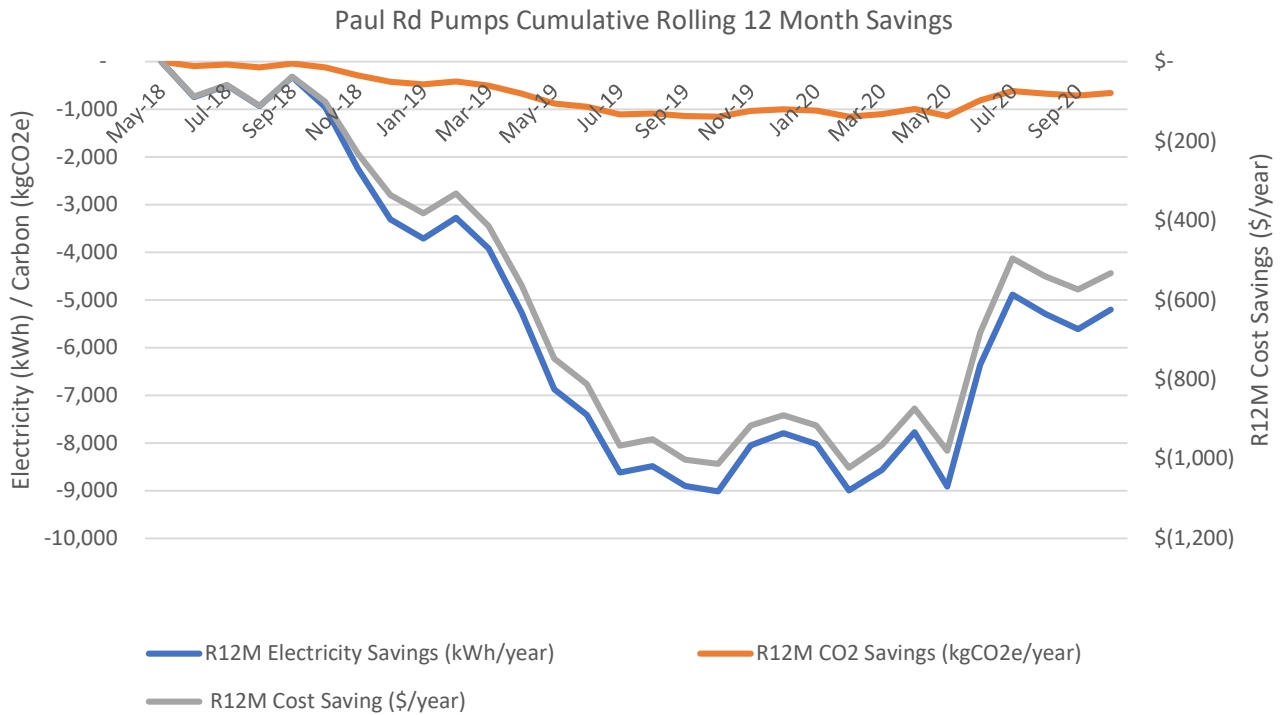
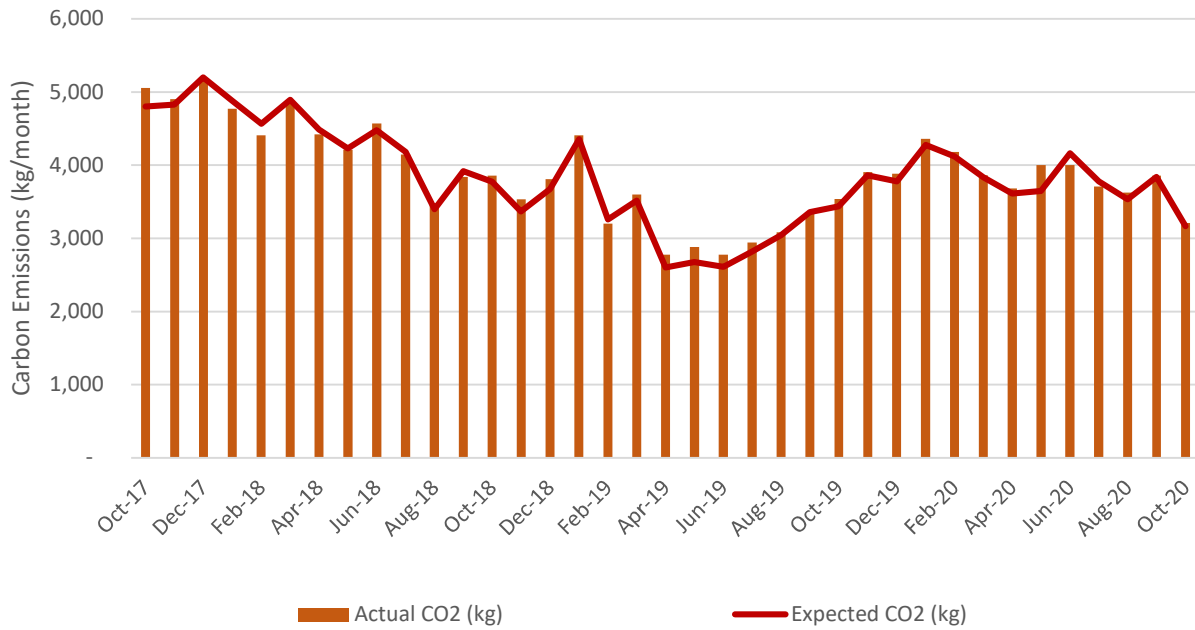
Comments

Paul Rd Pump Station electricity was similar to expected in October 2020, above the baseline by just 1.4%. Demand for water reduced sharply at Paul Rd Pump Station in October 2020 when compared to September 2020, and it was the lowest month in 2020 for both water use and electricity.

Paul Rd Pump Station Actual versus Expected Electricity



Paul Rd Pump Station Actual versus Expected CO2





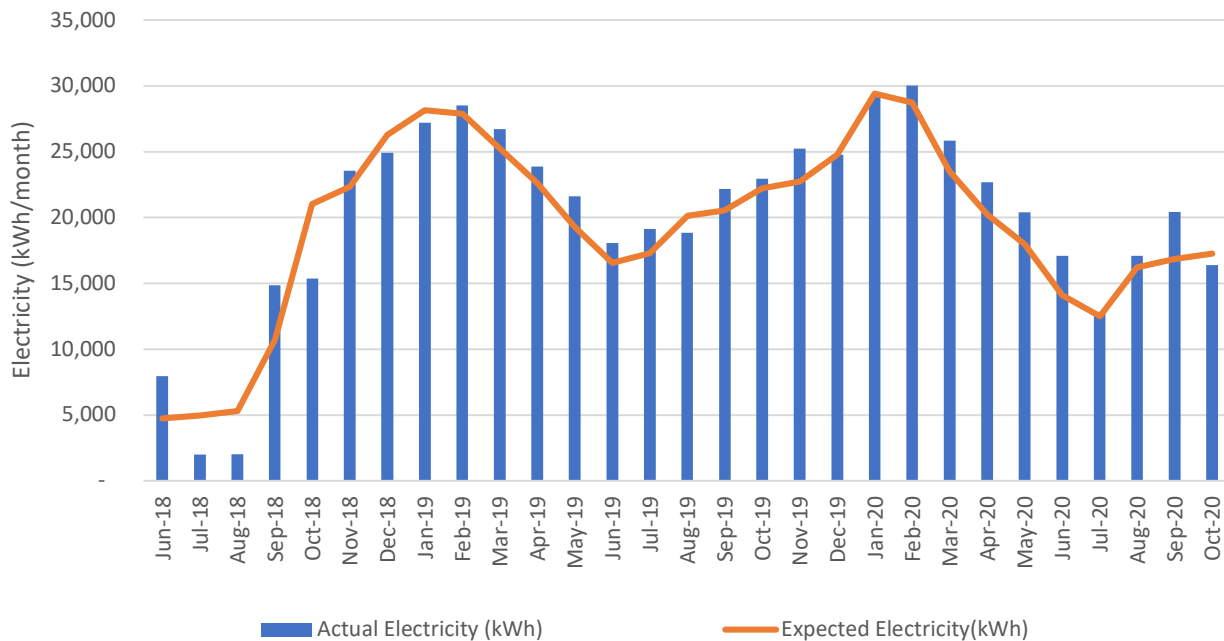
Johnson Rd Pump Station

- Electricity savings for the month were 897kWh, a saving of 5.2%.
- Energy cost savings for the month were \$195.
- Carbon savings for the month were 116 kgCO₂e, a saving of 5.2%.
- Rolling 12-month electricity savings are -17,636 kWh, an extra 7.2%.
- Rolling 12-month energy cost savings are -\$4,164, which is an increase.
- Rolling 12-month carbon savings are -2,257 kgCO₂e, an extra 7.2%.

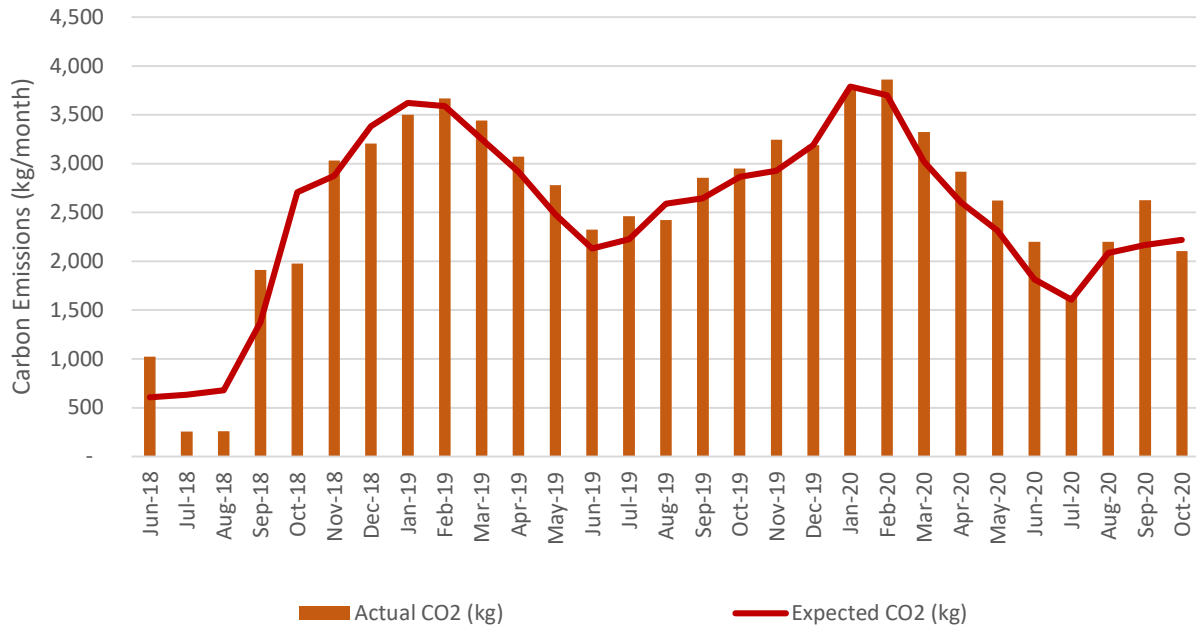
Comments

Electricity use was lower than expected at Johnson Rd in October 2020. This may be partly due to when the electricity meter was read, although energy use is adjusted for the actual number of days in the month. In September 2020, electricity use increased at Johnson Rd when Braemar Rd decreased, however in October 2020 electricity used by both sets of pumps has decreased.

Johnson Rd Pump Station Actual versus Expected Electricity

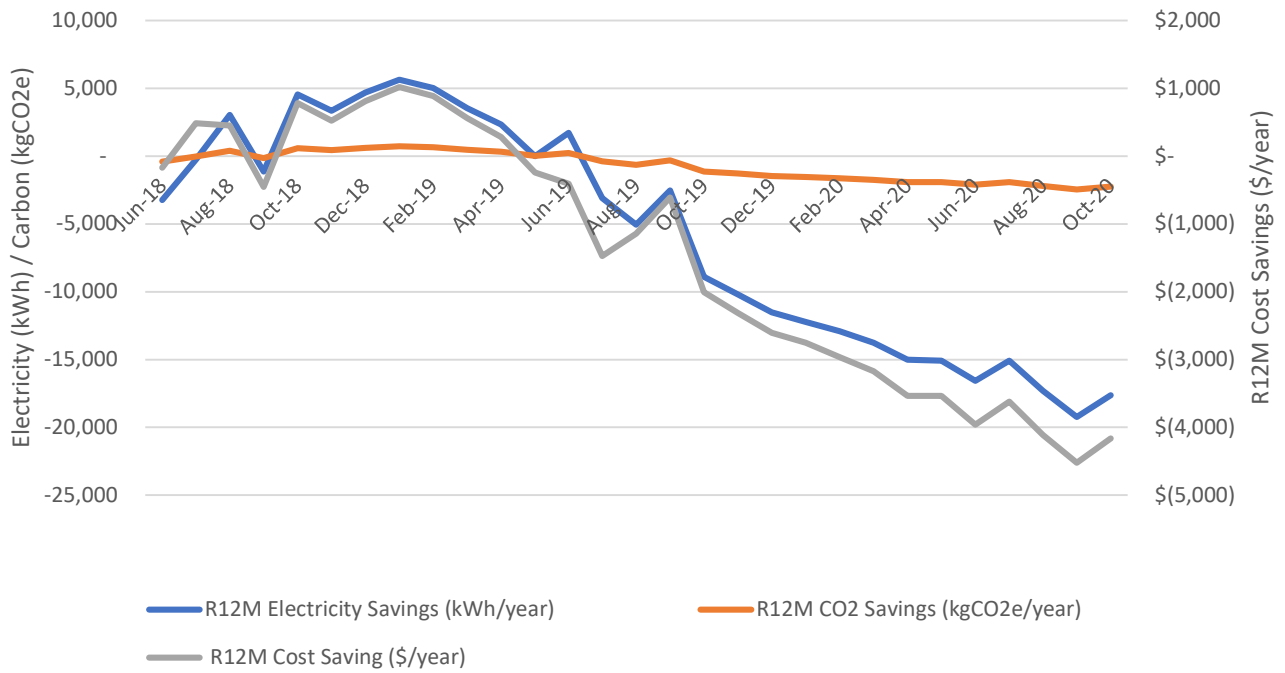


Johnson Rd Pump Station Actual versus Expected CO2



Actual CO2 (kg) Expected CO2 (kg)

Johnson Rd Pumps Cumulative Rolling 12 Month Savings



R12M Electricity Savings (kWh/year) R12M CO2 Savings (kgCO2e/year) R12M Cost Saving (\$/year)



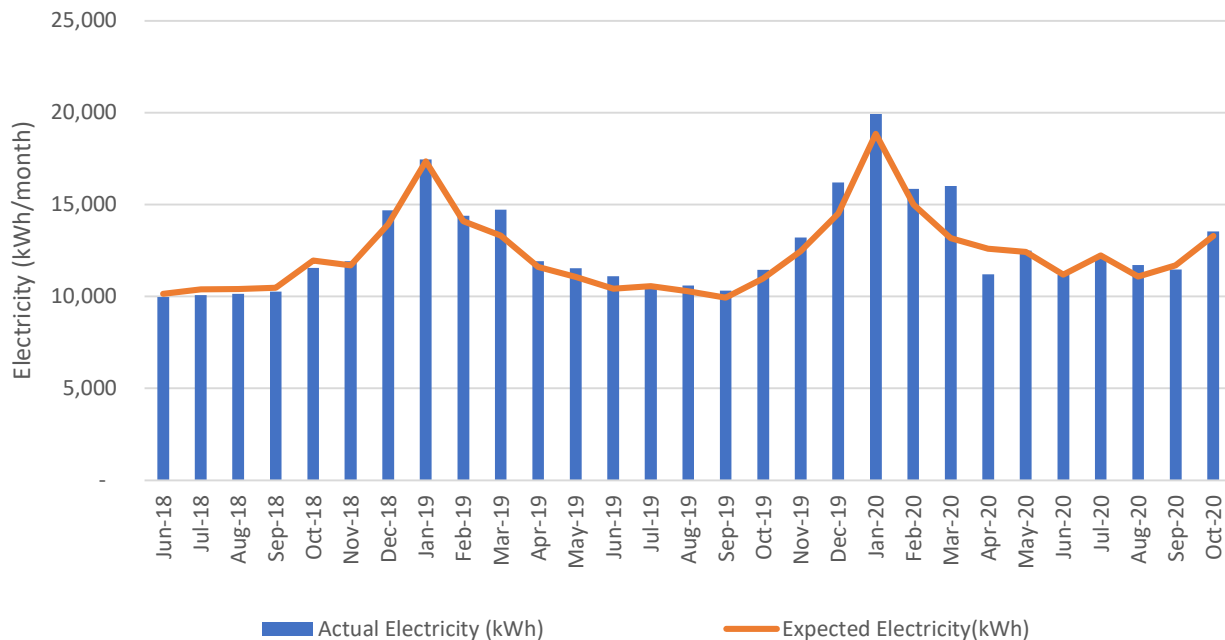
Bridger Glade Pump Station

- Electricity savings for the month were -237kWh, an extra 1.8%.
- Energy cost savings for the month were -\$43, which is an increase.
- Carbon savings for the month were -31 kgCO₂e, an extra 1.8%.
- Rolling 12-month electricity savings are -6,344 kWh, an extra 4%.
- Rolling 12-month energy cost savings are -\$1,225, which is an increase.
- Rolling 12-month carbon savings are -816 kgCO₂e, an extra 4%.

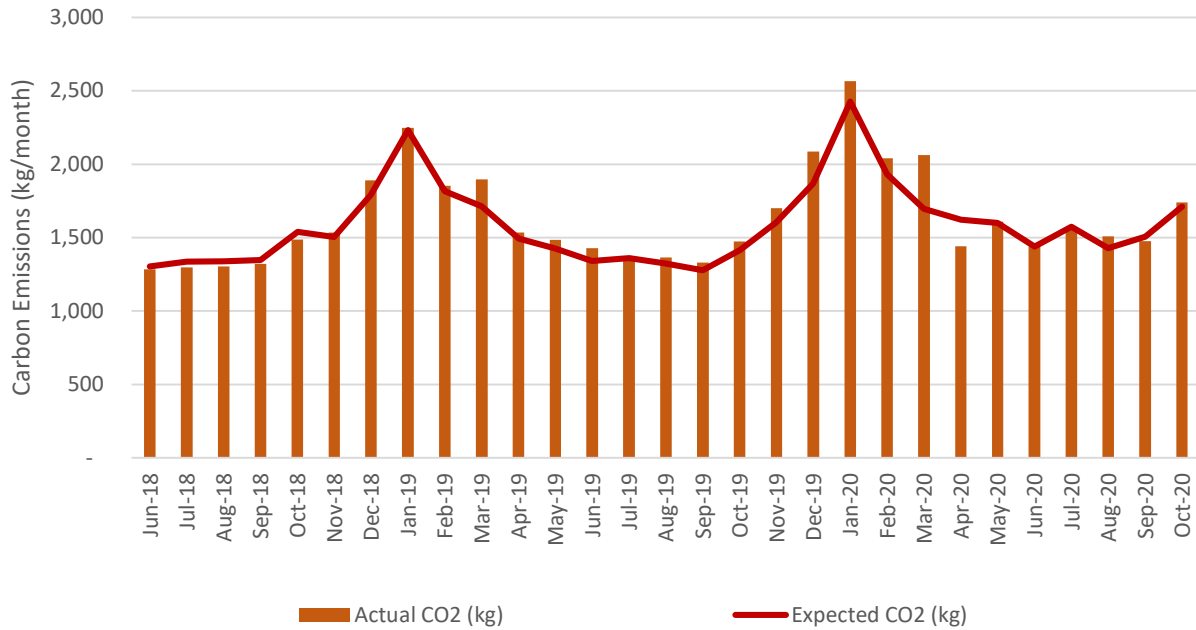
Comments

Electricity was slightly above expected for the month of October at Bridger Glade pump station, however this was by just 1.8%. Compared to October 2019, the volume of water supplied by Bridger Glade pumps has increased by 21%. Historic data shows that demand for water (and hence electricity) at Bridger Glade begins increasing over summer months and peaks in January.

Bridger Glade Pump Station Actual versus Expected Electricity



Bridger Glade Pump Station Actual versus Expected CO2



Bridger Glade Pumps Cumulative Rolling 12 Month Savings

