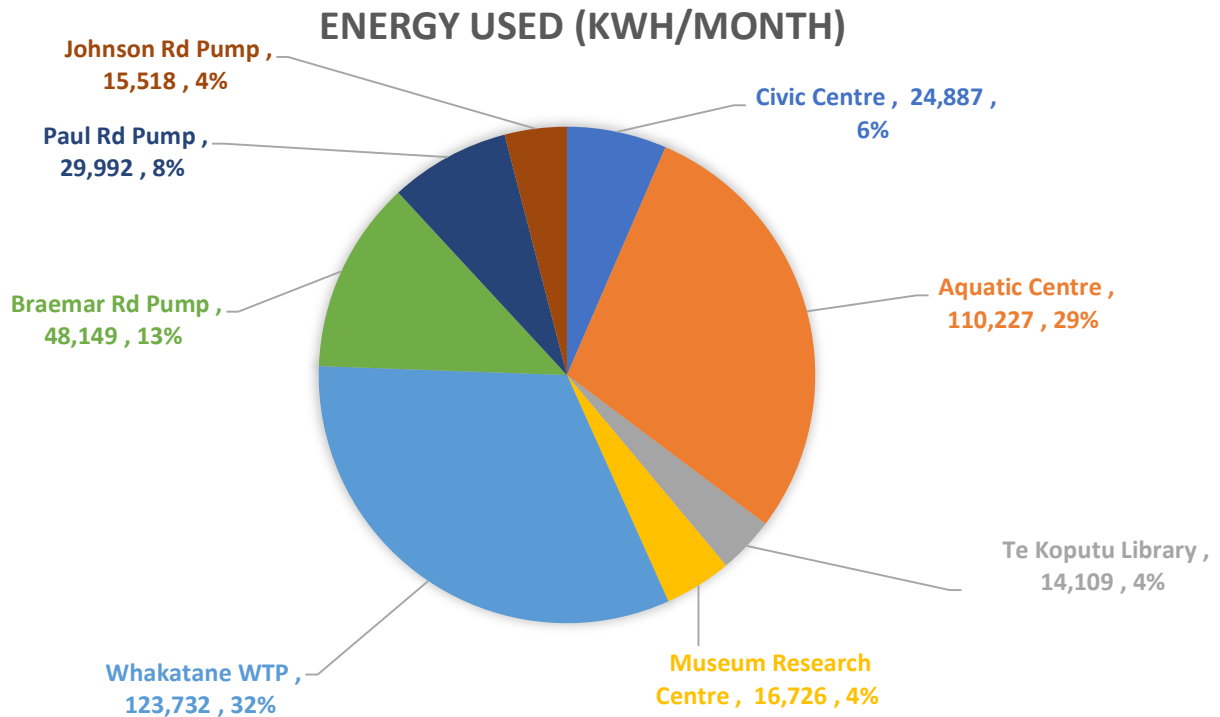


Whakatāne District Council Energy Performance Report

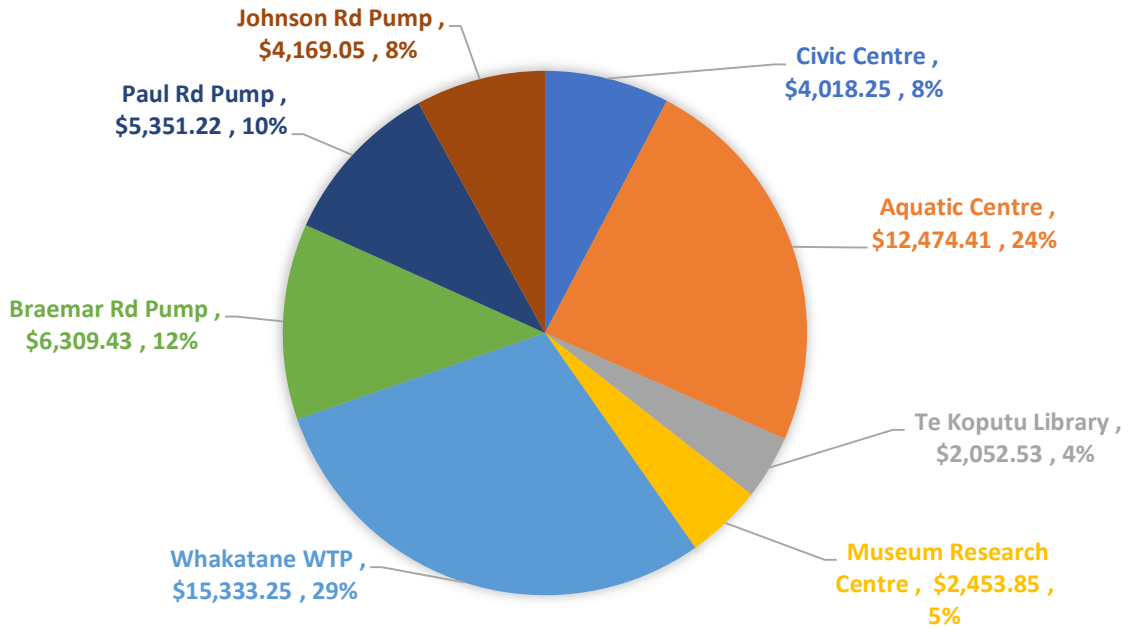
Summary

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

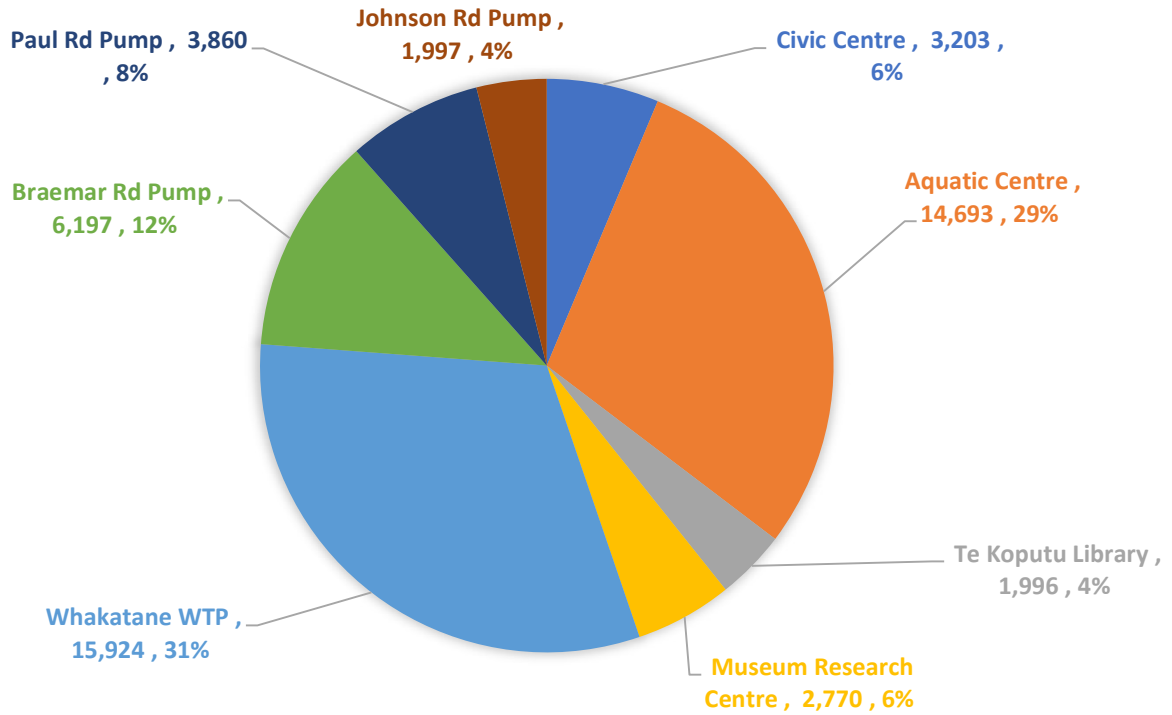
- Total energy cost savings for the month were -\$103
- Total energy cost for the month was \$54,925
- Total energy used for the month was 395,762 kWh
- Total carbon emissions for the month were 52,240 kgCO₂e
- Rolling 12-month energy savings total 572,836 kWh
- Rolling 12-month energy cost savings total \$37,643
- Rolling 12-month carbon savings total 95,704 kgCO₂e



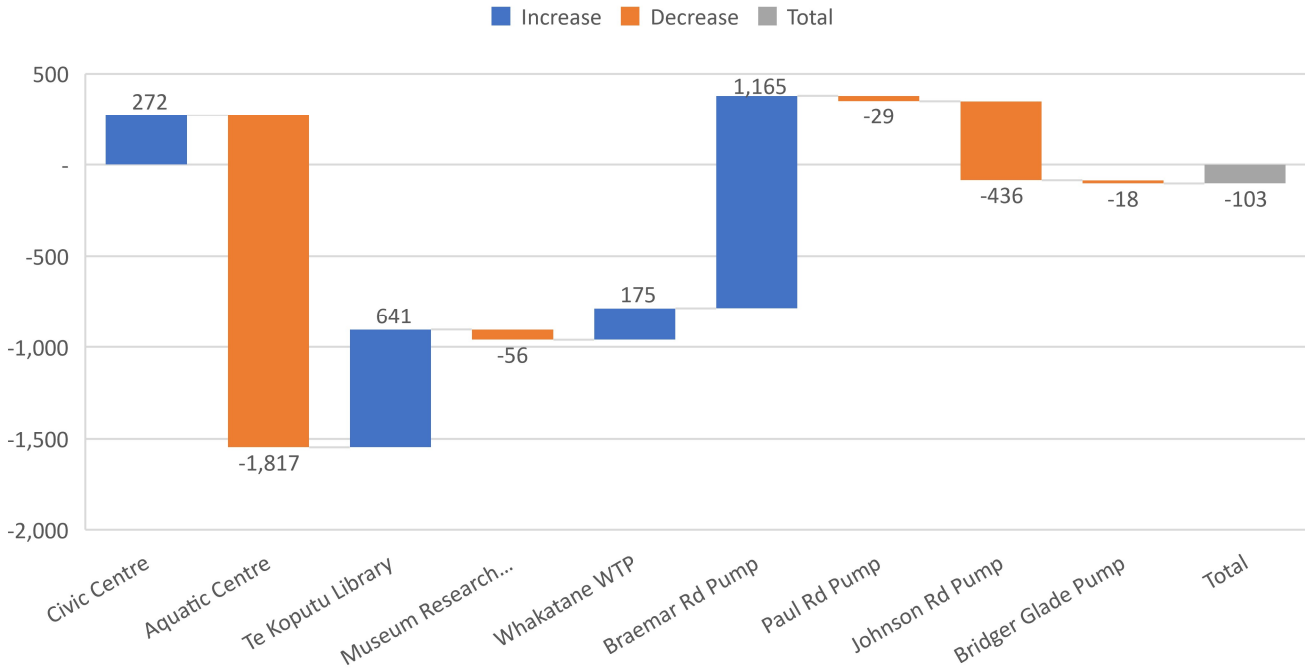
ENERGY COST (\$/MONTH)



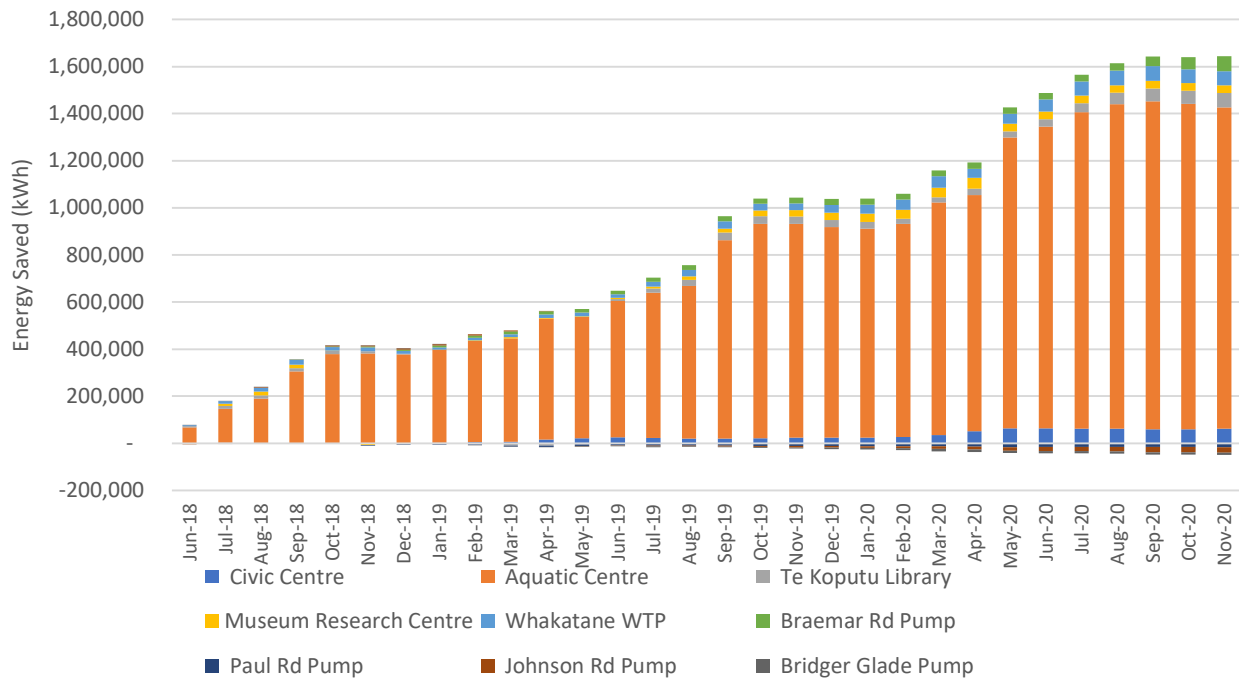
CARBON EMISSIONS (KGCO2E/MONTH)



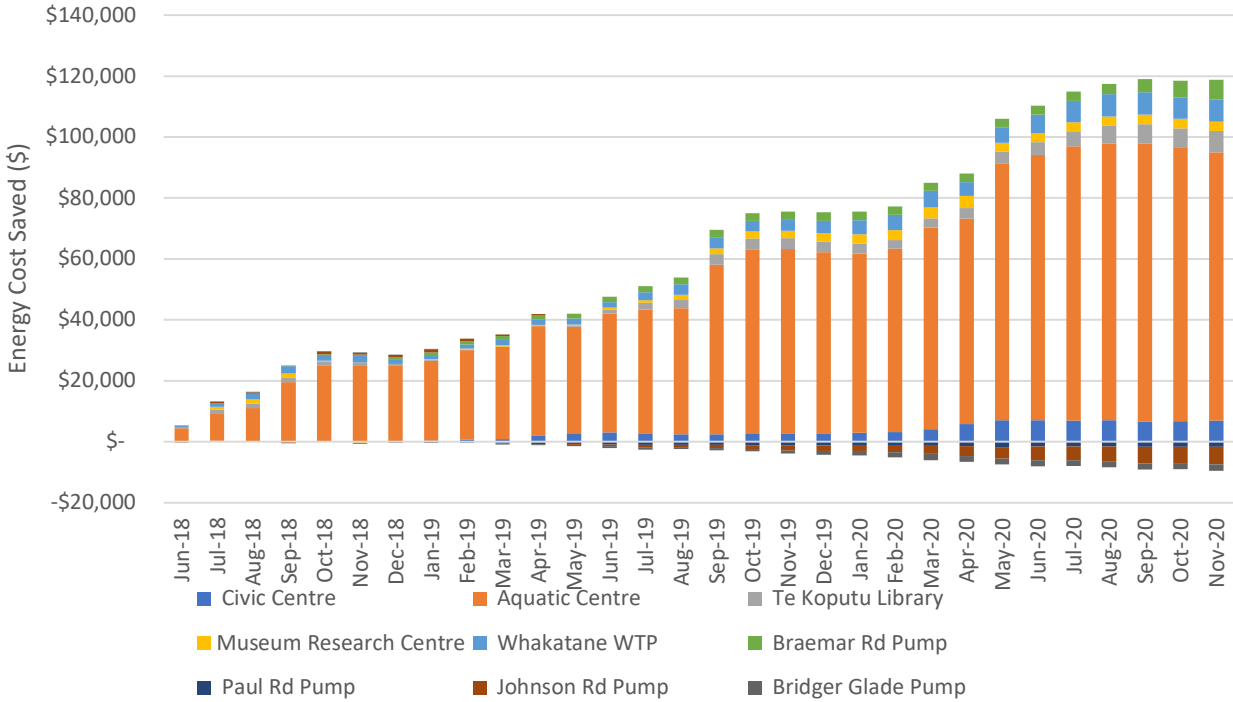
Monthly Energy Cost Savings



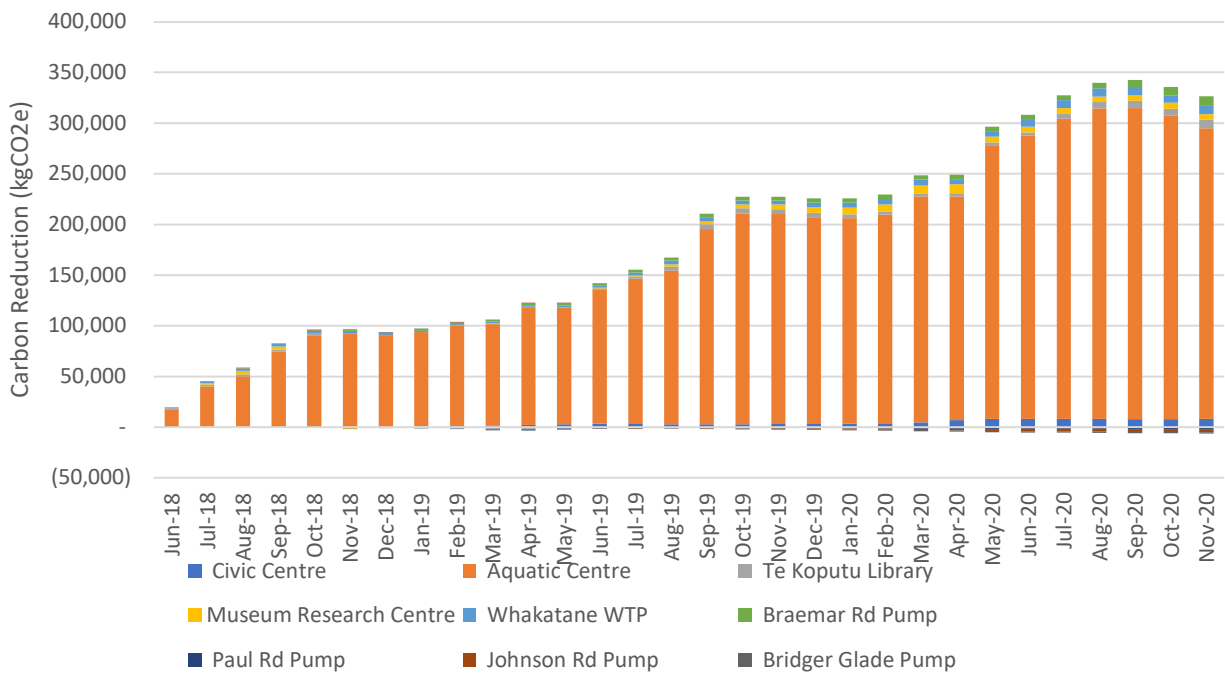
Cumulative Energy Savings



Cumulative Energy Cost Savings



Cumulative Carbon Savings



Civic Centre

Summary

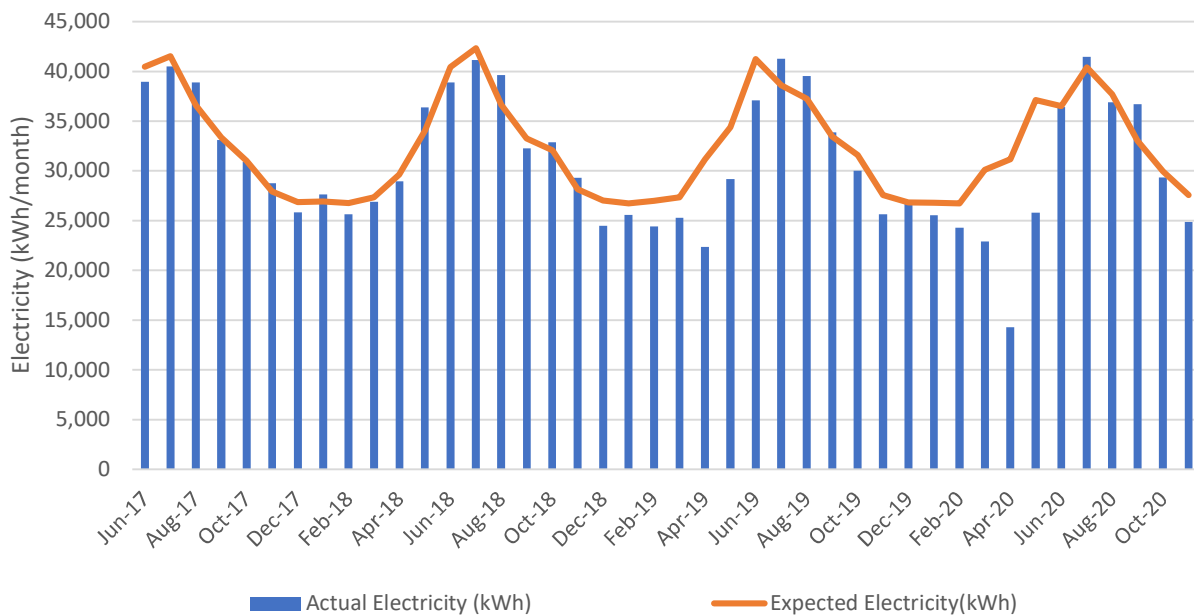
- Electricity savings for the month were 2,690kWh, a saving of 9.8%.
- Energy cost savings for the month were \$272.
- Carbon savings for the month were 346 kgCO₂e, a saving of 9.8%.
- Rolling 12-month electricity savings are 38,578 kWh, a saving of 10%.
- Rolling 12-month energy cost savings are \$4,256.
- Rolling 12-month carbon savings are 4,965 kgCO₂e, a saving of 10%.

Comments

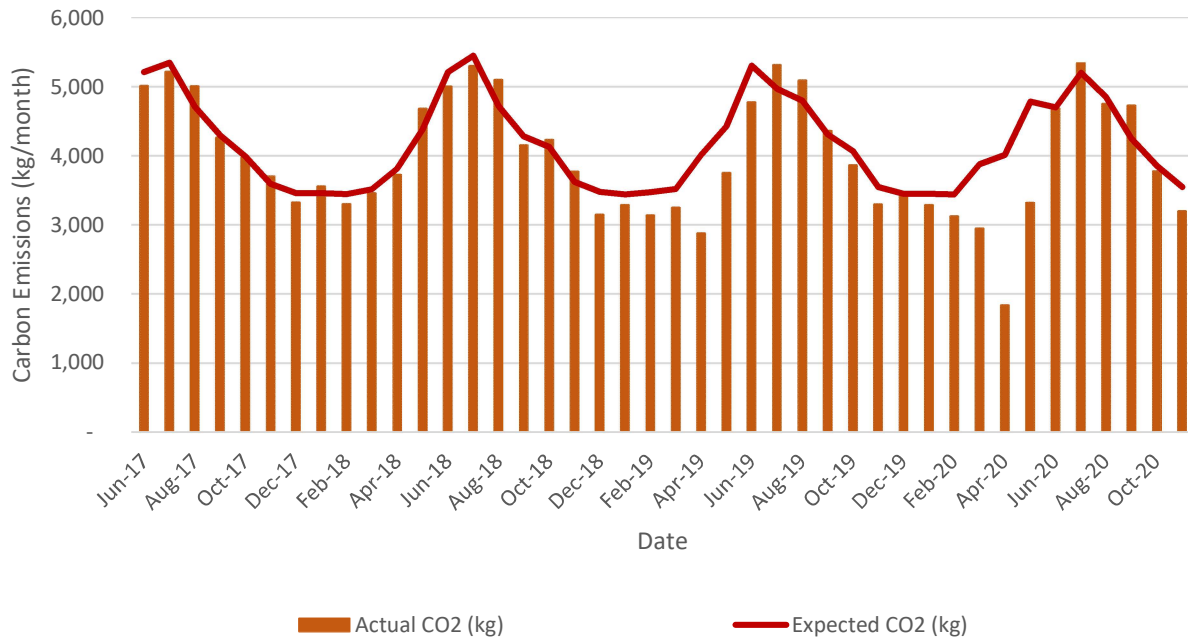
Monitoring electricity use at the Civic Centre identified extra electricity use in September. Time of use data identified a change in electricity use patterns in late August, which coincided with a failure of the system that controls central heating at the Civic Centre. Recovery of the system inadvertently 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.

Since heating was manually turned off, energy performance has improved compared to September; Energy use in October was slightly below baseline and energy use in November is significantly (10%) below baseline. Compared to November 2019, electricity use was also 3% less.

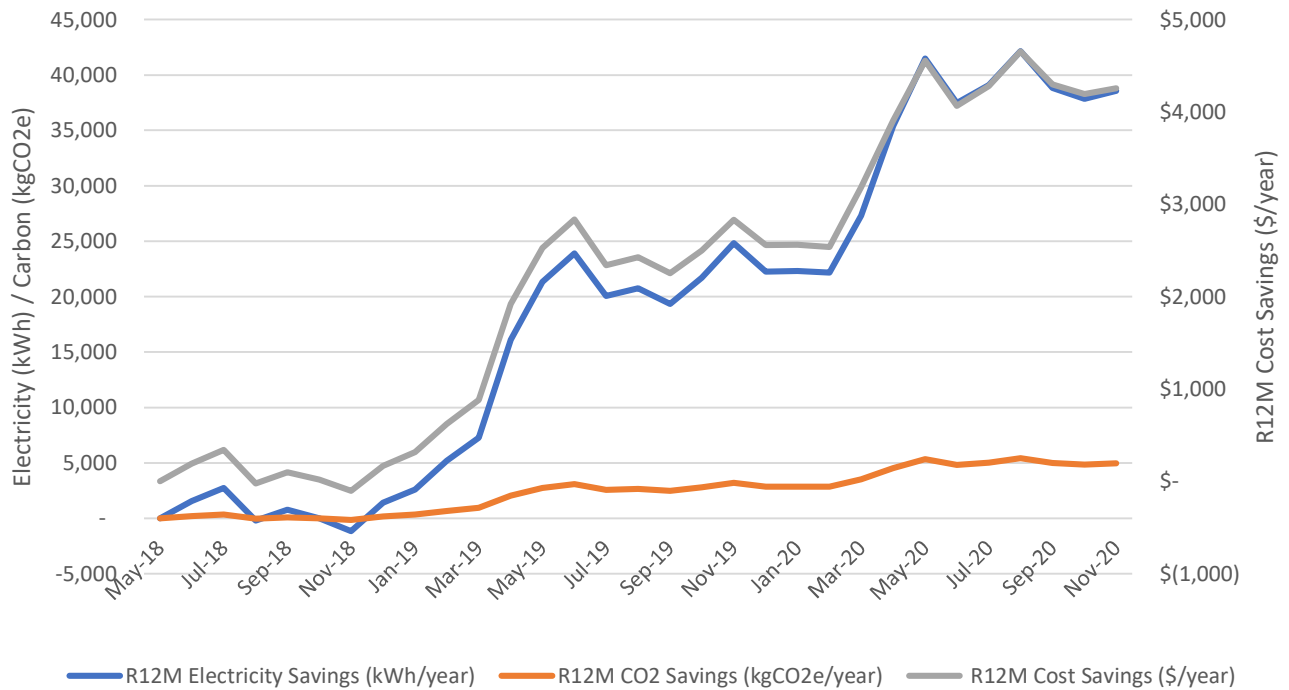
Civic Centre Actual versus Expected Electricity



Civic Centre Actual versus Expected CO2



Civic Centre Cumulative Rolling 12 Month Savings



Aquatic Centre

Summary

- Electricity savings for the month were -19,474kWh, an extra 22.9%.
- Natural gas savings for the month were 450 kWh, a saving of 7.2%
- Energy cost savings for the month were -\$1,817, which is an increase.
- Carbon savings for the month were -12,574 kgCO₂e, an extra 593.5%.
- Rolling 12-month electricity savings are -130,044 kWh, an extra 11.1%.
- Rolling 12-month natural gas savings are 585,445 kWh, a saving of 67.1%
- Rolling 12-month energy cost savings are \$27,404.
- Rolling 12-month carbon savings are 79,874 kgCO₂e, a saving of 25.8%.

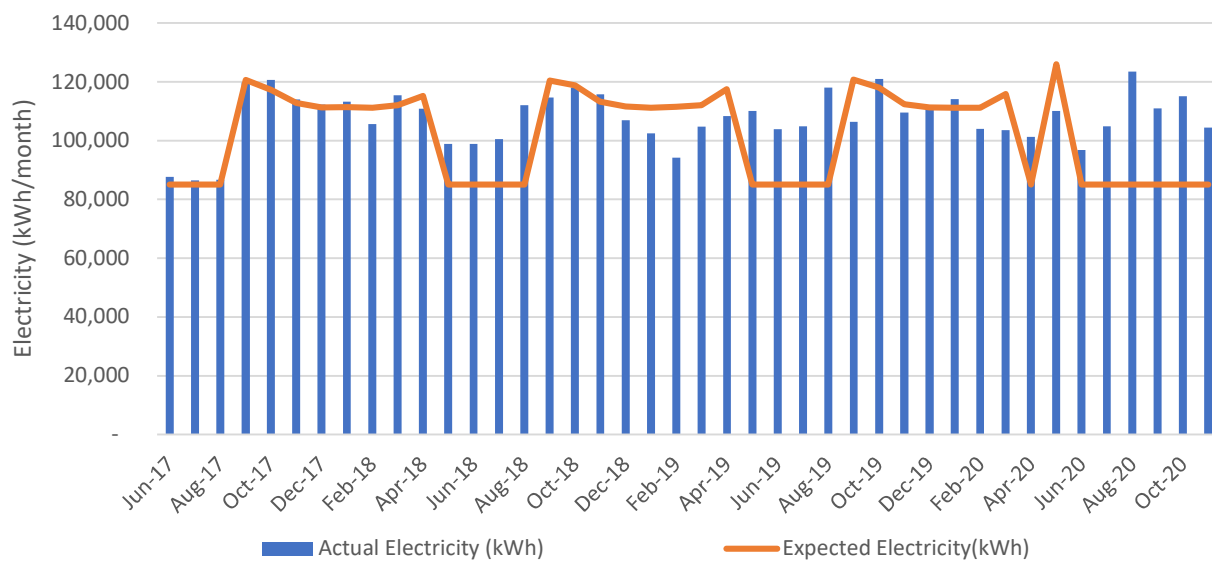
Comments

For the month of November 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 November, however, it is closed due to upgrades, with expected completion late in summer.

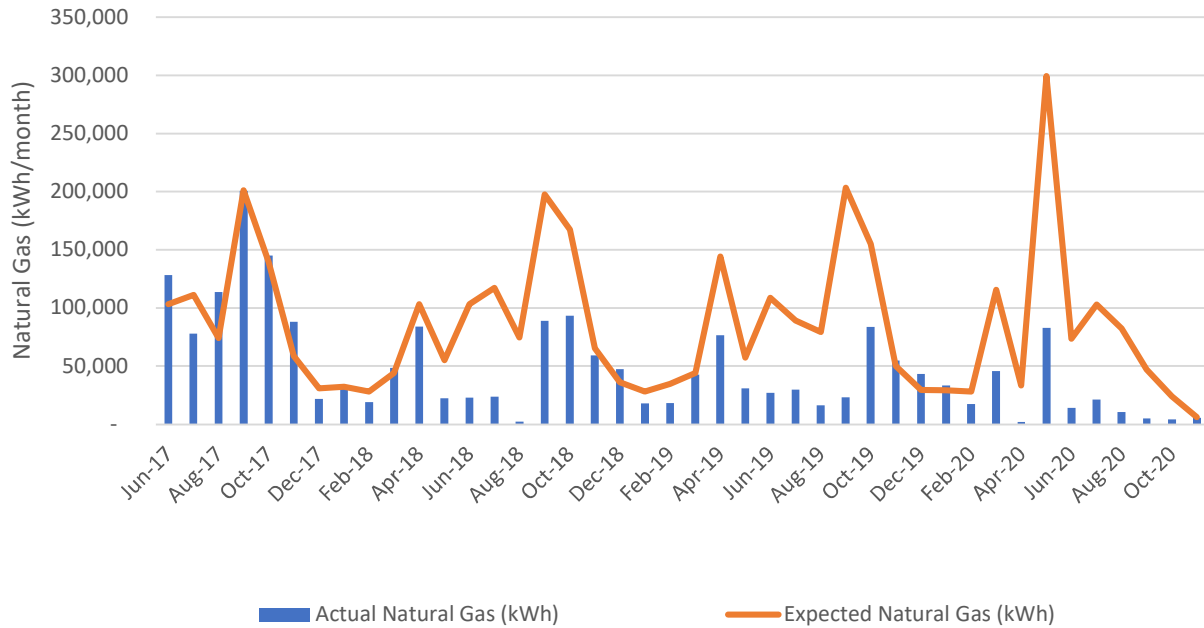
Electricity use was similar to months when the outdoor pool is in use, only 5% lower compared to Nov 2019. Heating requirements should be lower with less pool water to heat. There may also be some contractor electricity during the upgrades.

Natural gas use was 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.

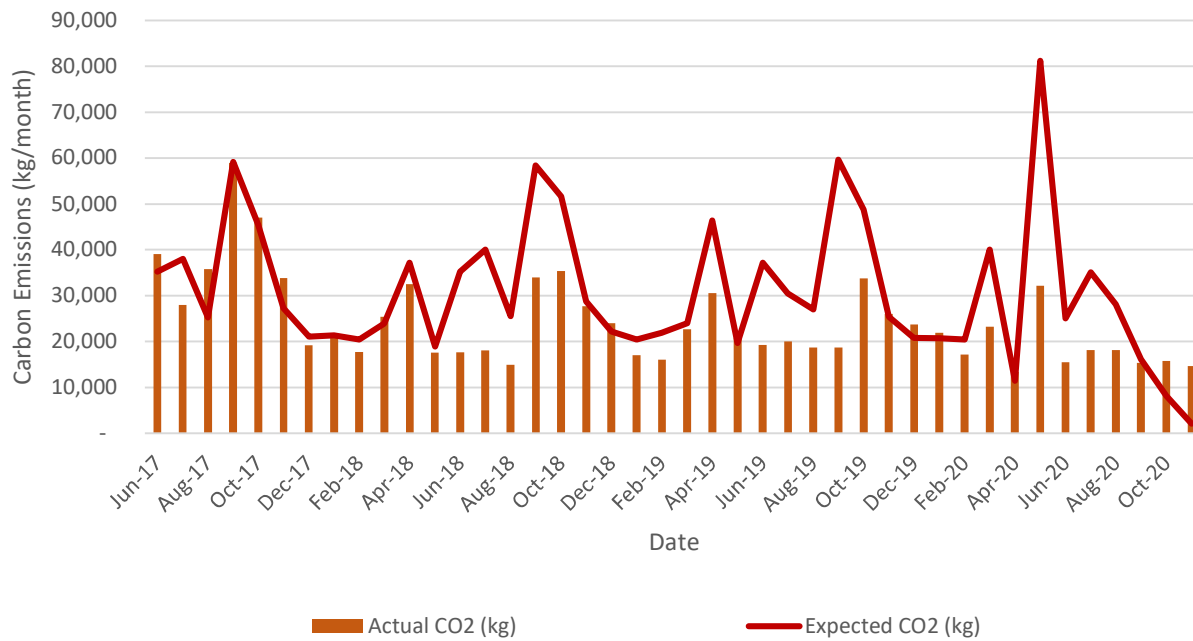
Aquatic Centre Actual versus Expected Electricity



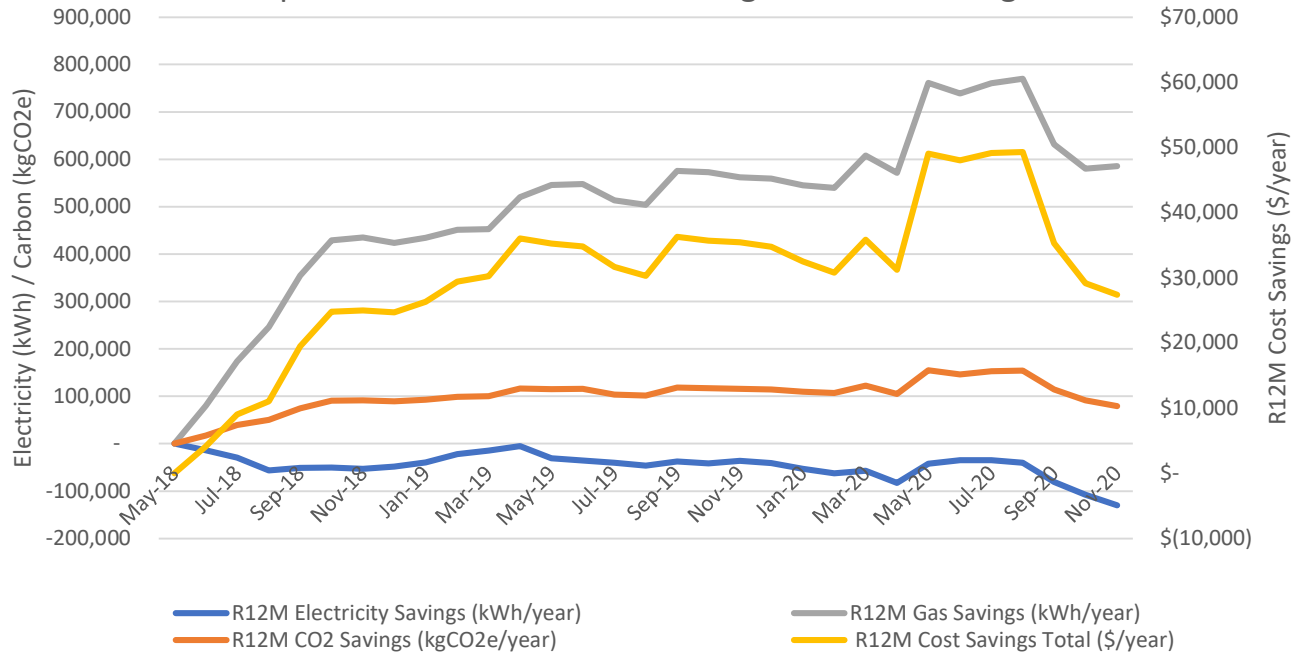
Aquatic Centre Actual versus Expected Natural Gas



Aquatic Centre Actual versus Expected CO2



Aquatic Centre Cumulative Rolling 12 Month Savings



Te Koputu Library

Summary

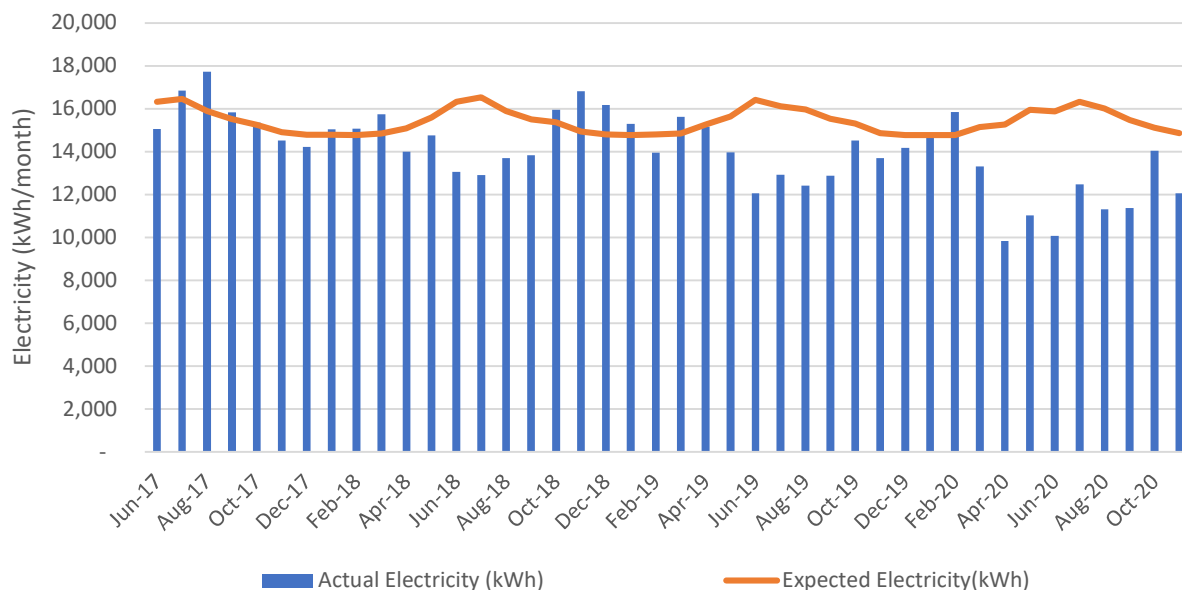
- Electricity savings for the month were 2,804kWh, a saving of 18.9%.
- Natural gas savings for the month were 4,993 kWh, a saving of 70.9%
- Energy cost savings for the month were \$641.
- Carbon savings for the month were 1,448 kgCO₂e, a saving of 42%.
- Rolling 12-month electricity savings are 34,163 kWh, a saving of 18.5%
- Rolling 12-month natural gas savings are -3,746 kWh, an extra 3.2%
- Rolling 12-month energy cost savings are \$3,520.
- Rolling 12-month carbon savings are 3,638 kgCO₂e, a saving of 7.4%.

Comments

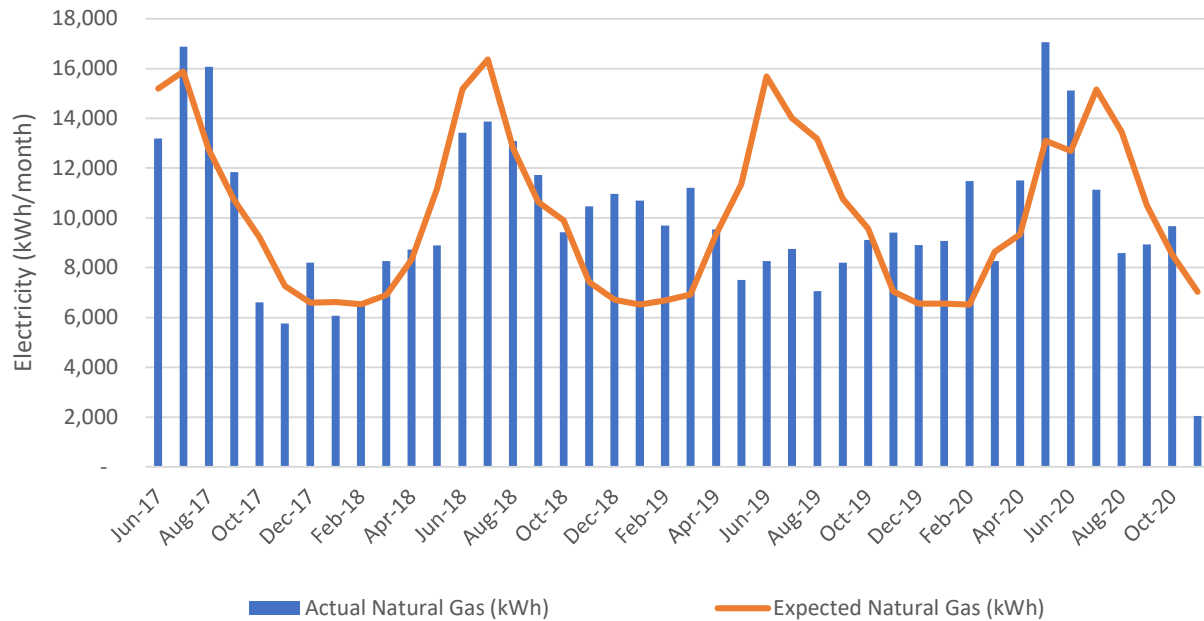
Electricity use was significantly less than baseline in November, however it still higher than September. This may be the result of increased cooling and dehumidification load as ambient temperature increases. November 2020 electricity use was 12% lower than November 2019, which is a significant improvement as both months had the same number of heating degree days.

Natural gas use was significantly less than baseline in November and has been the lowest month on record. Compared to November last year, which was a similar temperature month, gas use is 78% less.

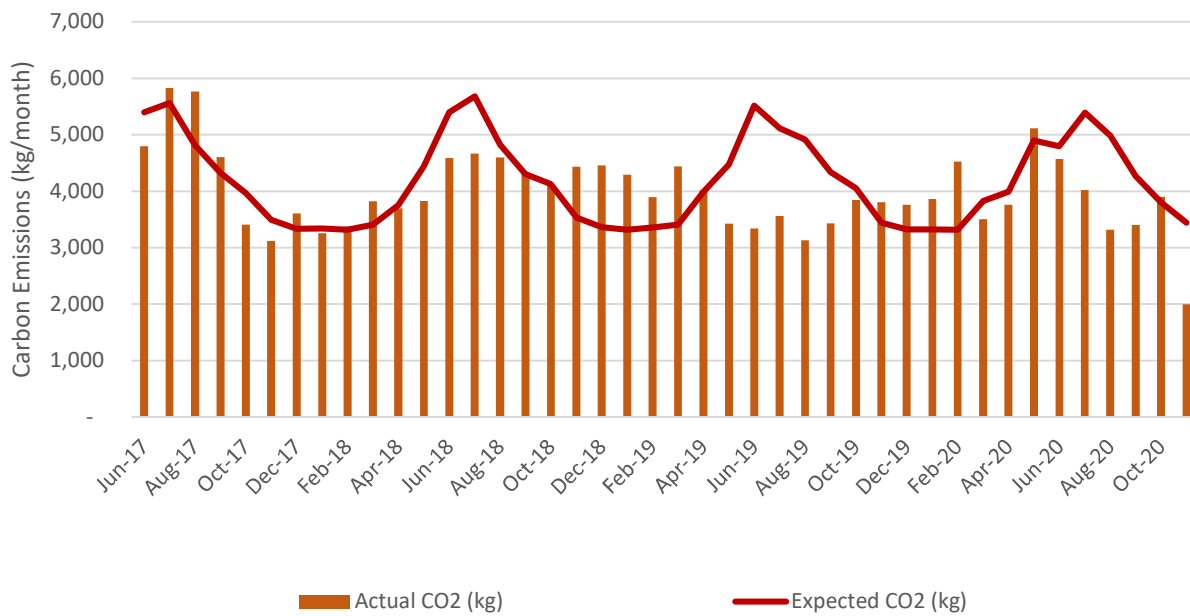
Te Koputu Library Actual versus Expected Electricity



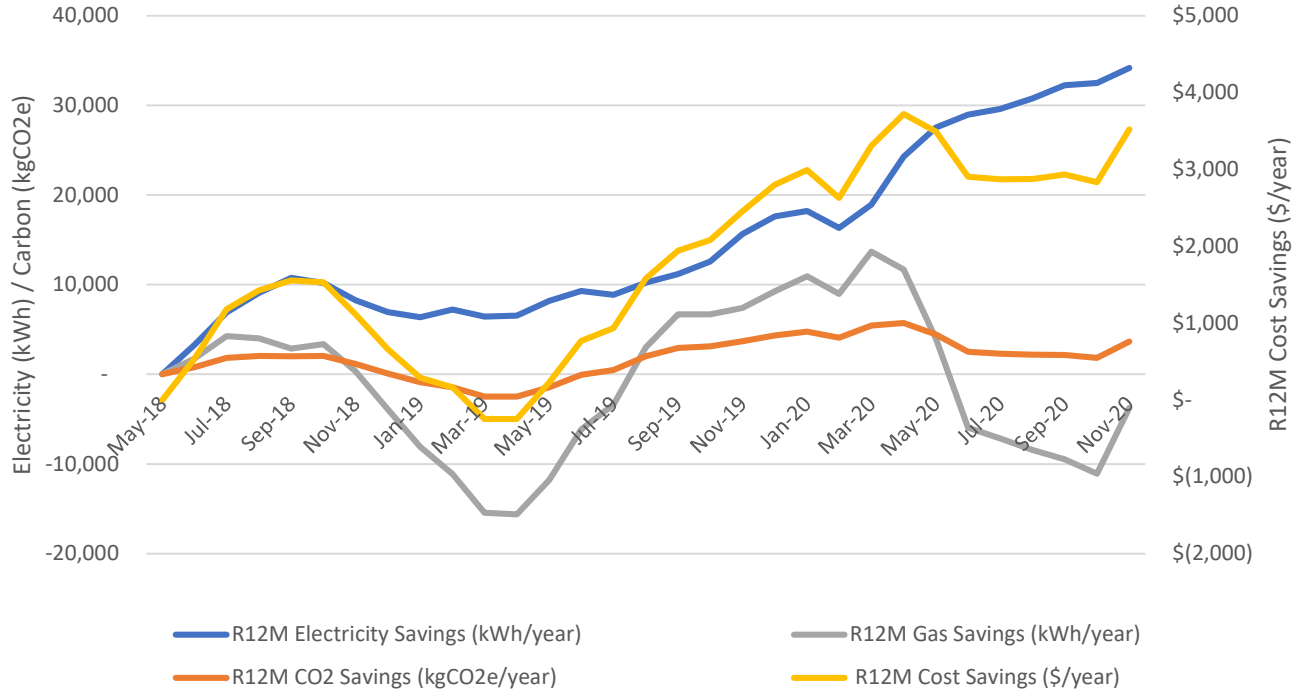
Te Koputu Library Actual versus Expected Natural Gas



Te Koputu Library Actual versus Expected CO2



Te Koputu Library Cumulative Rolling 12 Month Savings



Museum Research Centre

Summary

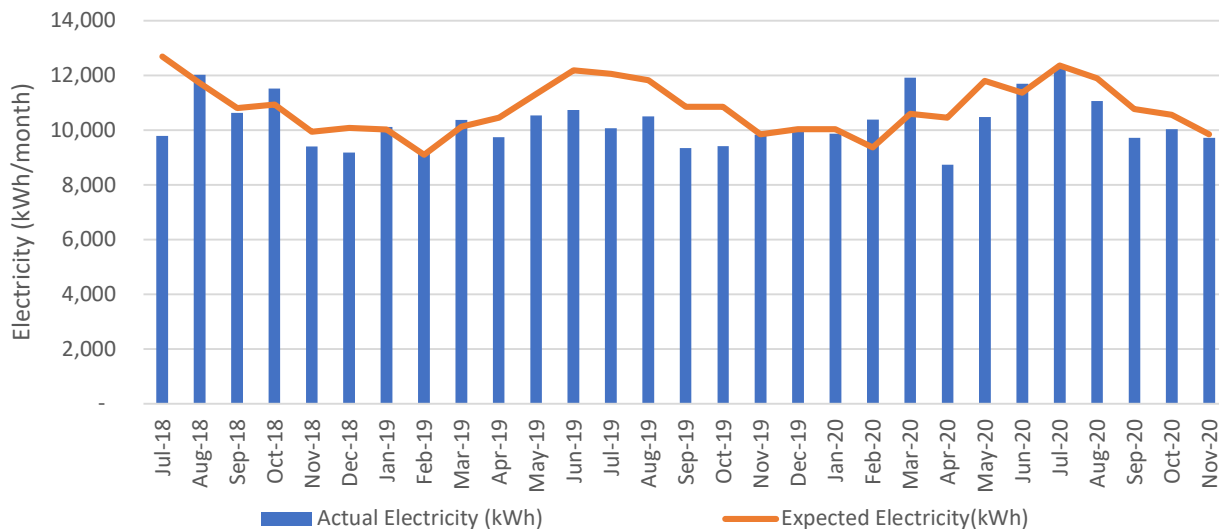
- Electricity savings for the month were 124kWh, a saving of 1.3%.
- Natural gas savings for the month were -931 kWh, an extra 15.3%
- Energy cost savings for the month were -\$56, which is an increase.
- Carbon savings for the month were -186 kgCO₂e, an extra 7.2%.
- Rolling 12-month electricity savings are 3,111 kWh, a saving of 2.4%
- Rolling 12-month natural gas savings are 1,889 kWh, a saving of 2.4%
- Rolling 12-month energy cost savings are \$539.
- Rolling 12-month carbon savings are 810 kgCO₂e, a saving of 2.4%.

Comments

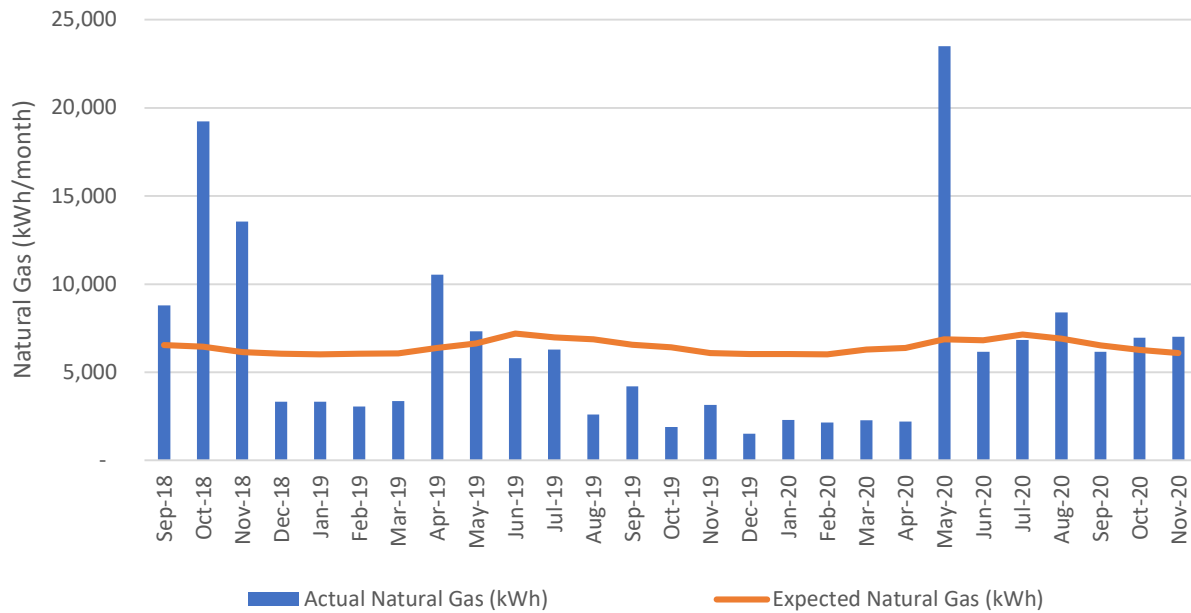
Electricity use at the Museum and Research Centre is below baseline for November 2020. Compared to 2019, electricity use has decreased by 1%. Both months had the same number of heating degree days.

The Museum and Research Centre also used 2.3 times more natural gas in November 2020, compared to November 2019. These seems to be the result of the meter not being read for several months from Aug 2019 to Apr 2020.

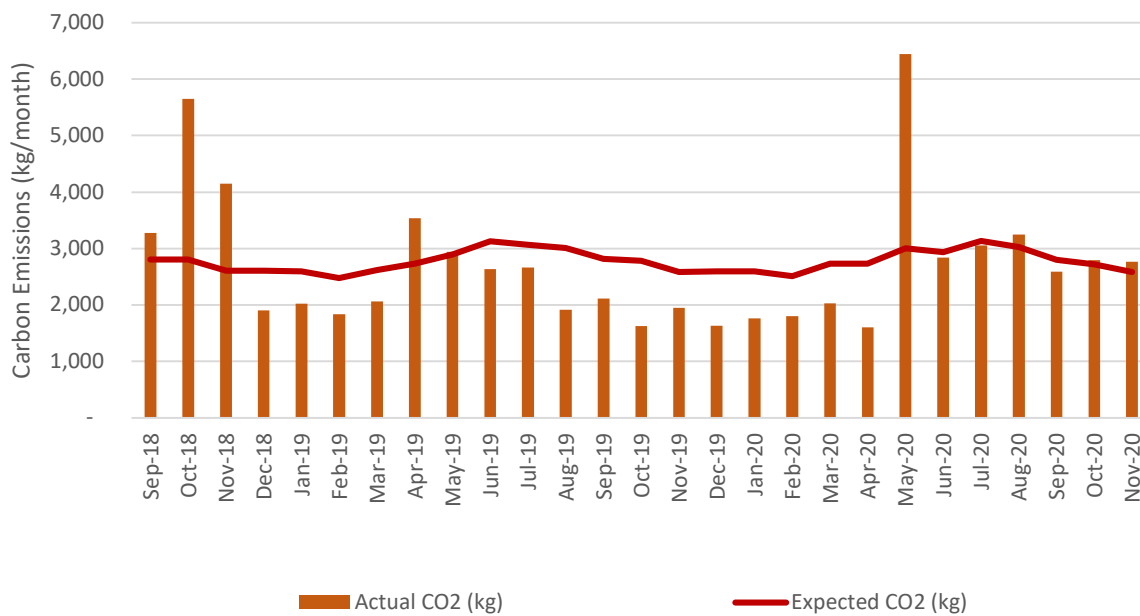
Museum Research Centre Actual versus Expected Electricity

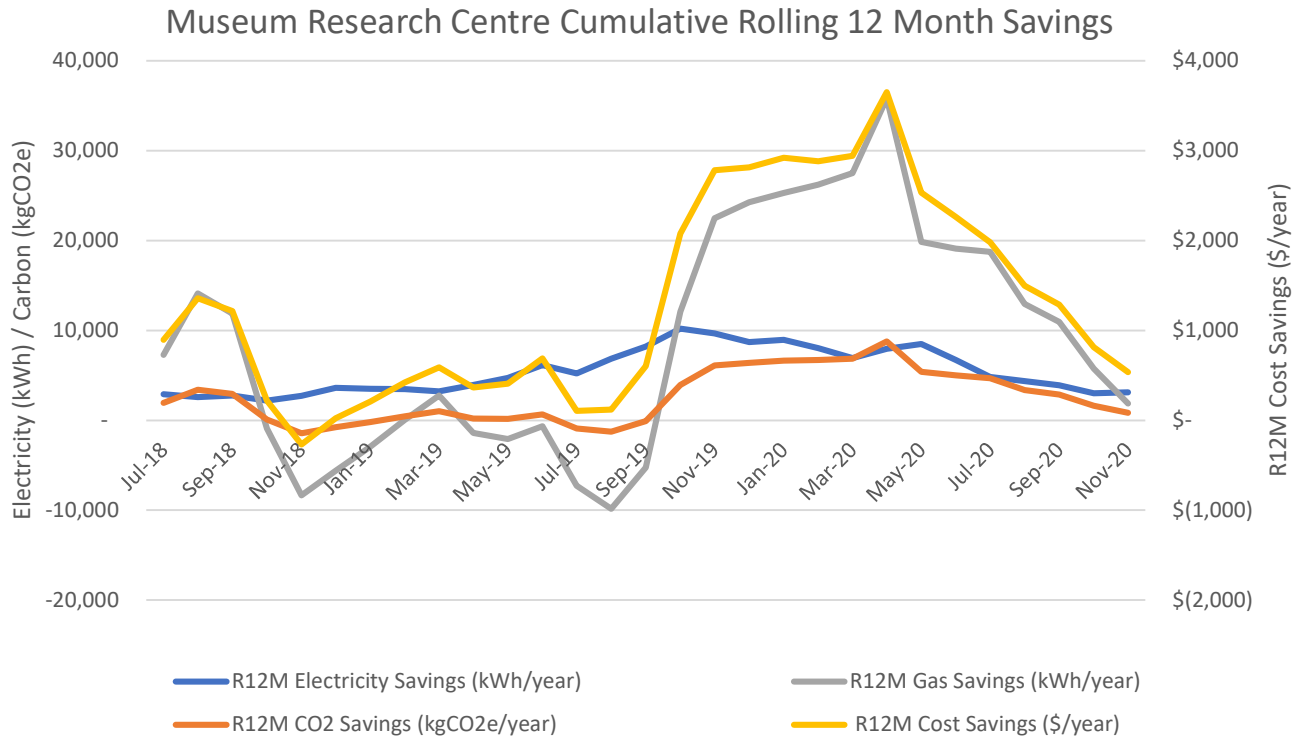


Museum Research Centre Actual versus Expected Natural Gas



Museum Research Centre Actual versus Expected CO2





Whakatāne Water Treatment Plant

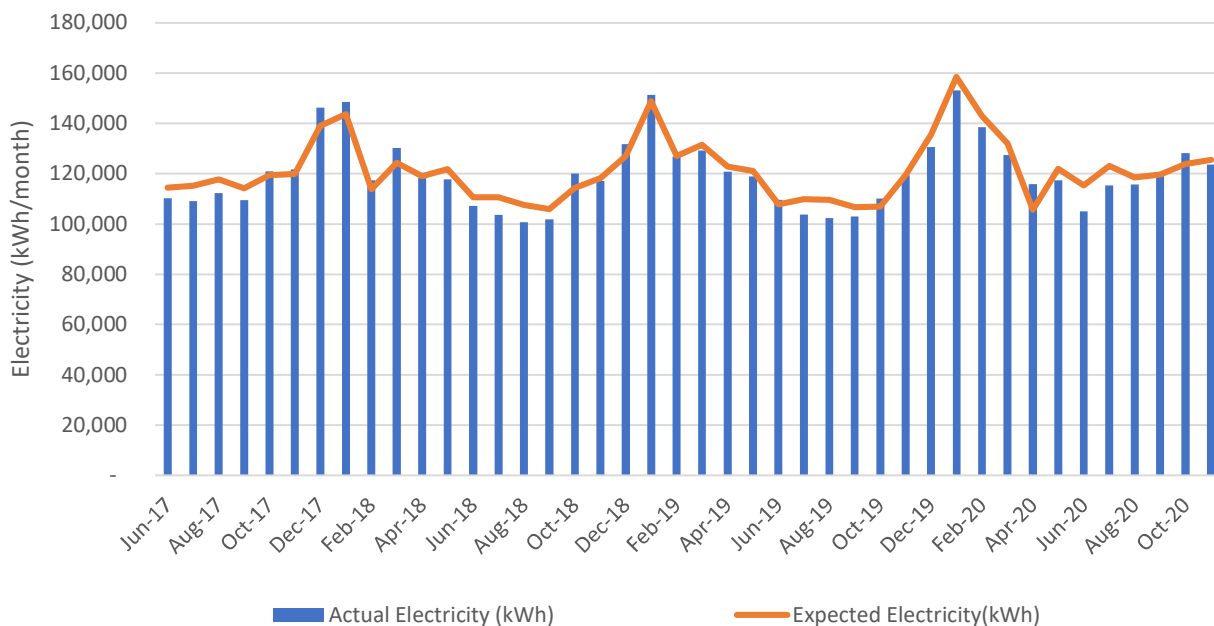
Summary

- Electricity savings for the month were 1,854kWh, a saving of 1.5%.
- Energy cost savings for the month were \$175.
- Carbon savings for the month were 239 kgCO₂e, a saving of 1.5%.
- Rolling 12-month electricity savings are 32,807 kWh, a saving of 2.2%.
- Rolling 12-month energy cost savings are \$3,719.
- Rolling 12-month carbon savings are 4,222 kgCO₂e, a saving of 2.2%.

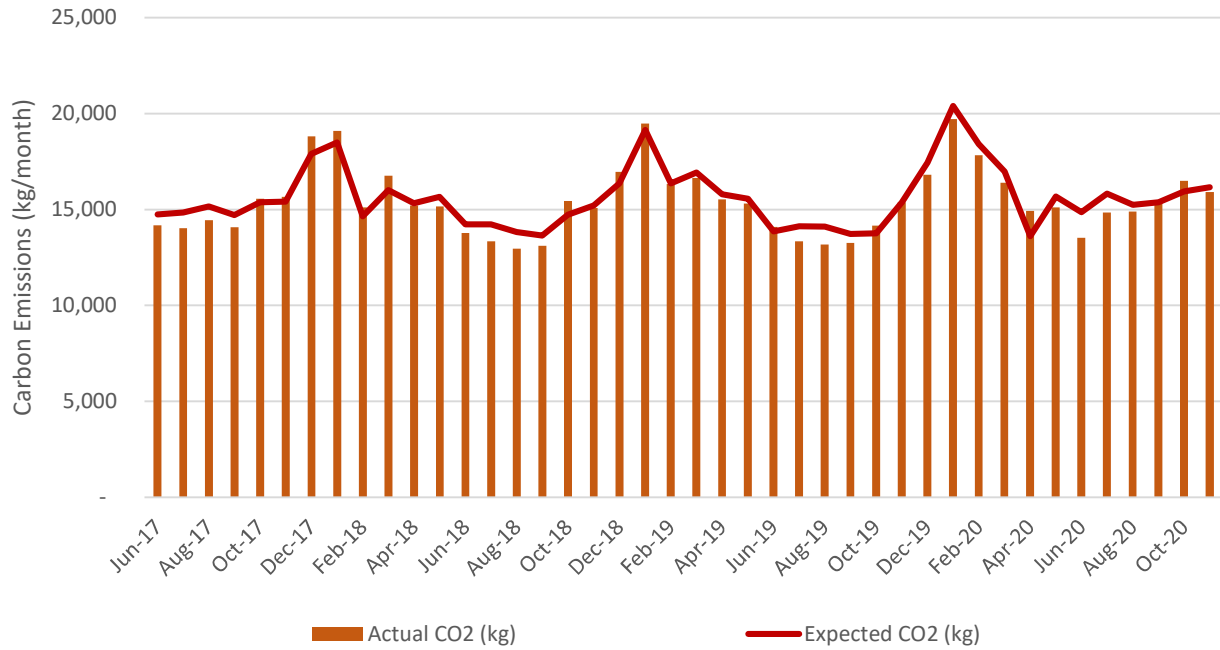
Comments

Demand for water has been relatively steady in recent months and was slightly less than baseline in November. This use pattern is consistent with historic trends in which electricity use generally does not start to increase dramatically until December.

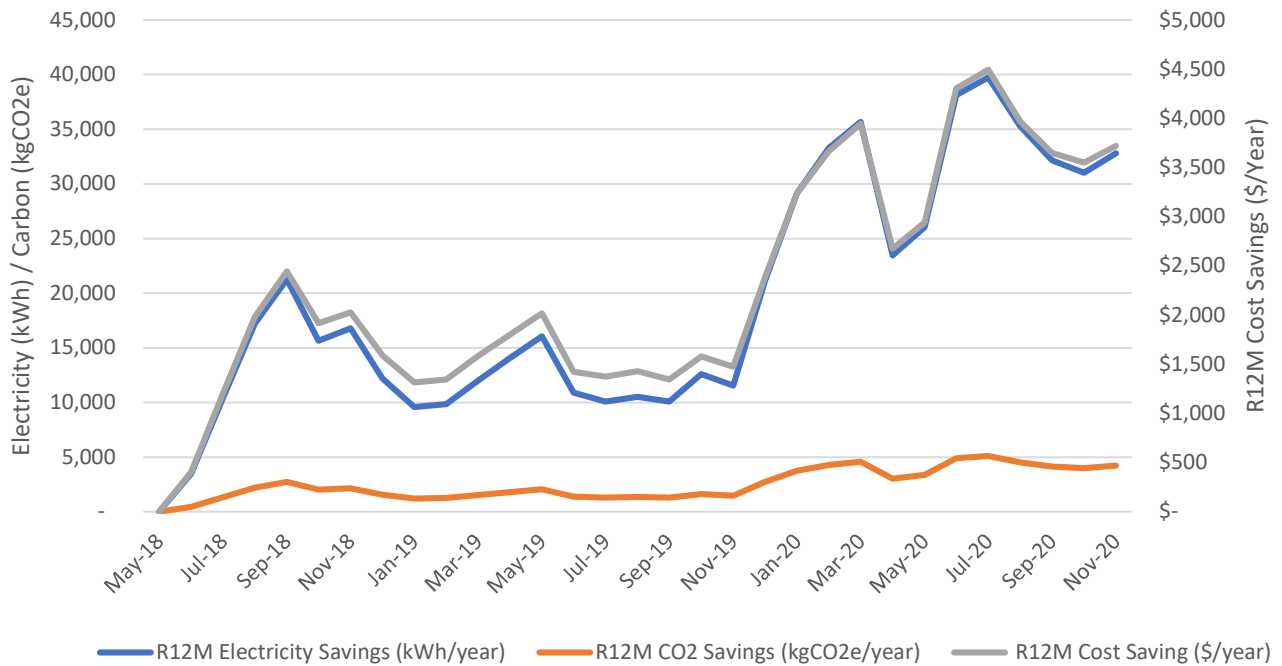
Water Treatment Plant Actual versus Expected Electricity



Water Treatment Plant Actual versus Expected CO2



Whakatane Water Treatment Plant Cumulative Rolling 12 Month Savings



Braemar Rd Pump Station

Summary

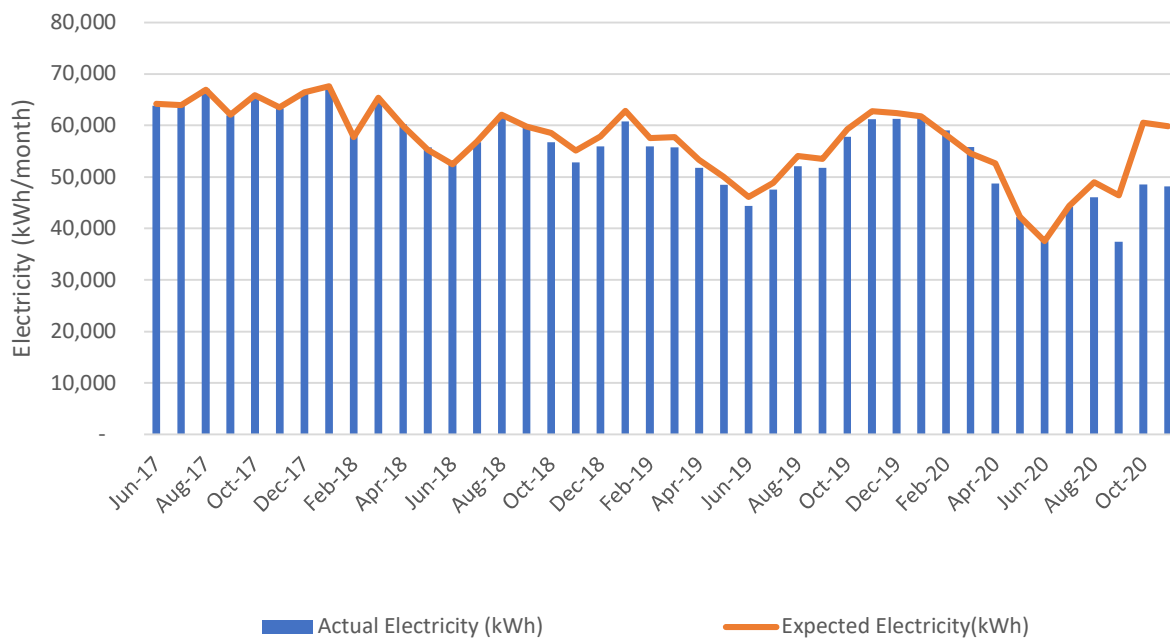
- Electricity savings for the month were 11,659kWh, a saving of 19.5%.
- Energy cost savings for the month were \$1,165.
- Carbon savings for the month were 1,522 kgCO₂e, a saving of 19.5%.
- Rolling 12-month electricity savings are 38,662 kWh, a saving of 6.1%.
- Rolling 12-month energy cost savings are \$3,862.
- Rolling 12-month carbon savings are 5,782 kgCO₂e, a saving of 6.1%.

Comments

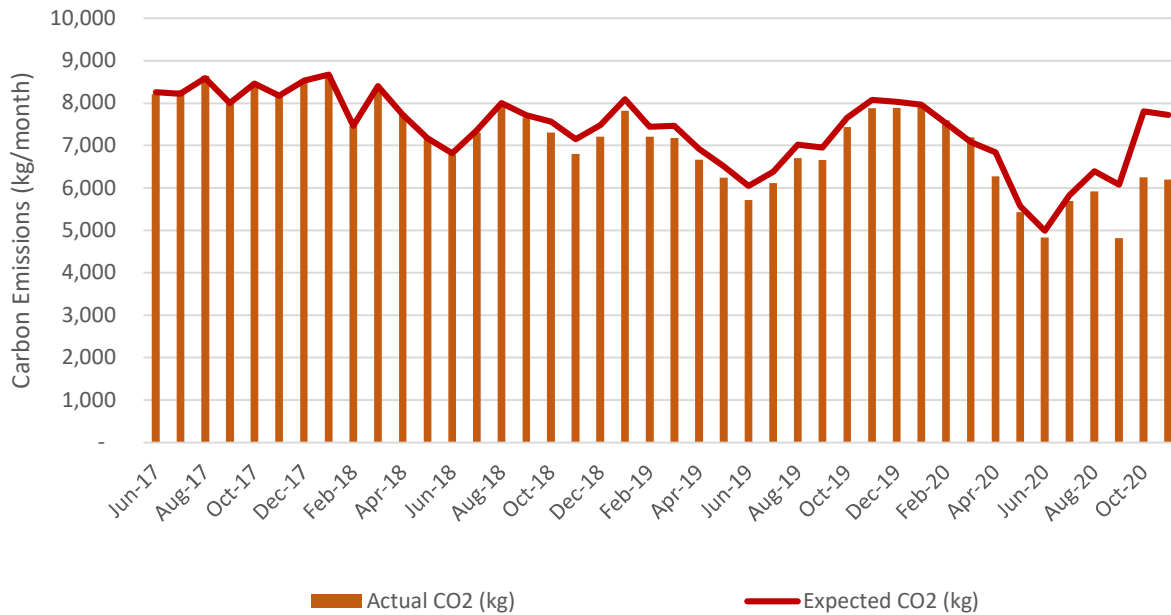
Compared to baseline, Braemar Rd. achieved approximately 20% savings for November 2020. New, more efficient pumps were installed late in August and these have shown consistent savings since.

In September 2020, the saving achieved at Braemar Rd was partially offset by an increase in electricity at Johnson Rd. In November 2020, electricity use has also increased at Johnson Road, however this is by a smaller margin compared to September 2020. Electricity use in October for both Johnson Road and Braemar Road was below baseline.

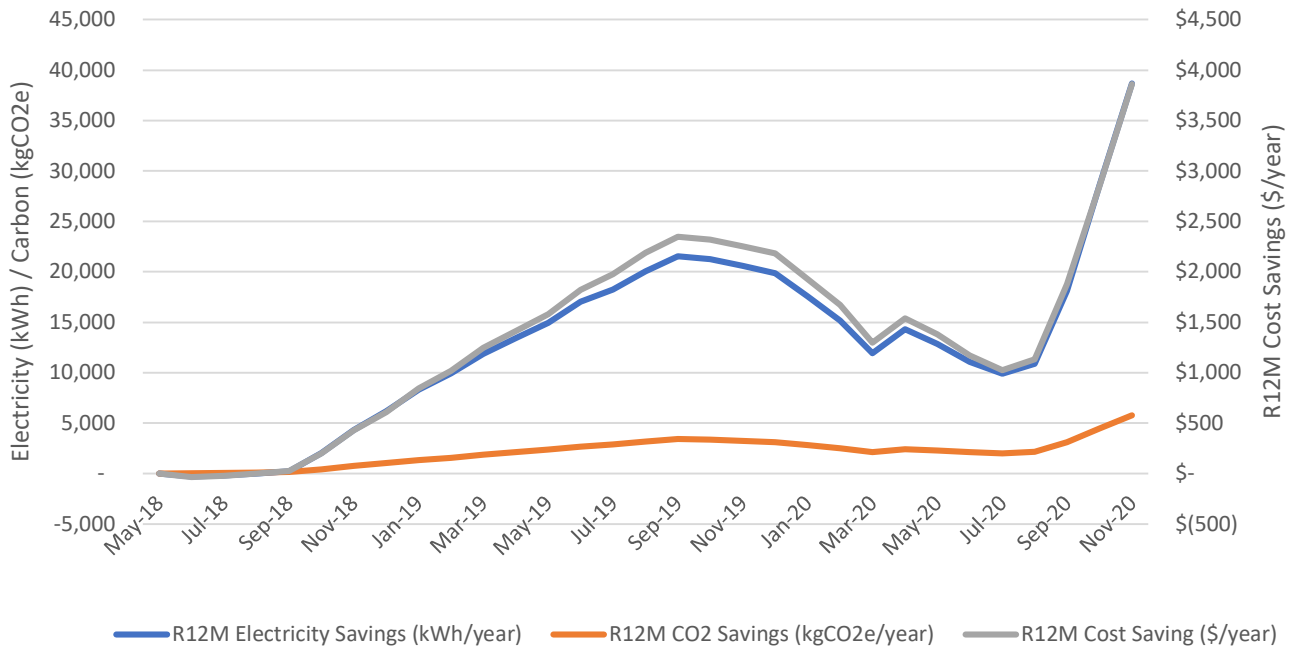
Braemar Rd Actual versus Expected Electricity



Braemar Rd Actual versus Expected CO2



Braemar Rd Pumps Cumulative Rolling 12 Month Savings



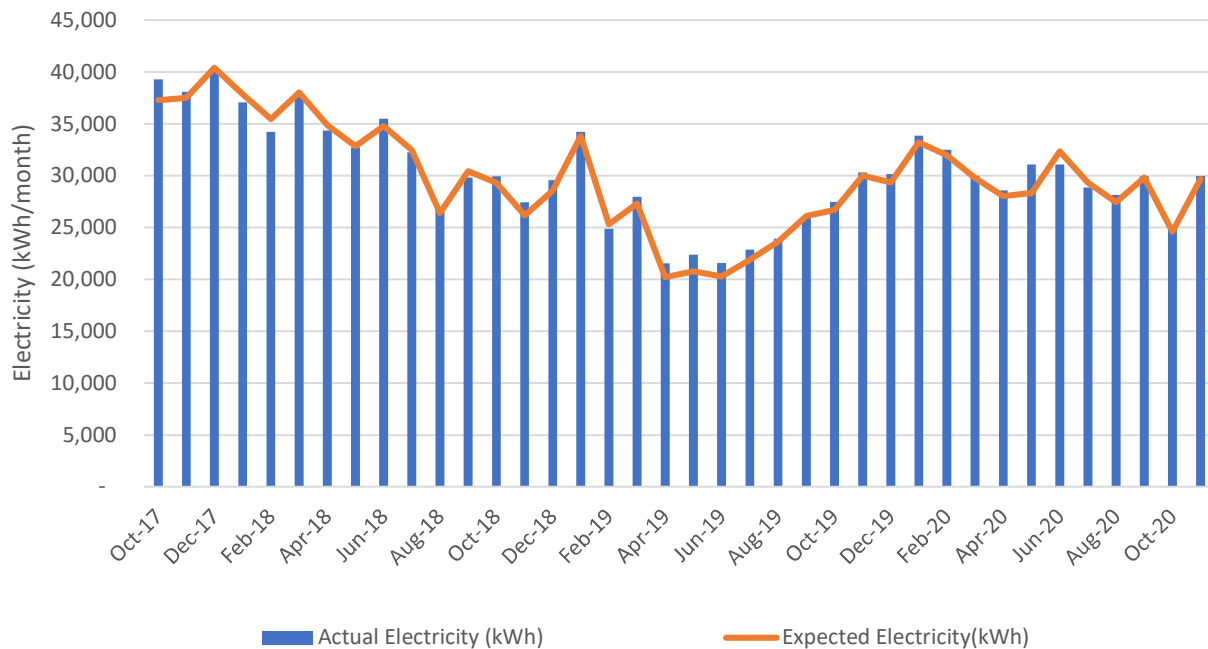
Paul Rd Pump Station

- Electricity savings for the month were -301kWh, an extra 1%.
- Energy cost savings for the month were -\$29, which is an increase.
- Carbon savings for the month were -38 kgCO₂e, an extra 1%.
- Rolling 12-month electricity savings are -5,178 kWh, an extra 1.5%.
- Rolling 12-month energy cost savings are -\$528, which is an increase.
- Rolling 12-month carbon savings are -659 kgCO₂e, an extra 1.5%.

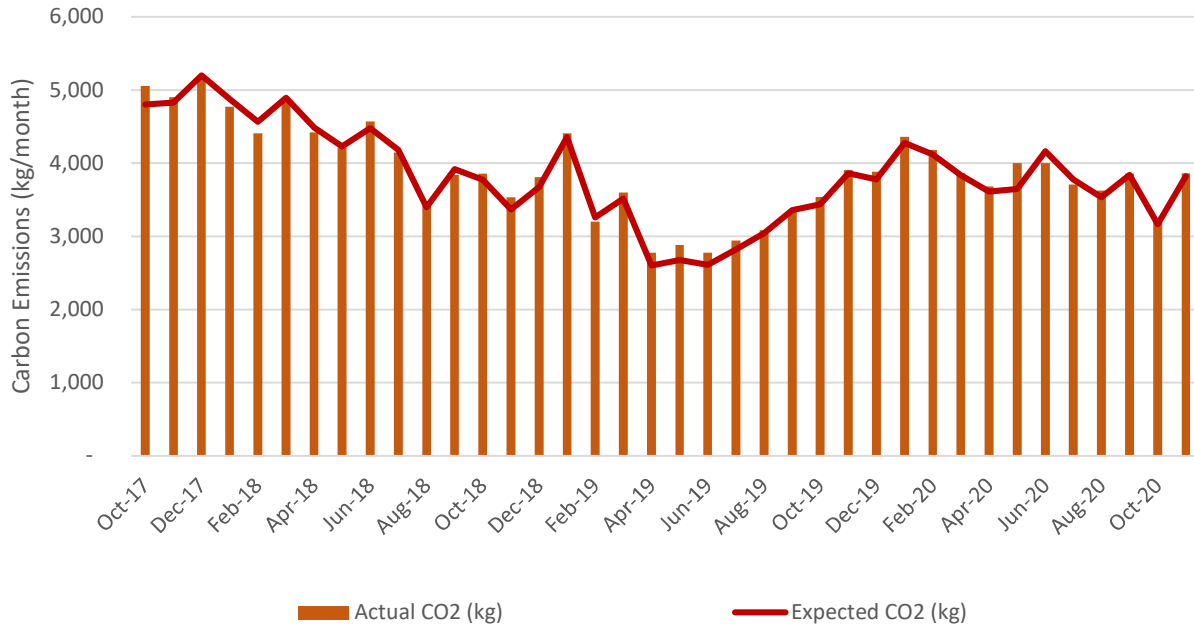
Comments

Paul Rd Pump Station electricity was similar to expected in November 2020, above the baseline by just 1%. Demand for water in November has increased from October, which was the lowest demand month in 2020.

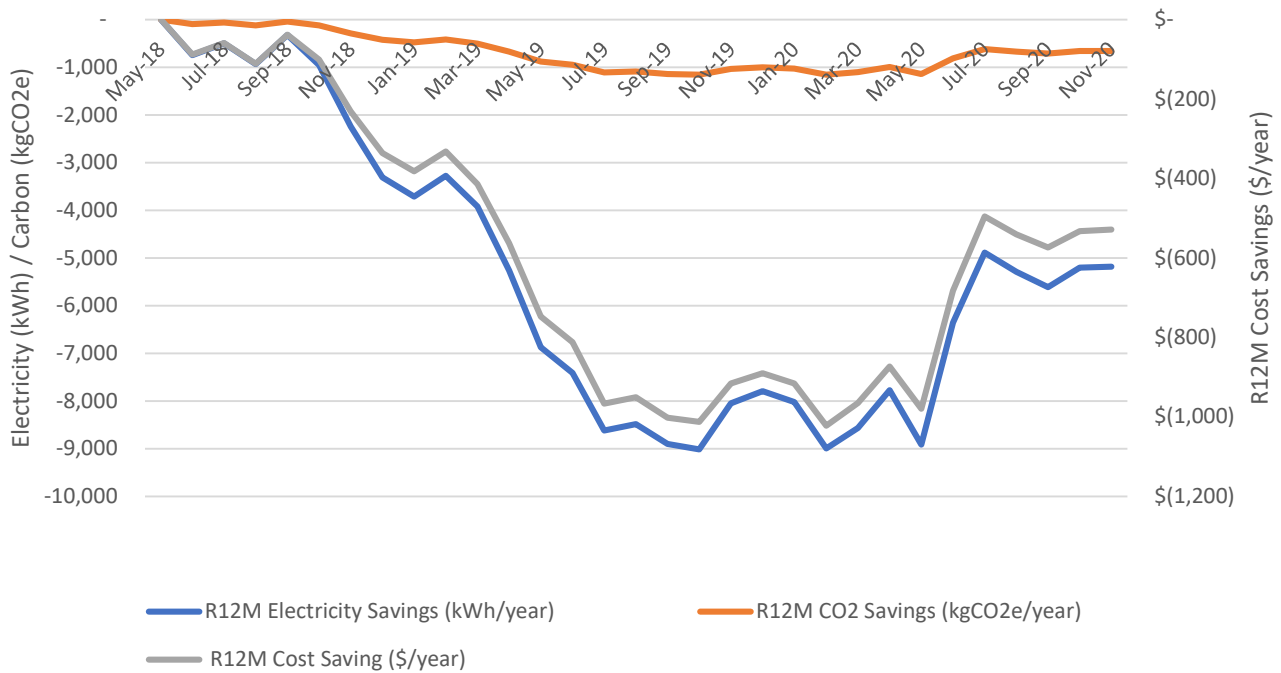
Paul Rd Pump Station Actual versus Expected Electricity



Paul Rd Pump Station Actual versus Expected CO2



Paul Rd Pumps Cumulative Rolling 12 Month Savings



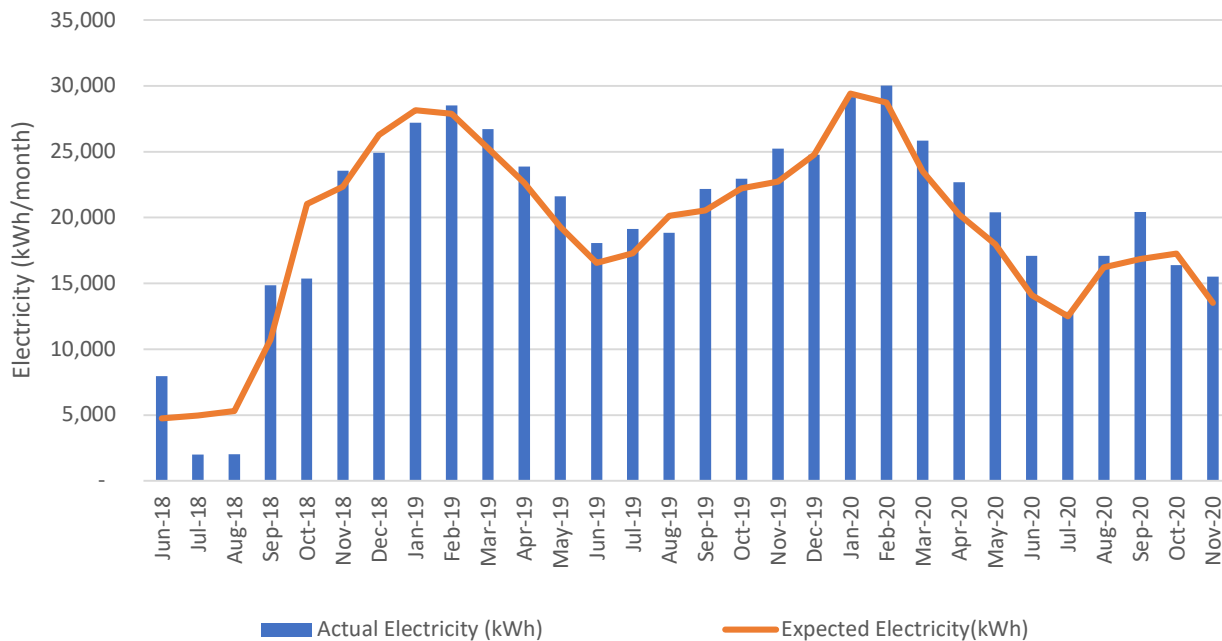
Johnson Rd Pump Station

- Electricity savings for the month were -2,001kWh, an extra 14.8%.
- Energy cost savings for the month were -\$436, which is an increase.
- Carbon savings for the month were -257 kgCO₂e, an extra 14.8%.
- Rolling 12-month electricity savings are -17,146 kWh, an extra 7.3%.
- Rolling 12-month energy cost savings are -\$4,028, which is an increase.
- Rolling 12-month carbon savings are -2,195 kgCO₂e, an extra 7.3%.

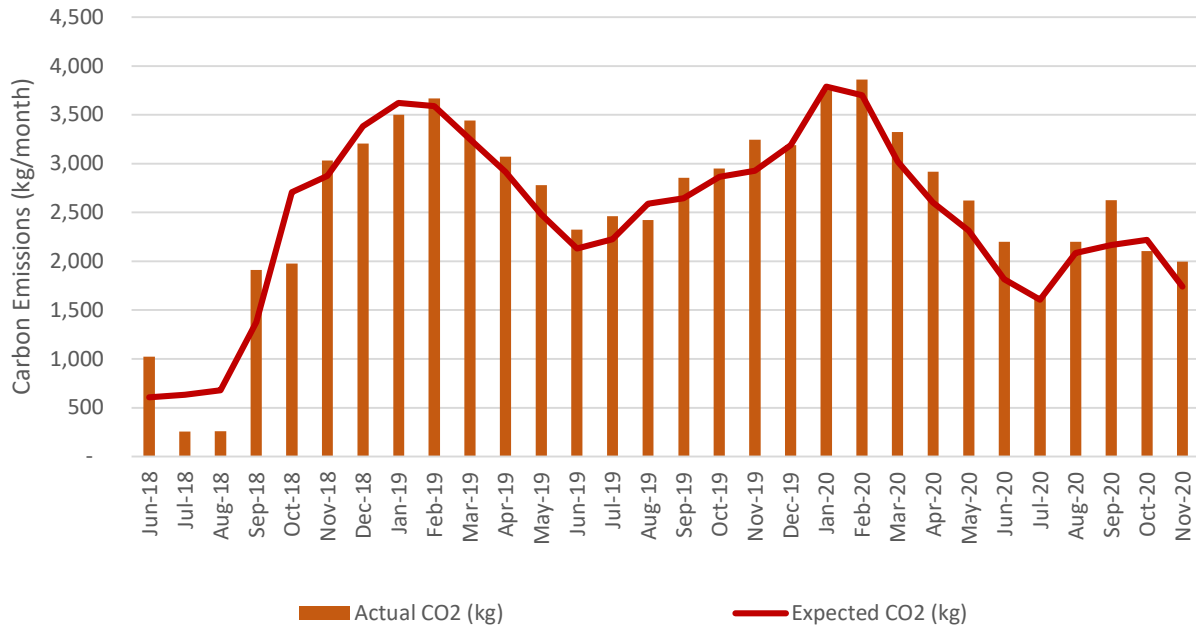
Comments

Electricity use was more than baseline at Johnson Rd in November 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. Similar to September 2020, electricity use in November 2020 increased at Johnson Rd when Braemar Rd decreased. In October 2020 electricity used by both sets of pumps decreased.

Johnson Rd Pump Station Actual versus Expected Electricity



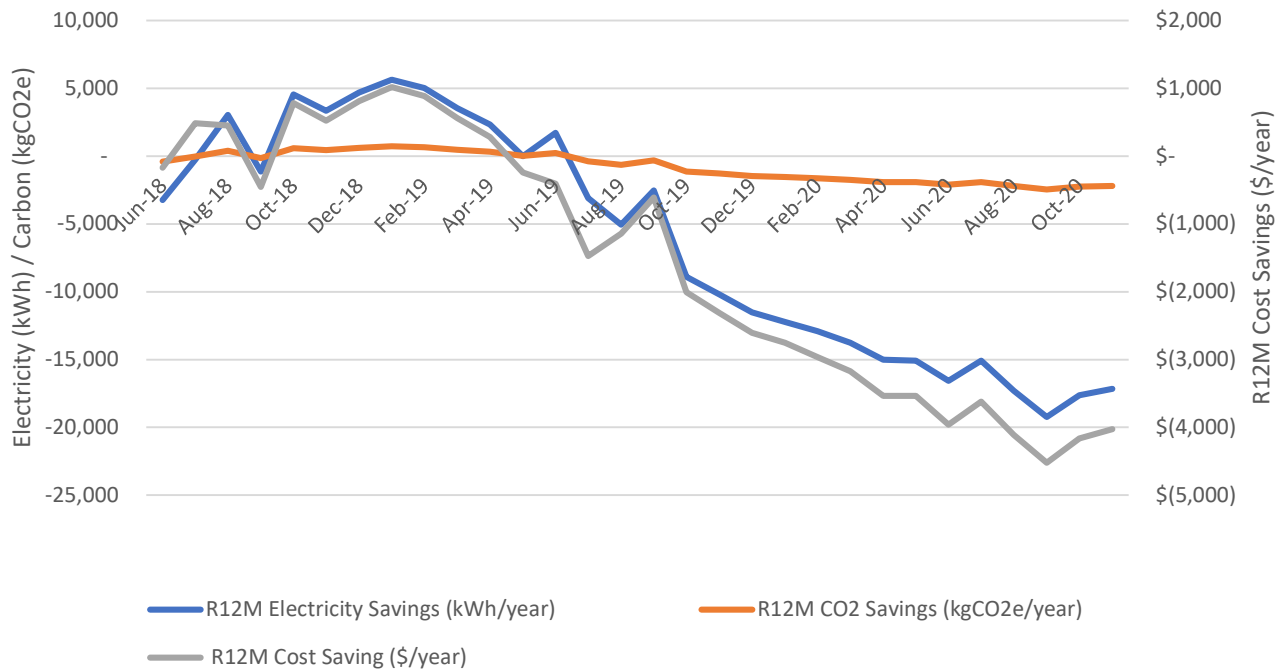
Johnson Rd Pump Station Actual versus Expected CO2



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)

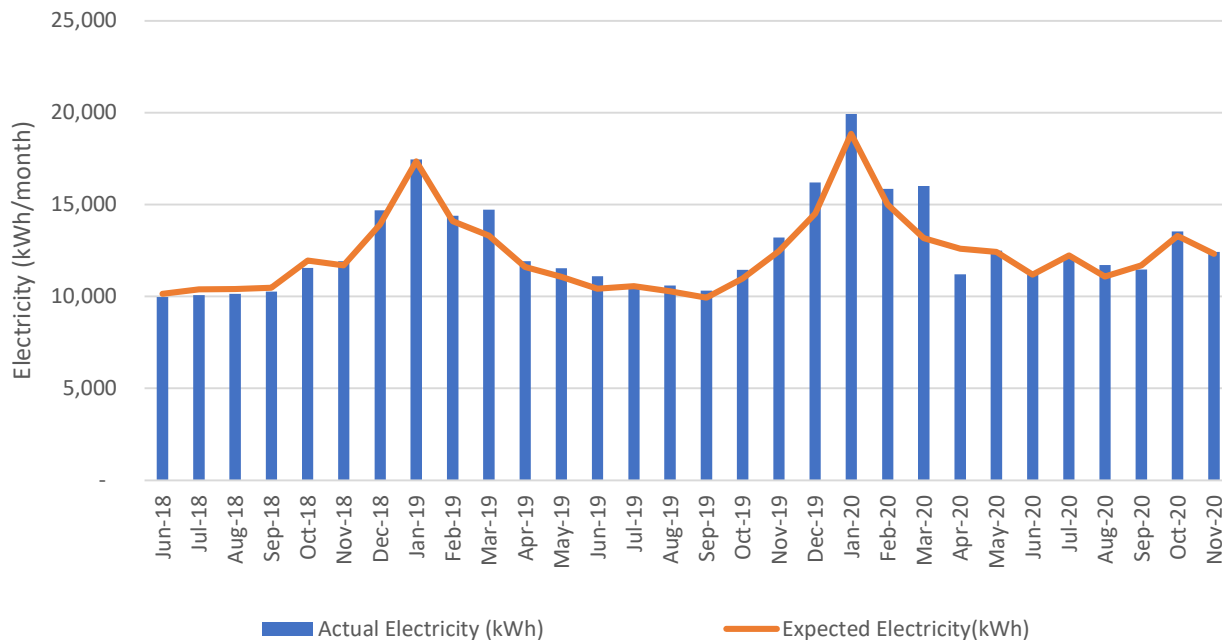
Bridger Glade Pump Station

- Electricity savings for the month were -102kWh, an extra 0.8%.
- Energy cost savings for the month were -\$18, which is an increase.
- Carbon savings for the month were -13 kgCO₂e, an extra 0.8%.
- Rolling 12-month electricity savings are -5,703 kWh, an extra 3.6%.
- Rolling 12-month energy cost savings are -\$1,101, which is an increase.
- Rolling 12-month carbon savings are -734 kgCO₂e, an extra 3.6%.

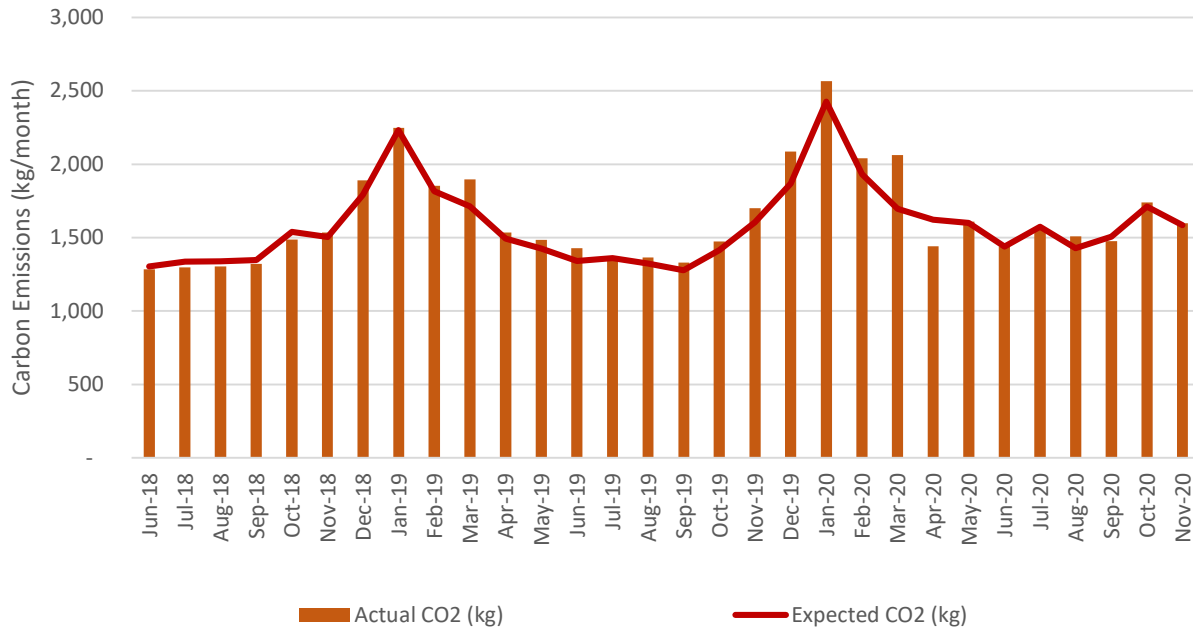
Comments

Electricity was slightly above expected for the month of November at Bridger Glade pump station, however this was by just 0.8%. Compared to November 2019, the volume of water supplied by Bridger Glade pumps has decreased by 1% and electricity use has decreased by 6%. 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

