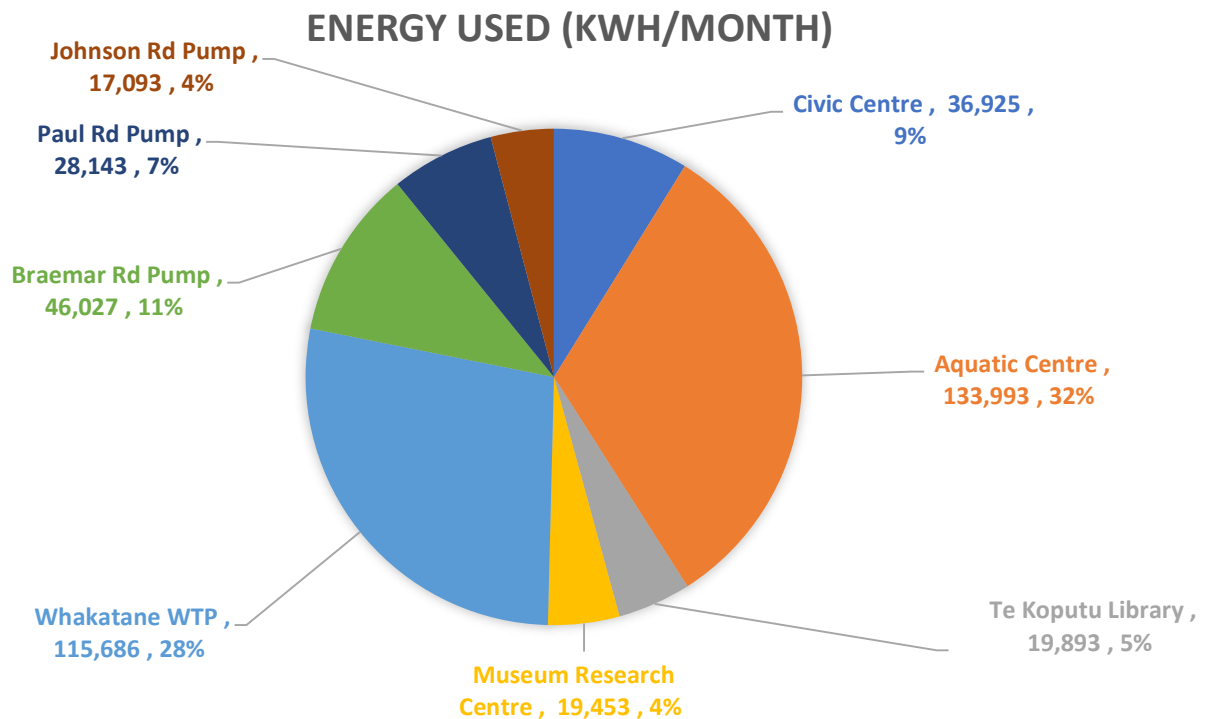


## Whakatāne District Council Energy Performance Report

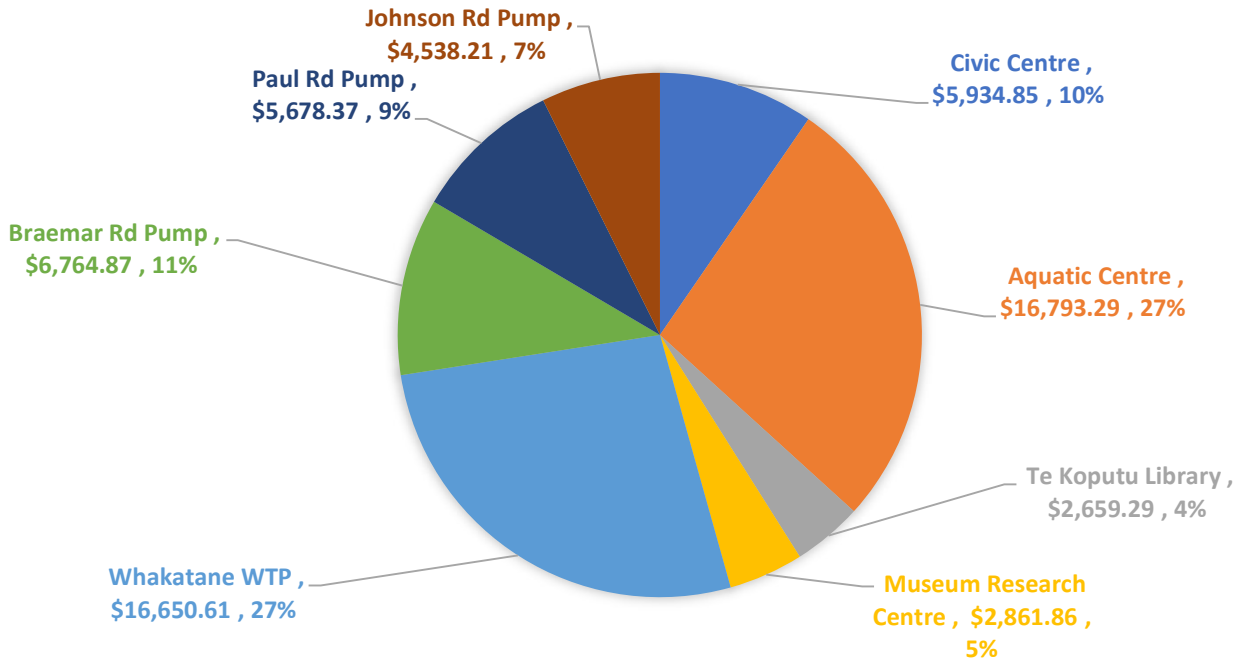
### Summary

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

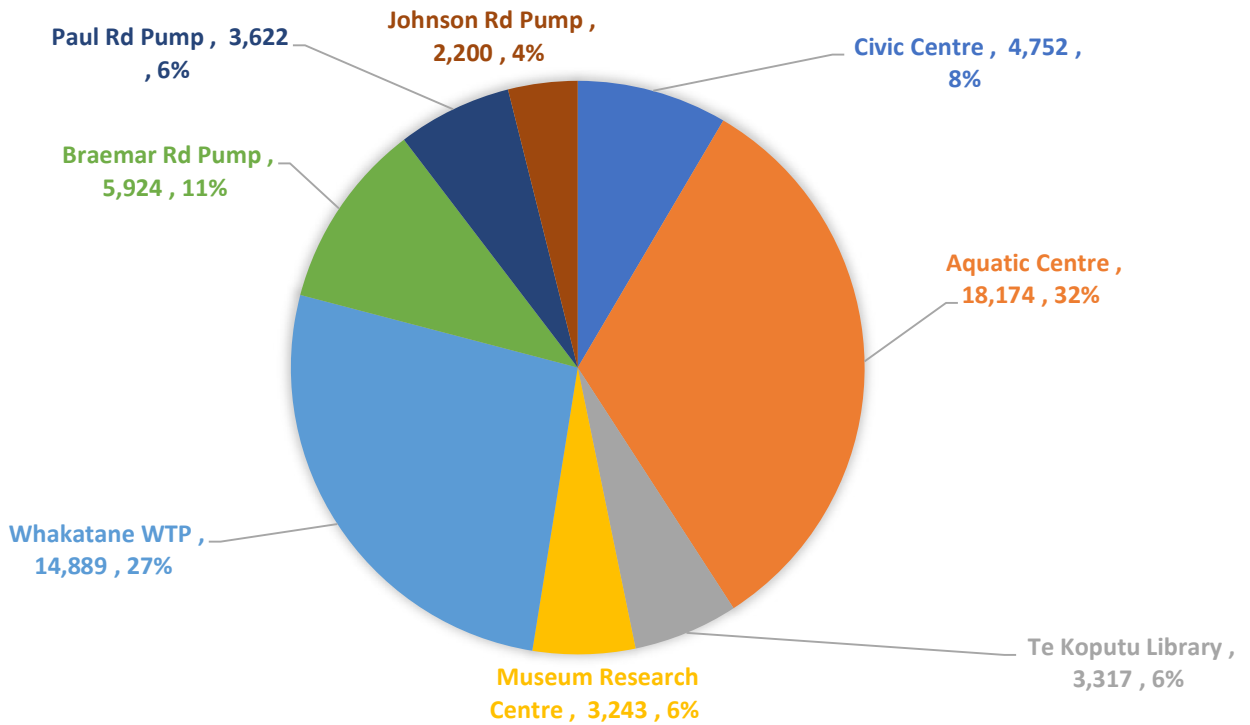
- Total energy cost savings for the month was \$2,058
- Total energy cost for the month was \$64,533
- Total energy used for the month was 428,918 kWh
- Total carbon emissions for the month were 57,626 kgCO<sub>2</sub>e
- Rolling 12-month energy savings total 827,879 kWh
- Rolling 12-month energy cost savings total \$57,411
- Rolling 12-month carbon savings total 168,566 kgCO<sub>2</sub>e



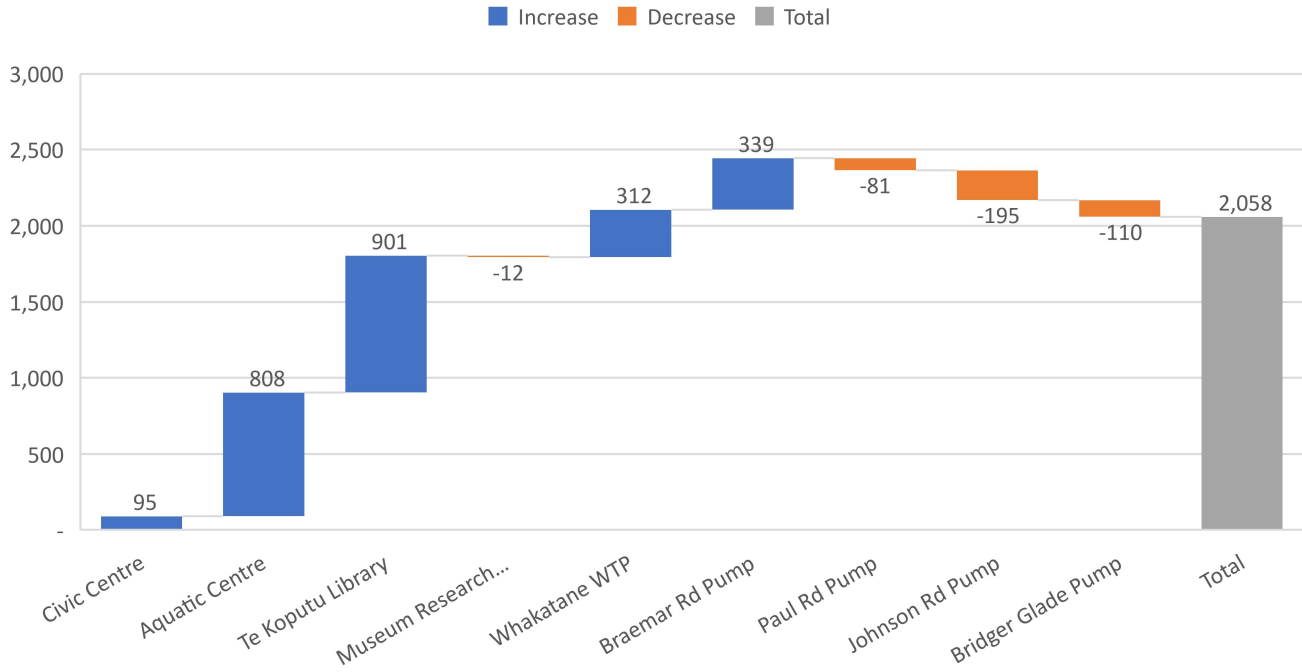
### ENERGY COST (\$/MONTH)



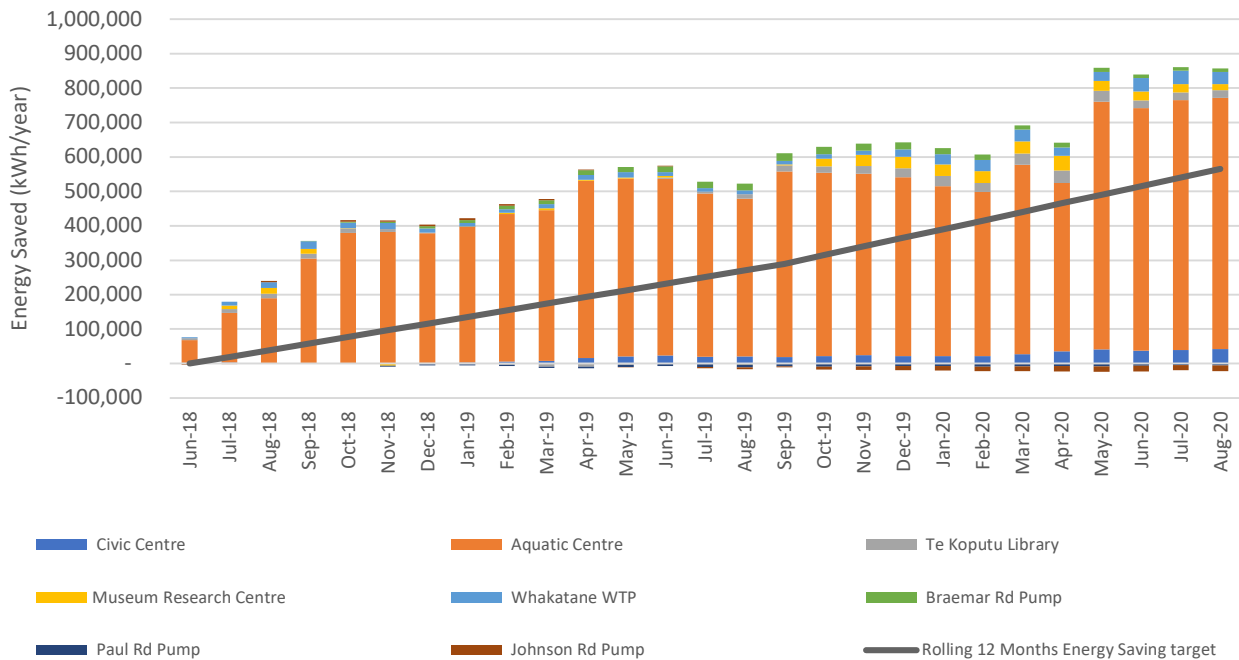
### CARBON EMISSIONS (KGCO2E/MONTH)



### Monthly Energy Cost Savings

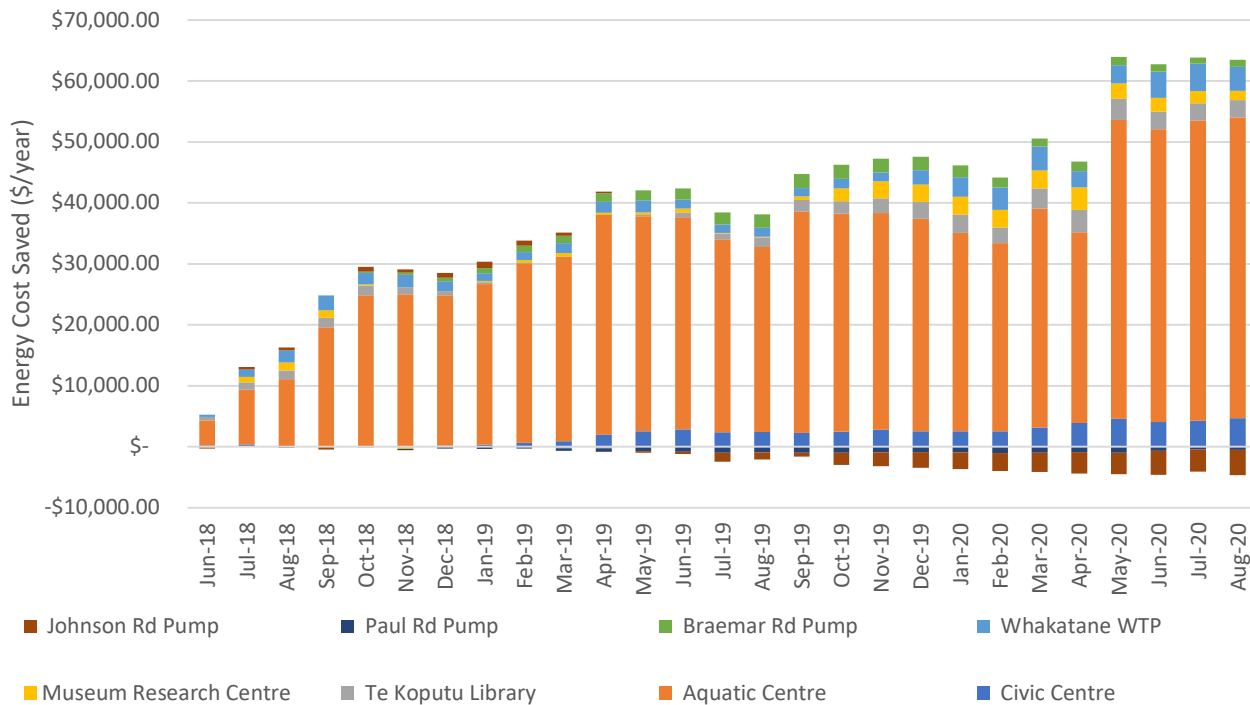


### Rolling 12 month Energy Savings

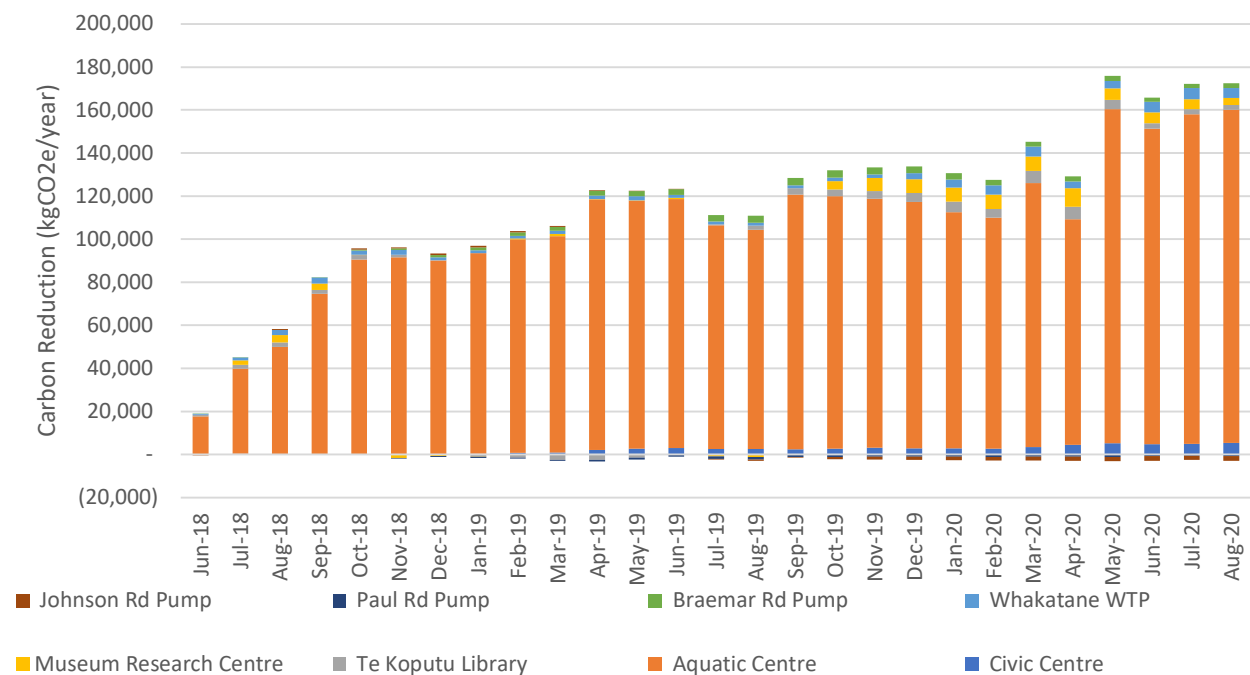




### Rolling 12 month Energy Cost Savings



### Rolling 12 month Carbon Savings





## Civic Centre

### Summary

- Electricity savings for the month were 789kWh, a saving of 2.1%.
- Energy cost savings for the month were \$95.
- Carbon savings for the month were 102 kgCO<sub>2</sub>e, a saving of 2.1%.
- Rolling 12-month electricity savings are 42,142 kWh, a saving of 10.9%.
- Rolling 12-month energy cost savings are \$4,654.
- Rolling 12-month carbon savings are 5,424 kgCO<sub>2</sub>e, a saving of 10.9%.

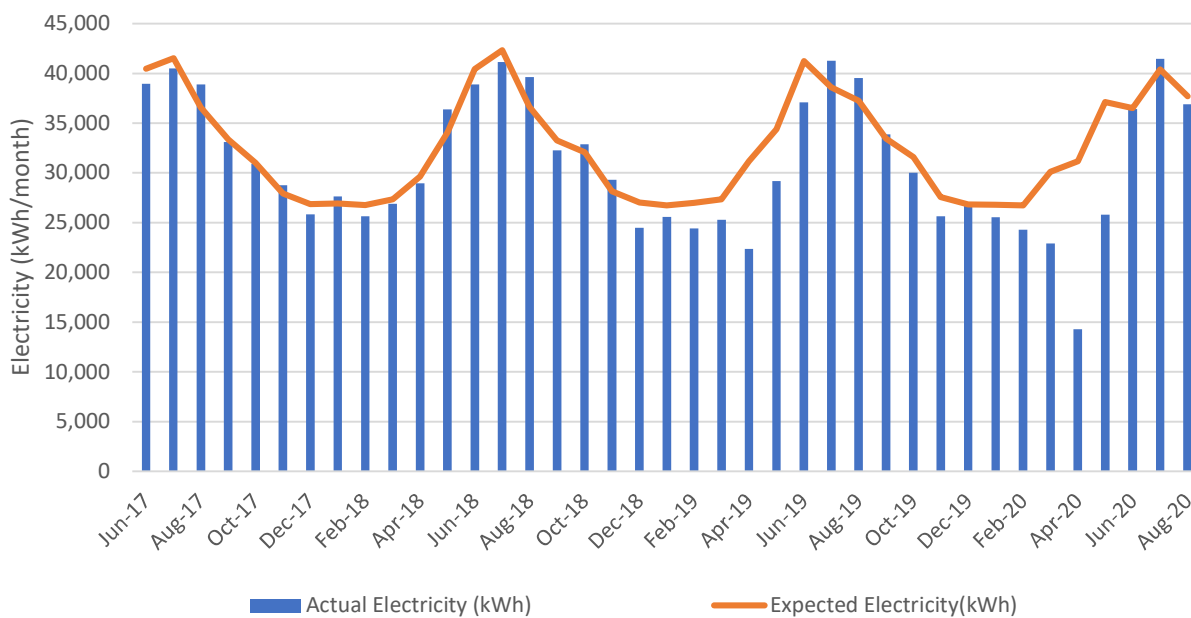
### Comments

August 2020 electricity use at the Civic Centre was 2% less than expected. Energy use in August 2020 is approx. 7% lower compared to August 2019, and it was a cooler month which normally requires more electricity use because more heating should have been required.

Rolling 12 month savings have achieved a record high of approx \$4,650, 42,000 kWh, and 5,4000 kgCO<sub>2</sub>e saved in the past 12 months, a savings of approx 11%.

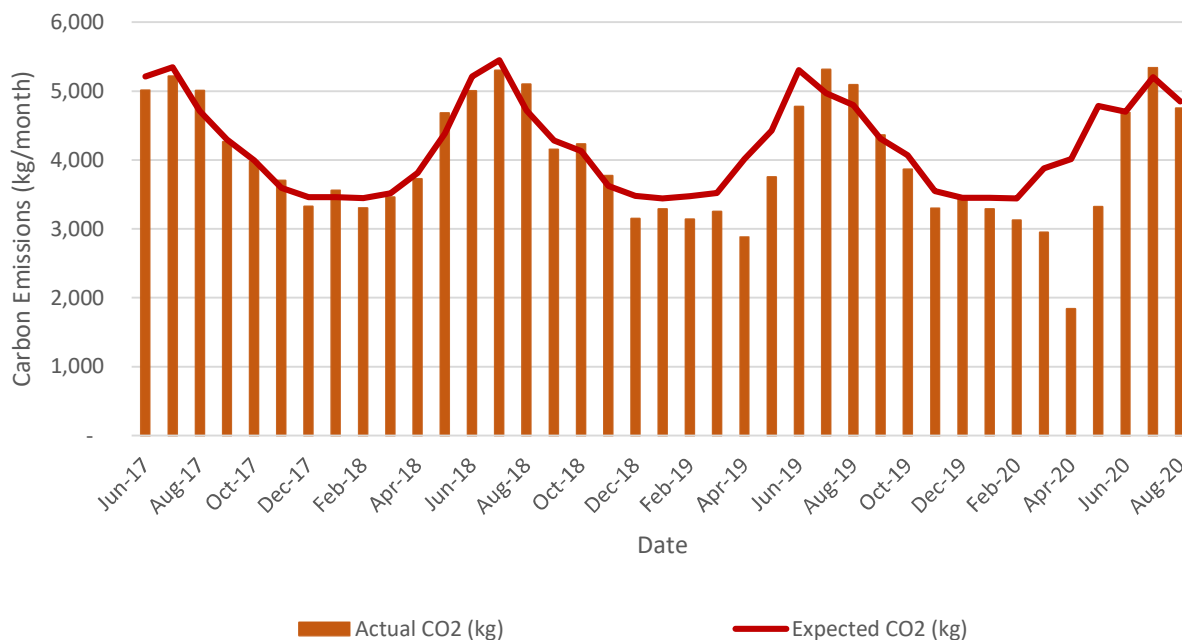
The baseline adjusts for heating degree days which is a measure of ambient temperature, however it does not adjust for occupancy because under normal circumstances this is relatively constant. It will be interesting to follow ongoing energy implications of any flexible working arrangements for staff continuing to work part time from home.

Civic Centre Actual versus Expected Electricity

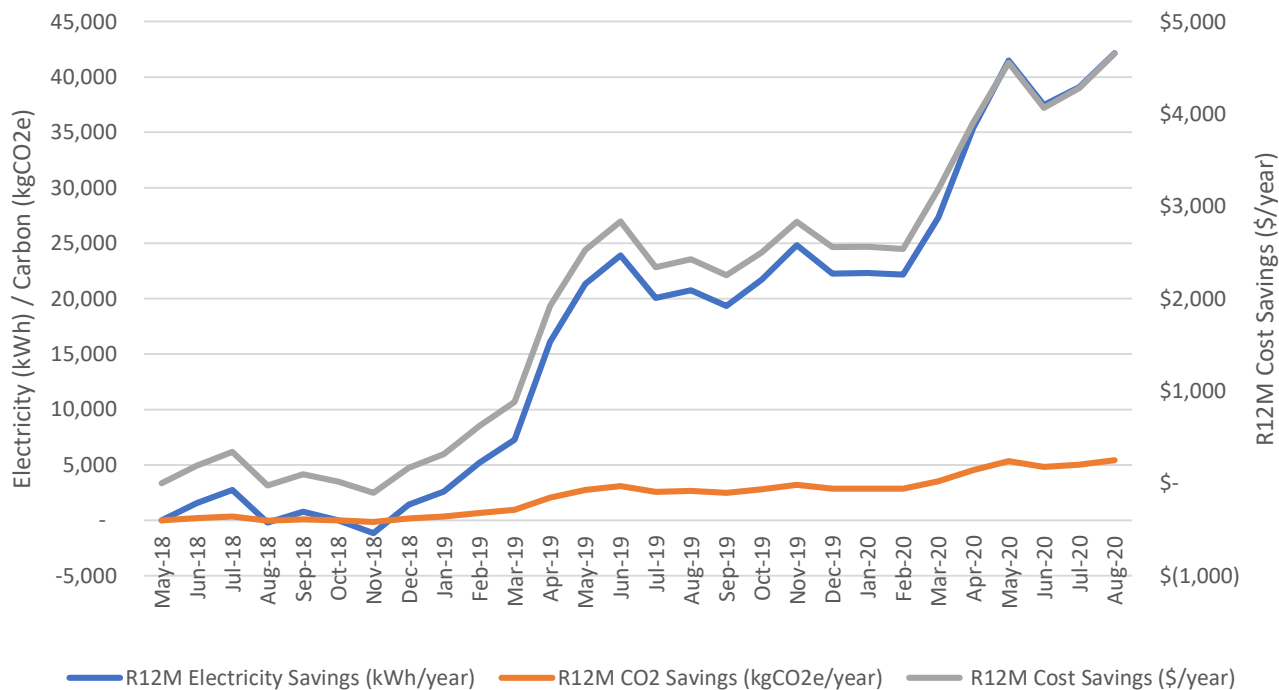




### Civic Centre Actual versus Expected CO2



### Civic Centre Cumulative Rolling 12 Month Savings





## Aquatic Centre

### Summary

- Electricity savings for the month were -38,449kWh, an extra 45.2%.
- Natural gas savings for the month were 71,894 kWh, a saving of 87.2%
- Energy cost savings for the month were \$808.
- Carbon savings for the month were 9,987 kgCO<sub>2</sub>e, a saving of 35.5%.
- Rolling 12-month electricity savings are -40,284 kWh, an extra 3.2%.
- Rolling 12-month natural gas savings are 770,006 kWh, a saving of 64%
- Rolling 12-month energy cost savings are \$49,327.
- Rolling 12-month carbon savings are 154,709 kgCO<sub>2</sub>e, a saving of 37.1%.

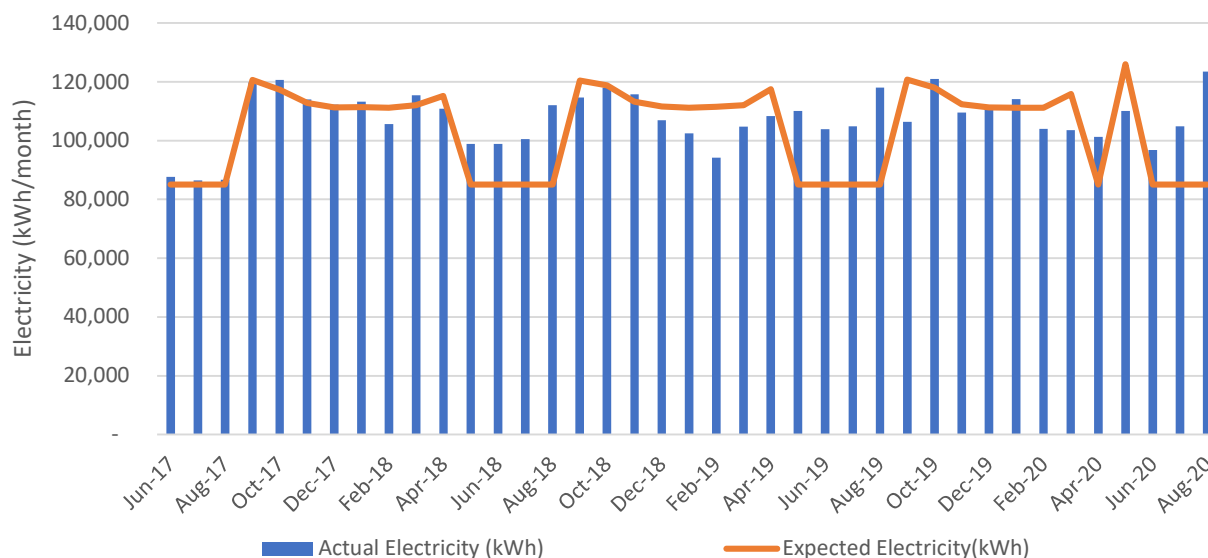
### Comments

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

August is usually a month of high electricity use; this year August has used the most electricity out of any month on record. When electricity use in August is compared to previous years at the Aquatic Centre, use in 2020 is 5% higher than 2019 and 10% higher than 2018.

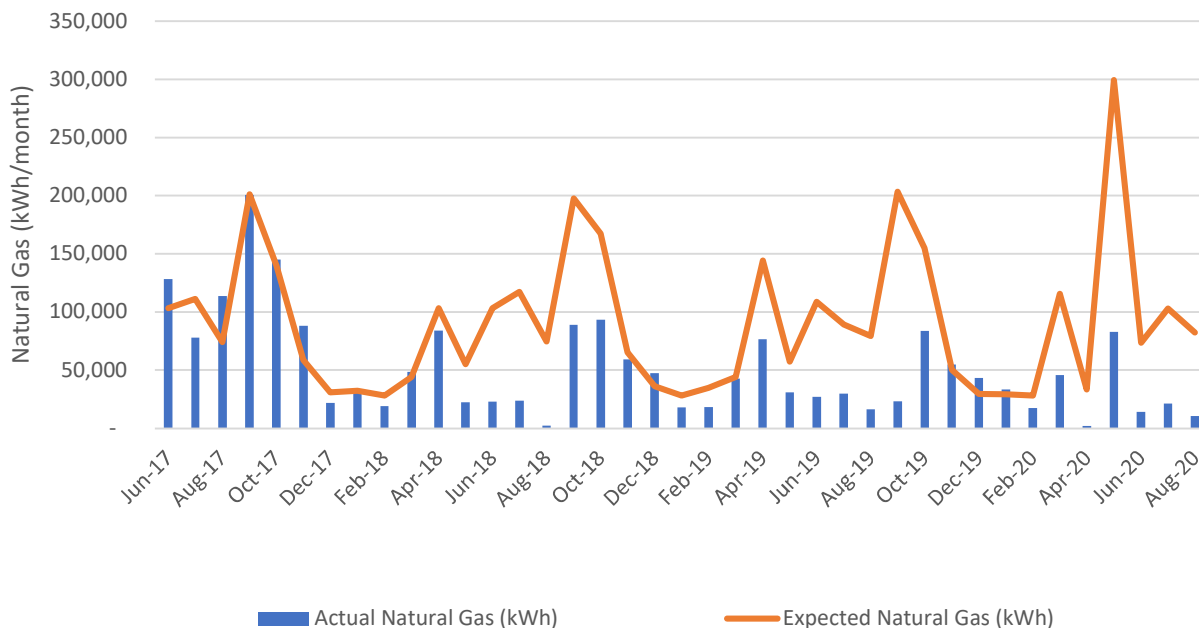
Gas use was substantially lower than baseline in August 2020 and has decreased by 35% compared to August 2019. In the past 12 months, 155 tonnes of carbon emissions have been prevented and rolling 12-month cost savings are at a record high of approximately \$49,300 per year.

Aquatic Centre Actual versus Expected Electricity

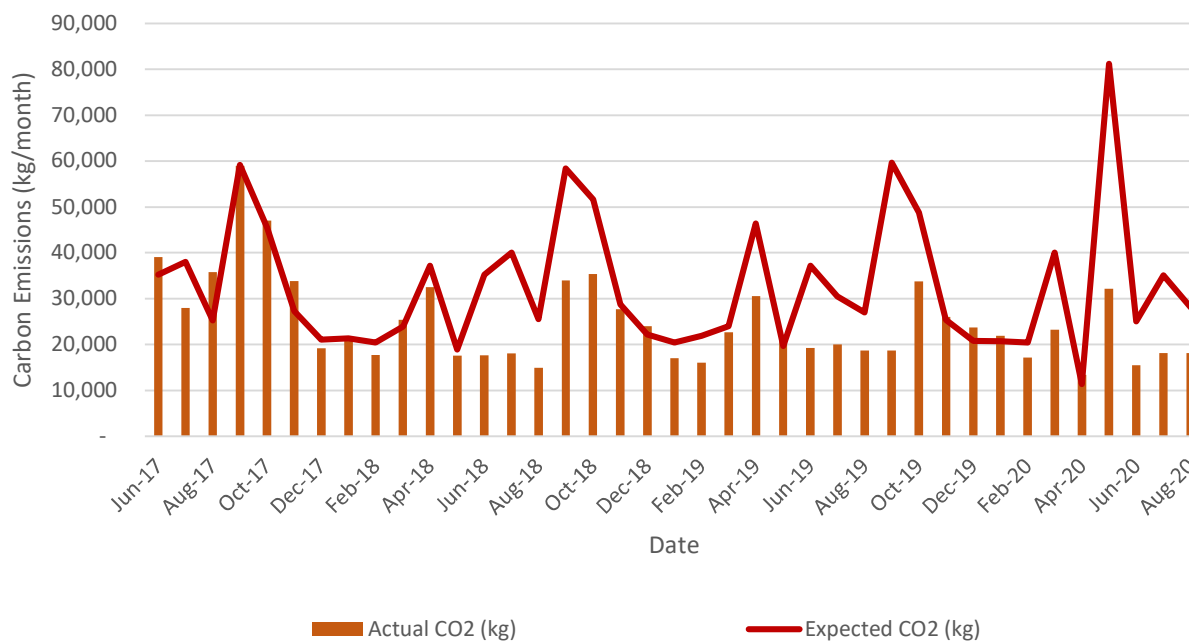




### Aquatic Centre Actual versus Expected Natural Gas



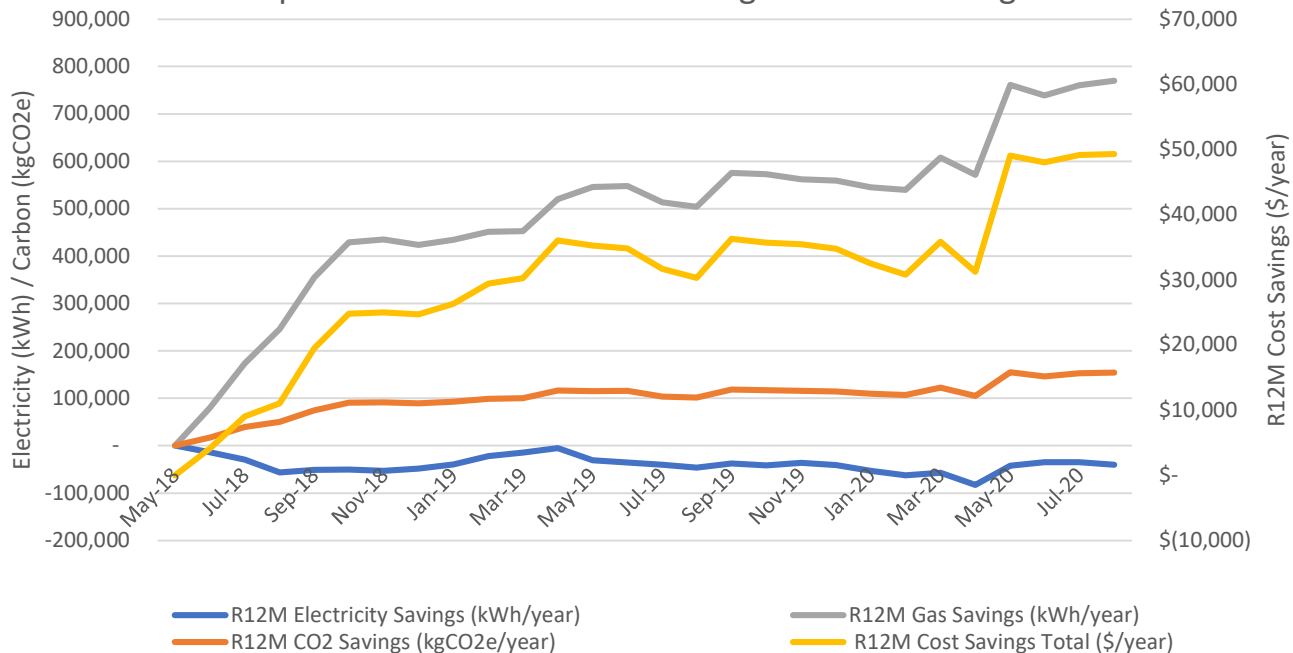
### Aquatic Centre Actual versus Expected CO2







### Aquatic Centre Cumulative Rolling 12 Month Savings





## Te Koputu Library

### Summary

- Electricity savings for the month were 4,707kWh, a saving of 29.4%.
- Natural gas savings for the month were 4,862 kWh, a saving of 36.2%
- Energy cost savings for the month were \$901.
- Carbon savings for the month were 1,664 kgCO<sub>2</sub>e, a saving of 33.4%.
- Rolling 12-month electricity savings are 30,789 kWh, a saving of 16.7%
- Rolling 12-month natural gas savings are -8,434 kWh, an extra 7.1%
- Rolling 12-month energy cost savings are \$2,878.
- Rolling 12-month carbon savings are 2,187 kgCO<sub>2</sub>e, a saving of 4.4%.

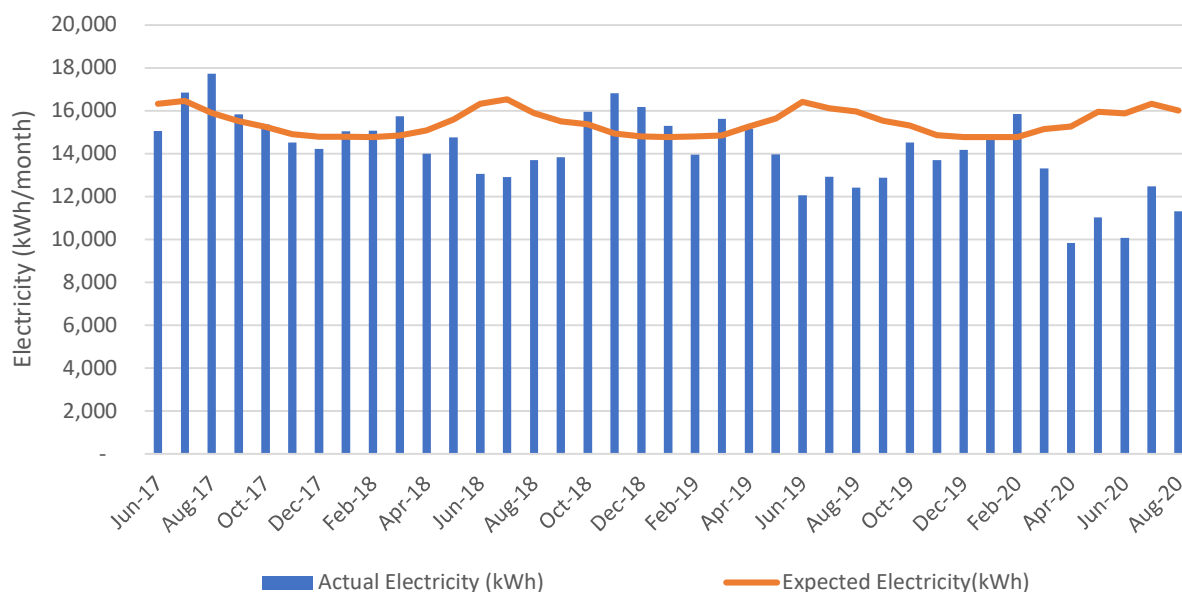
### Comments

The Library has achieved significant savings in August 2020, approx. 29% for electricity and 36% for natural gas. A seasonal reversal trend was observed for both gas and electricity: colder months used less energy. August 2020 follows this trend.

Electricity is following the seasonal reversal trend from 2019; however, in 2020 electricity savings are larger. Rolling 12-month electricity savings are at a record high.

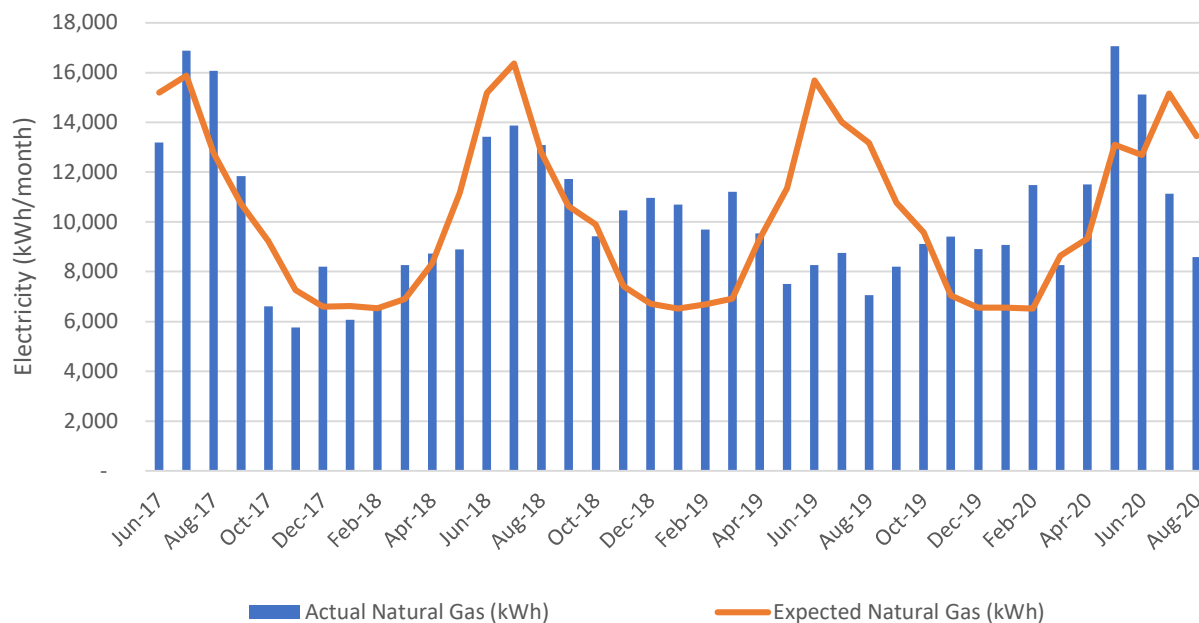
In 2019, a seasonal reversal trend for gas use was observed; colder months used less gas. July and August follow this trend in 2020, while May and June do not. The HVAC system at the library continues to be an area of erratic performance.

Te Koputu Library Actual versus Expected Electricity

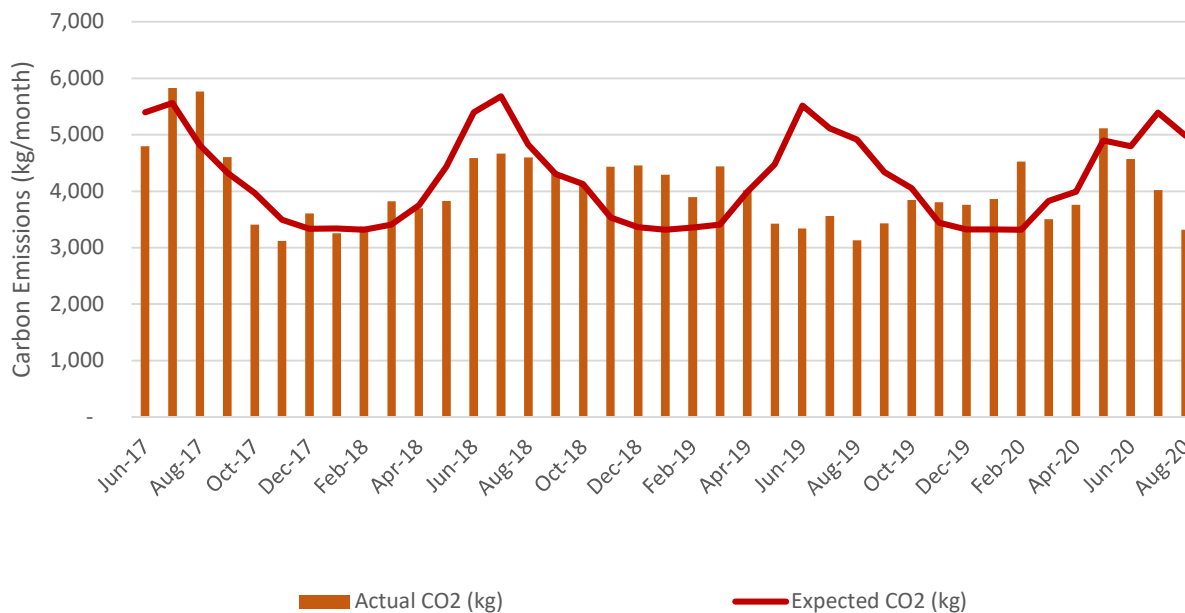




Te Koputu Library Actual versus Expected Natural Gas

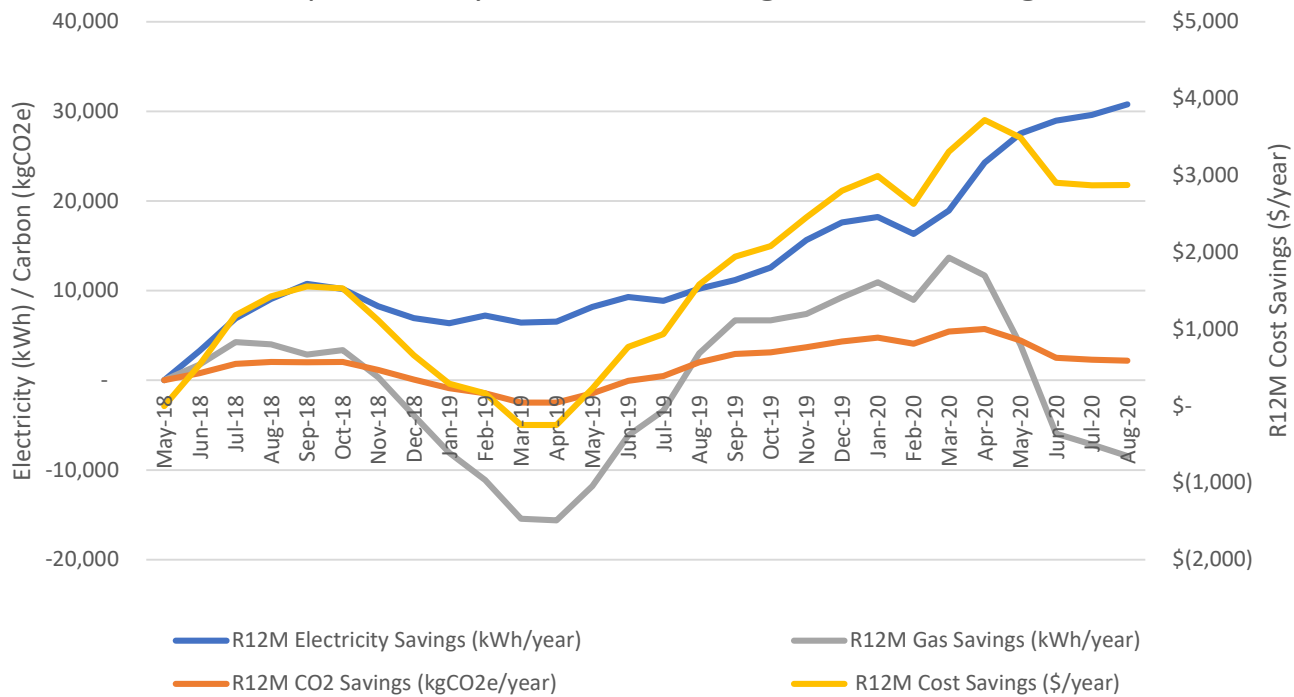


Te Koputu Library Actual versus Expected CO2





### Te Koputu Library Cumulative Rolling 12 Month Savings



## Museum Research Centre

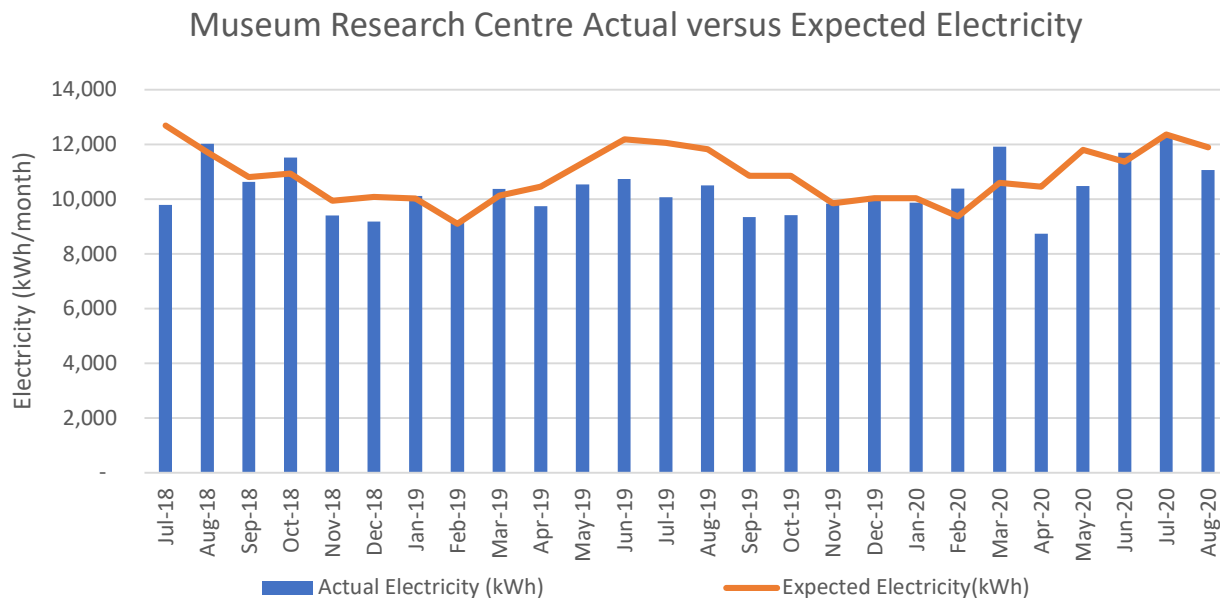
### Summary

- Electricity savings for the month were 837kWh, a saving of 7%.
- Natural gas savings for the month were -1,484 kWh, an extra 21.5%
- Energy cost savings for the month were -\$12, which is an increase.
- Carbon savings for the month were -214 kgCO<sub>2</sub>e, an extra 7.1%.
- Rolling 12-month electricity savings are 4,338 kWh, a saving of 3.4%
- Rolling 12-month natural gas savings are 12,963 kWh, a saving of 16.7%
- Rolling 12-month energy cost savings are \$1,495.
- Rolling 12-month carbon savings are 3,369 kgCO<sub>2</sub>e, a saving of 10.1%.

### Comments

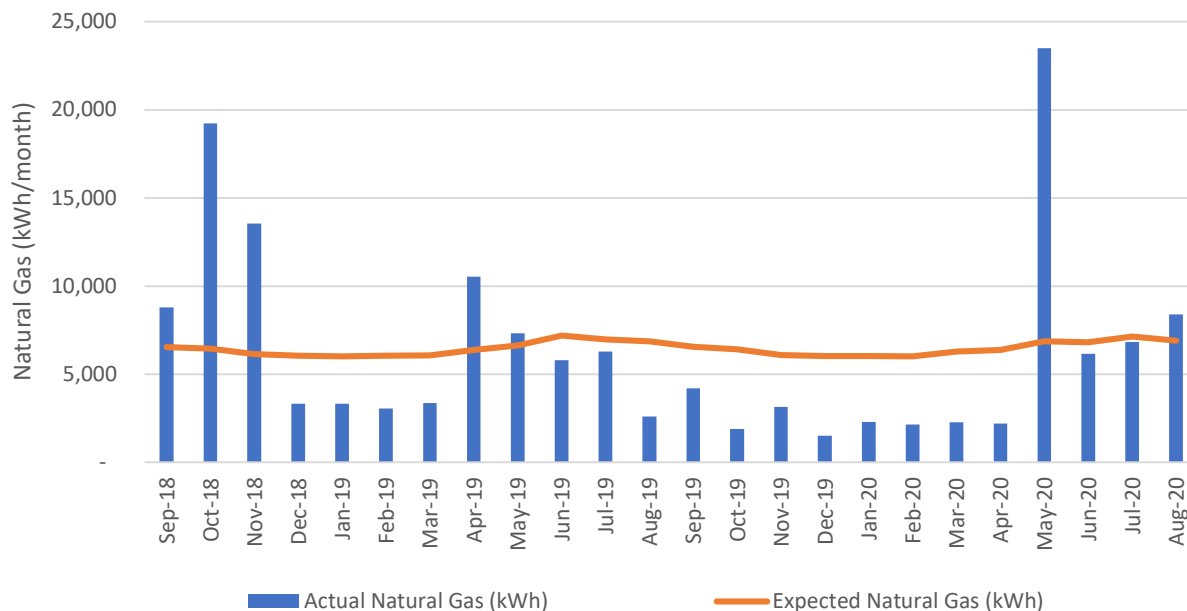
Electricity use at the Museum and Research Centre is below baseline for August 2020. Compared to 2019, electricity use has increased by 5%; however, August 2020 was a cooler month on average, which typically requires more energy for heating.

Gas use for August 2020 is 22% above baseline. Compared to August 2019, August 2020 used 220% more gas. To better understand gas use at the museum, daily readings of the meter could be taken manually. Daily gas use could help to identify factors associated with gas use.

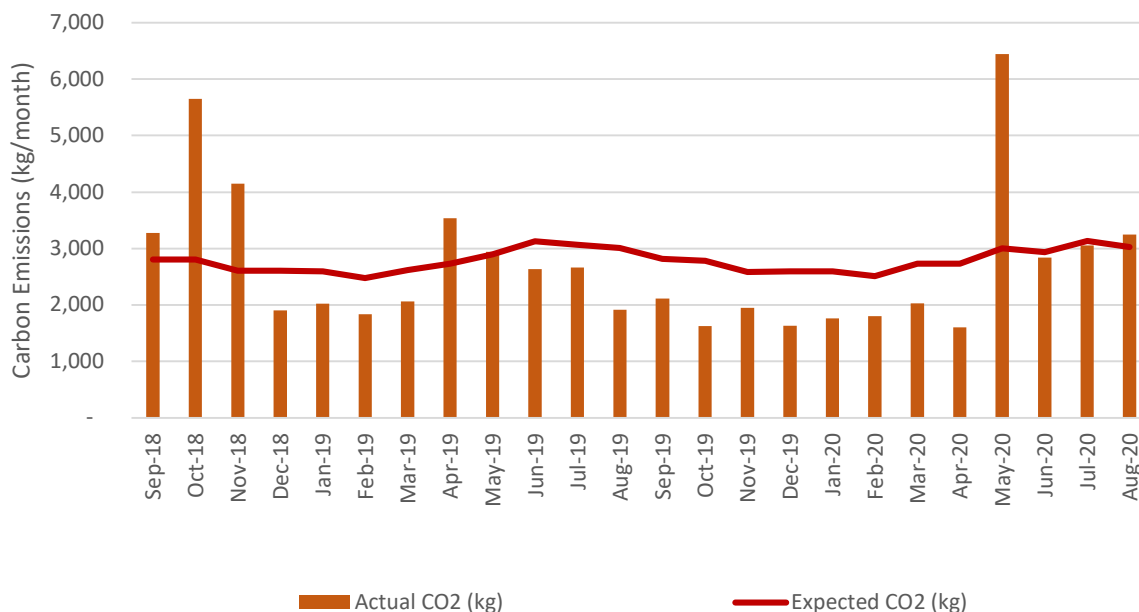


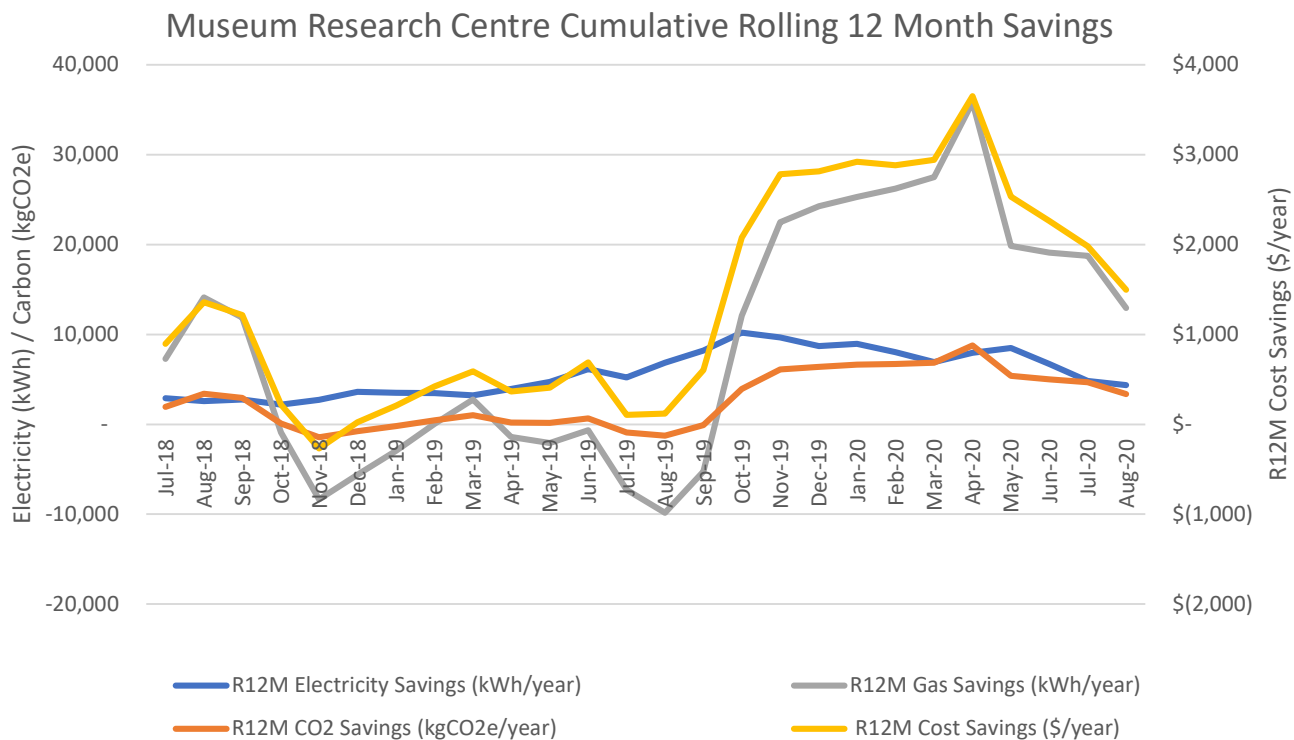


### Museum Research Centre Actual versus Expected Natural Gas



### Museum Research Centre Actual versus Expected CO2





## Whakatāne Water Treatment Plant

### Summary

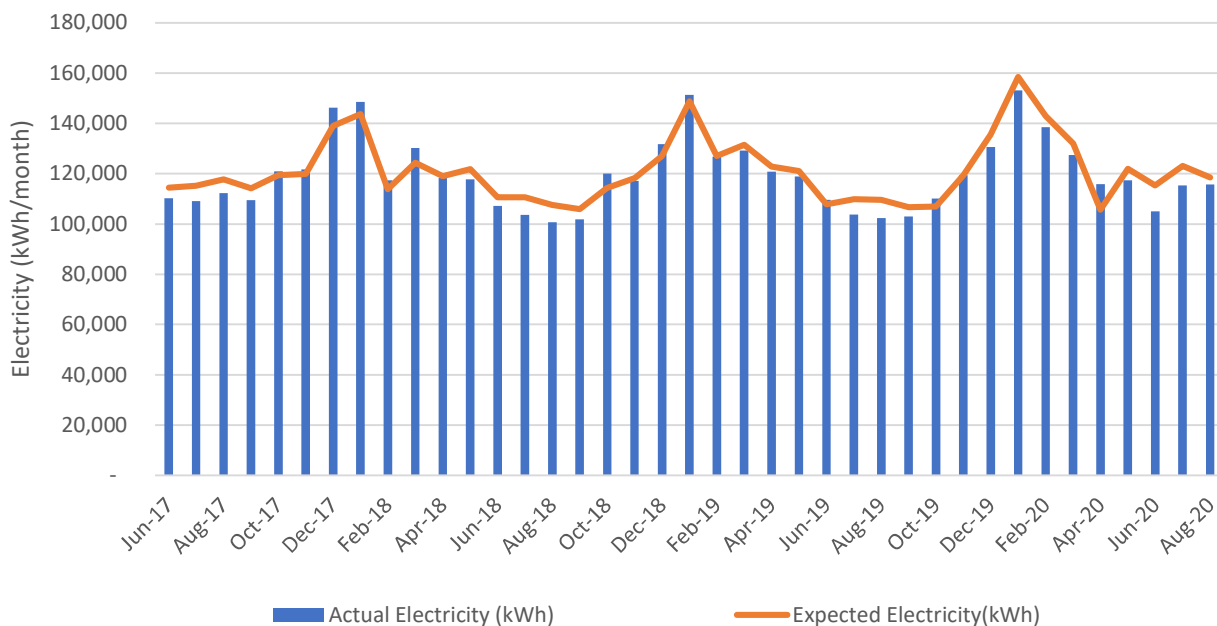
- Electricity savings for the month were 2,779kWh, a saving of 2.3%.
- Energy cost savings for the month were \$312.
- Carbon savings for the month were 358 kgCO<sub>2</sub>e, a saving of 2.3%.
- Rolling 12-month electricity savings are 35,249 kWh, a saving of 2.4%.
- Rolling 12-month energy cost savings are \$3,968.
- Rolling 12-month carbon savings are 4,537 kgCO<sub>2</sub>e, a saving of 2.4%.

### Comments

Historically, a seasonal savings trend can be observed for the months of July, August and September. August 2020 has followed this trend, using approx 2% less electricity compared to baseline. Electricity savings have been achieved at the Water Treatment Plant for eight of the last nine months; April 2020's increase in electricity was an anomaly due to a blocked pump.

Rolling 12 month savings have declined slightly, to approx. \$4,000, due to larger savings in August 2019, compared to August 2020.

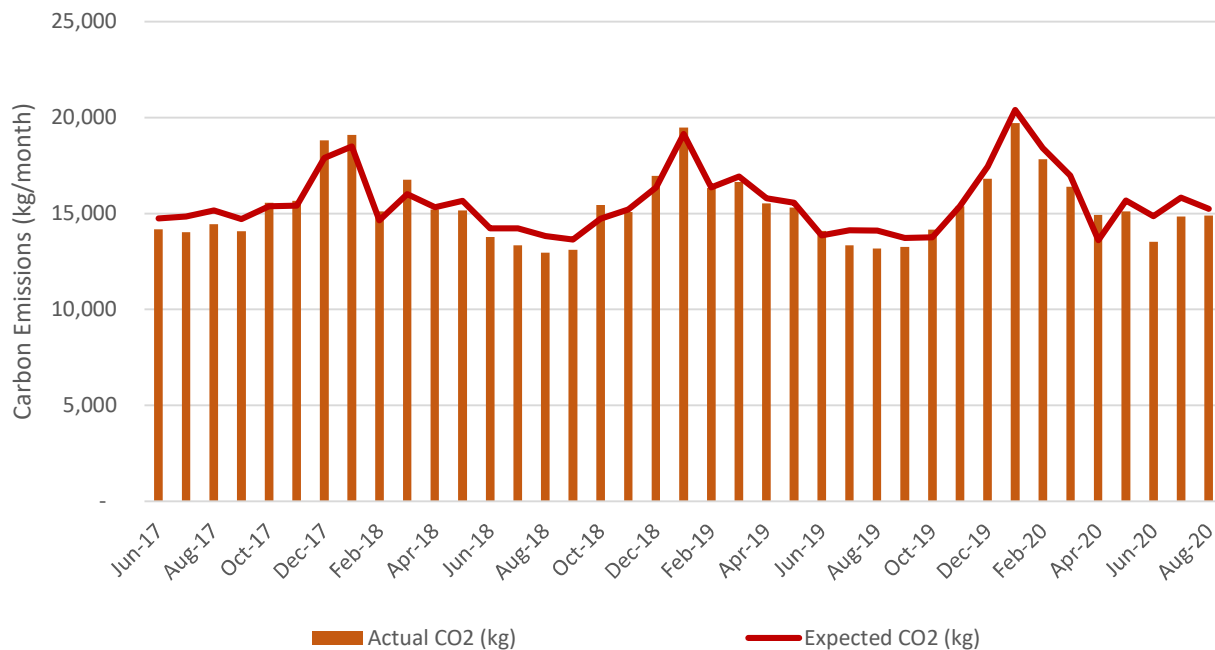
Water Treatment Plant Actual versus Expected Electricity



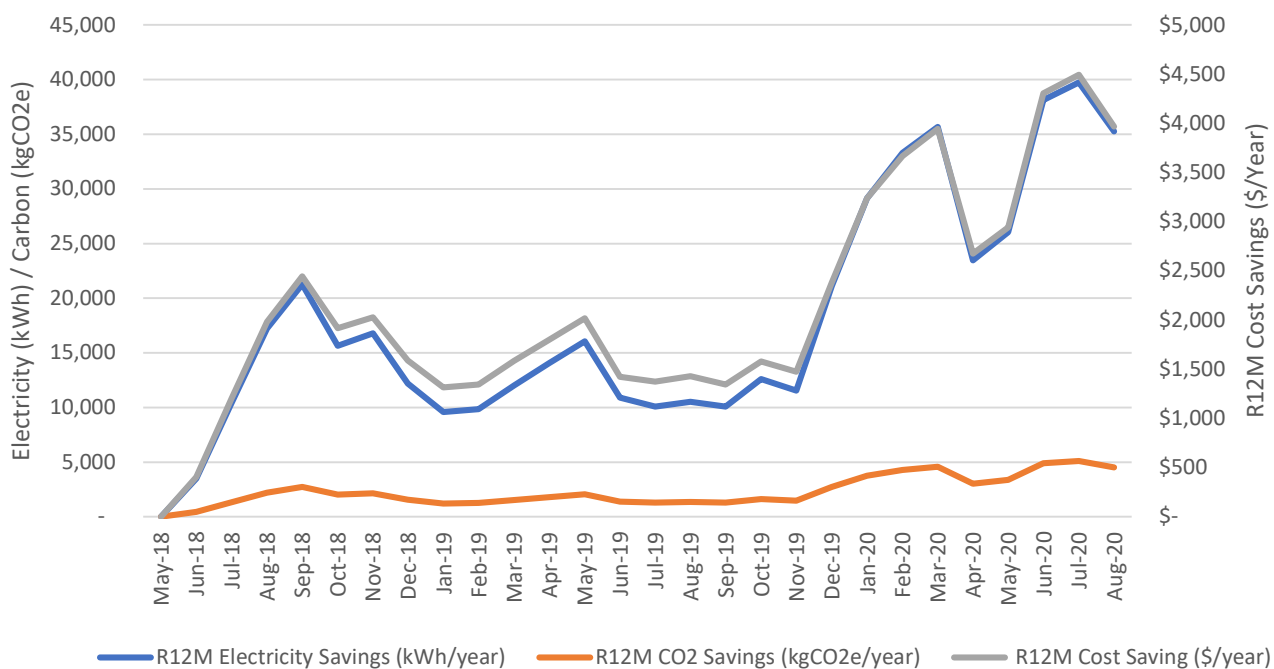




### Water Treatment Plant Actual versus Expected CO2



### Whakatane Water Treatment Plant Cumulative Rolling 12 Month Savings





## Braemar Rd Pump Station

### Summary

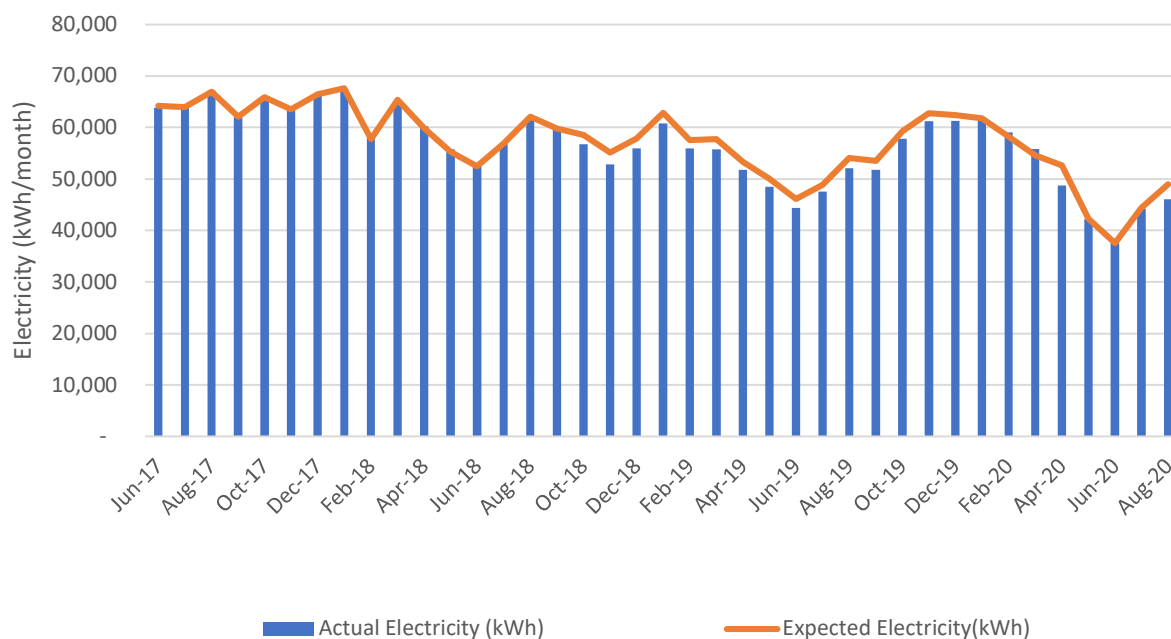
- Electricity savings for the month were 2,959kWh, a saving of 6%.
- Energy cost savings for the month were \$339.
- Carbon savings for the month were 470 kgCO<sub>2</sub>e, a saving of 6%.
- Rolling 12-month electricity savings are 10,878 kWh, a saving of 1.7%.
- Rolling 12-month energy cost savings are \$1,130.
- Rolling 12-month carbon savings are 2,151 kgCO<sub>2</sub>e, a saving of 1.7%.

### Comments

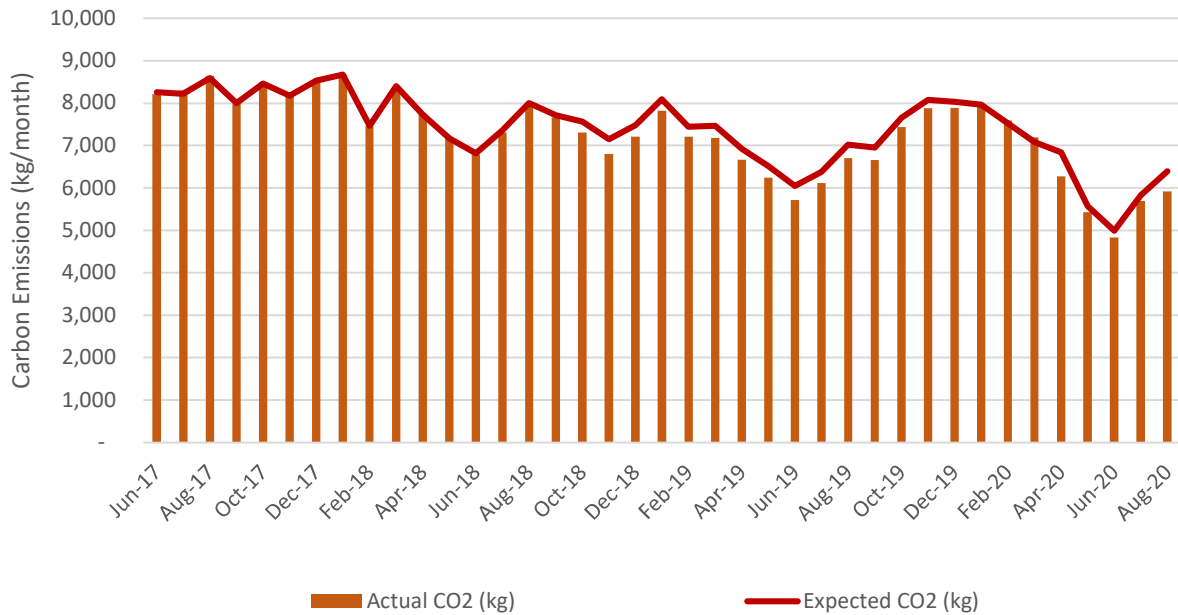
Compared to baseline, Braemar Rd. achieved a 6% savings for August 2020. New, more efficient pumps were installed late in the month, which reduce demand by approx. 10 kW.

Electricity use in August, when compared to last year is 12% less, due to lower demand for water.

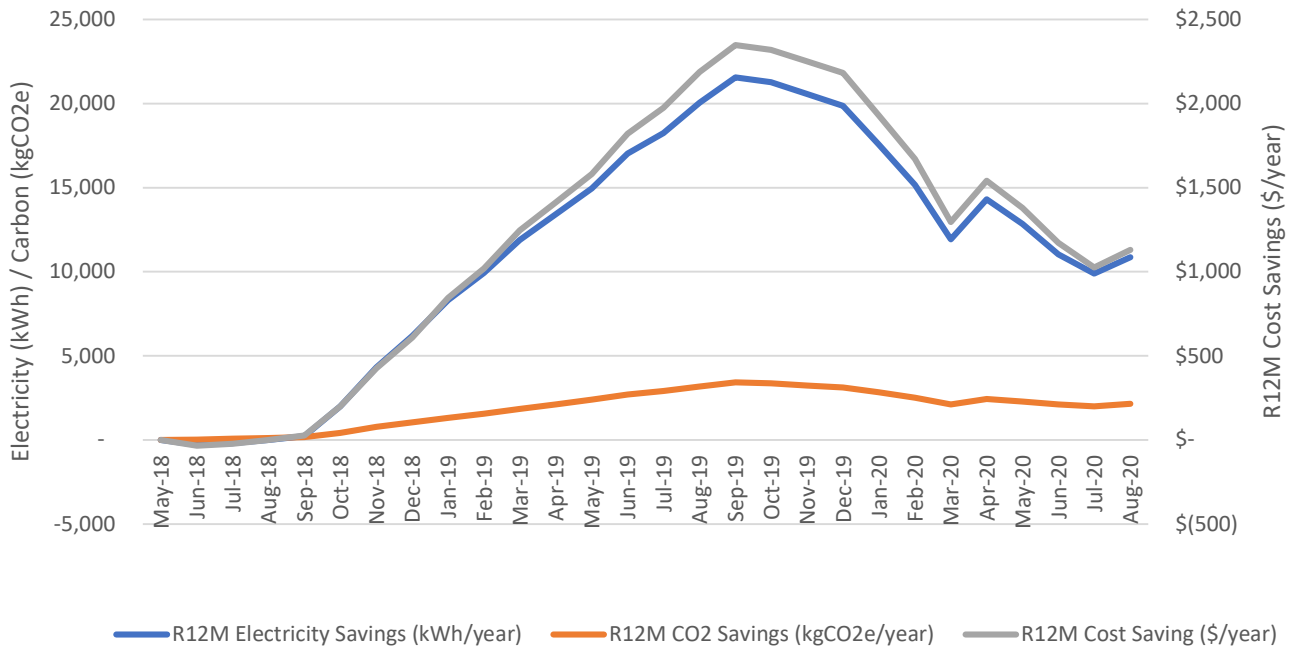
Braemar Rd Actual versus Expected Electricity



### Braemar Rd Actual versus Expected CO2



### Braemar Rd Pumps Cumulative Rolling 12 Month Savings





## Paul Rd Pump Station

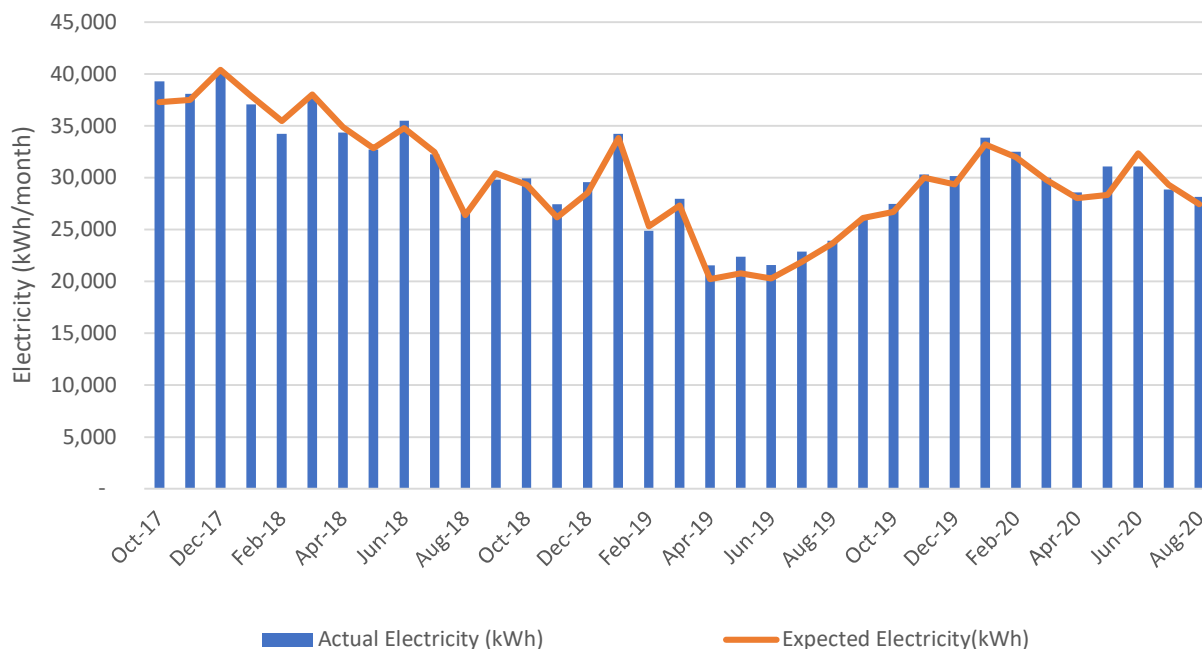
- Electricity savings for the month were -707kWh, an extra 2.6%.
- Energy cost savings for the month were -\$81, which is an increase.
- Carbon savings for the month were -90 kgCO<sub>2</sub>e, an extra 2.6%.
- Rolling 12-month electricity savings are -5,291 kWh, an extra 1.5%.
- Rolling 12-month energy cost savings are -\$540, which is an increase.
- Rolling 12-month carbon savings are -673 kgCO<sub>2</sub>e, an extra 1.5%.

### Comments

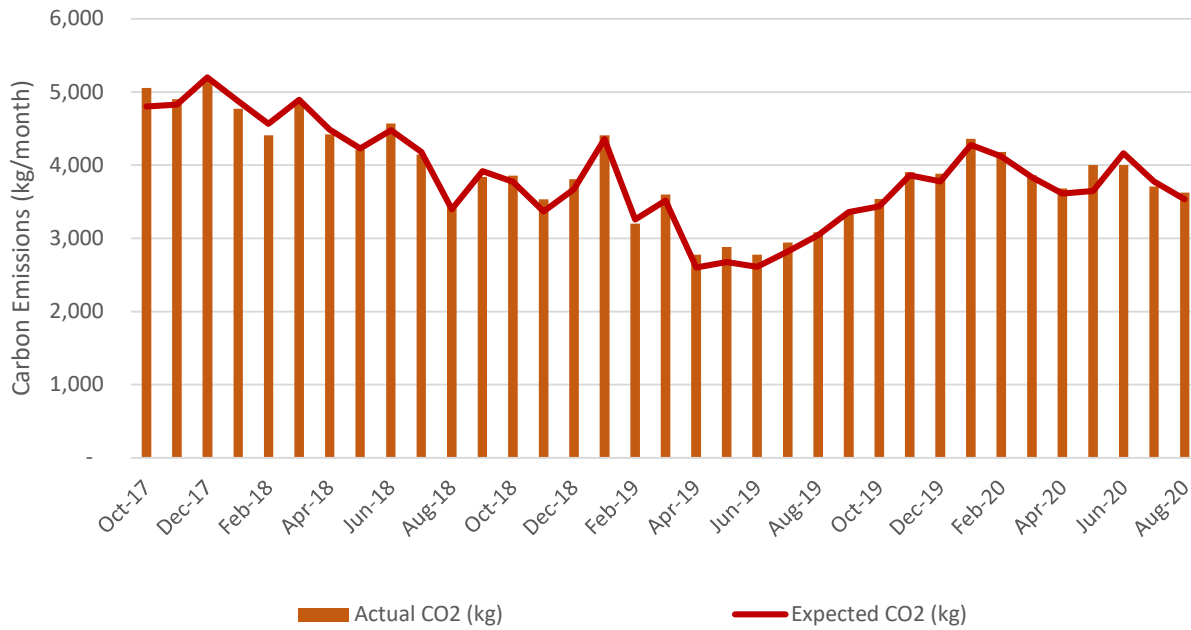
Paul Road pump station has used more electricity than baseline this month. Compared to July 2020, August 2020 has pumped approx 8% less water, but has only used 2% less electricity.

Total electricity use by the Paul Rd. pump station has increased by approximately 18% compared to August 2019.

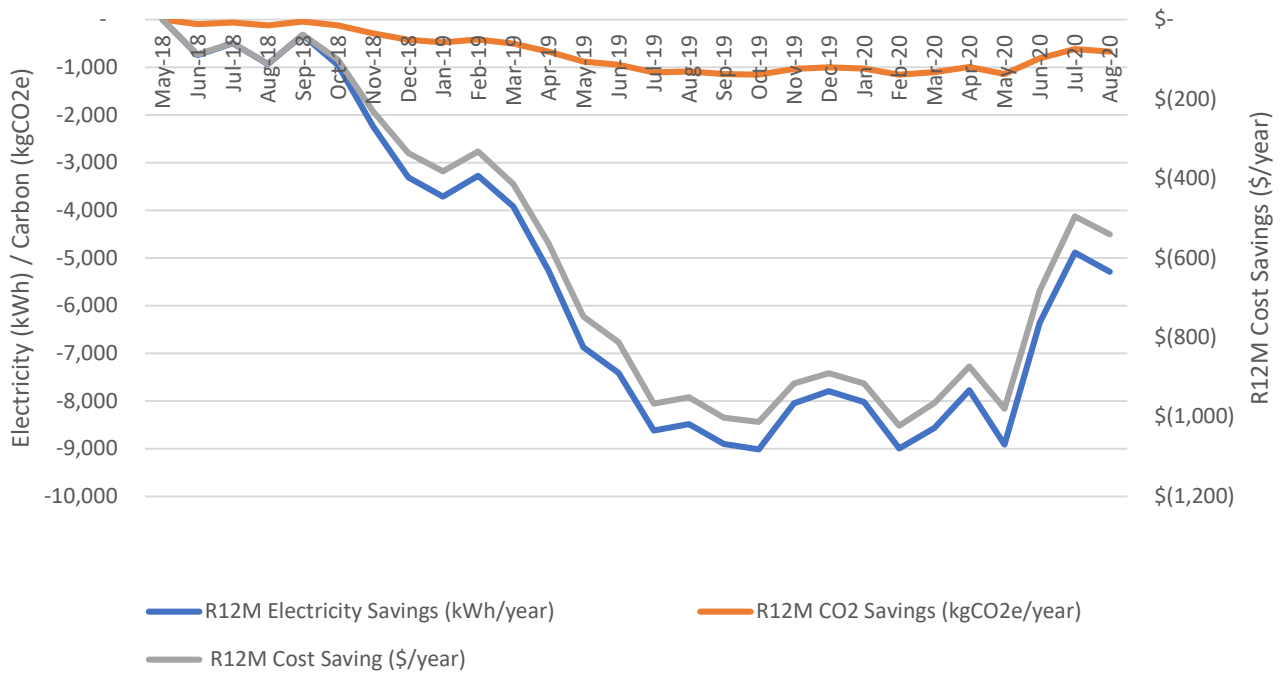
Paul Rd Pump Station Actual versus Expected Electricity



### Paul Rd Pump Station Actual versus Expected CO2



### Paul Rd Pumps Cumulative Rolling 12 Month Savings





## Johnson Rd Pump Station

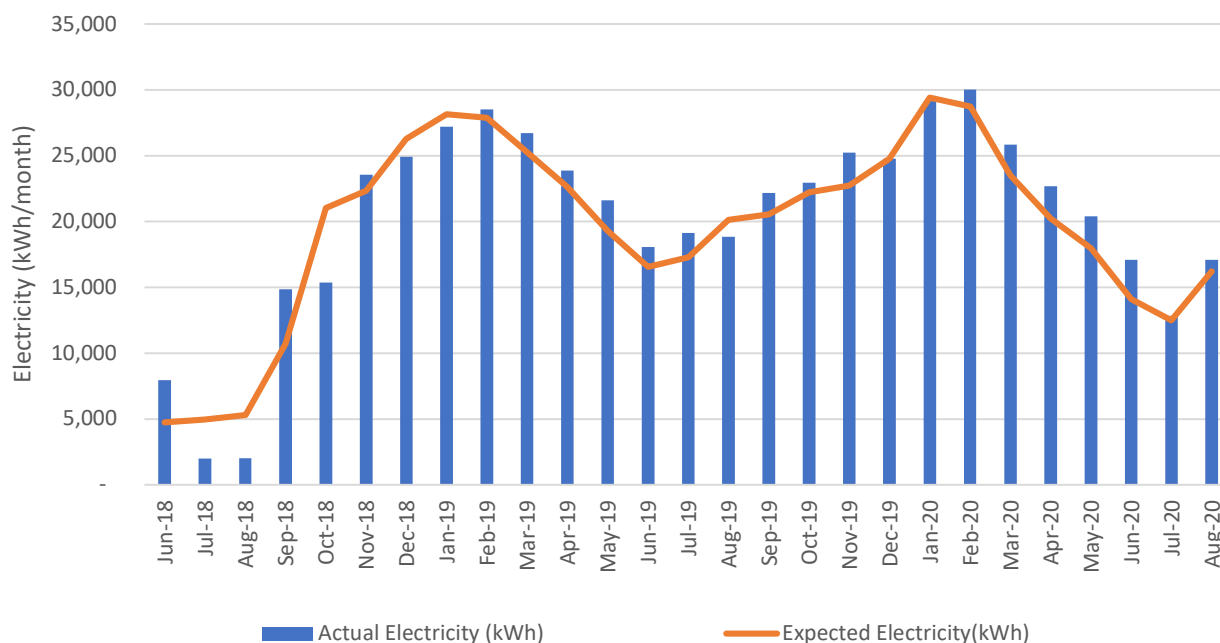
- Electricity savings for the month were -895kWh, an extra 5.5%.
- Energy cost savings for the month were -\$195, which is an increase.
- Carbon savings for the month were -114 kgCO2e, an extra 5.5%.
- Rolling 12-month electricity savings are -17,282 kWh, an extra 6.8%.
- Rolling 12-month energy cost savings are -\$4,113, which is an increase.
- Rolling 12-month carbon savings are -2,211 kgCO2e, an extra 6.8%.

### Comments

The month of August 2020 resumes the trend of electricity use greater than baseline. July 2020 had usage that was very close to baseline.

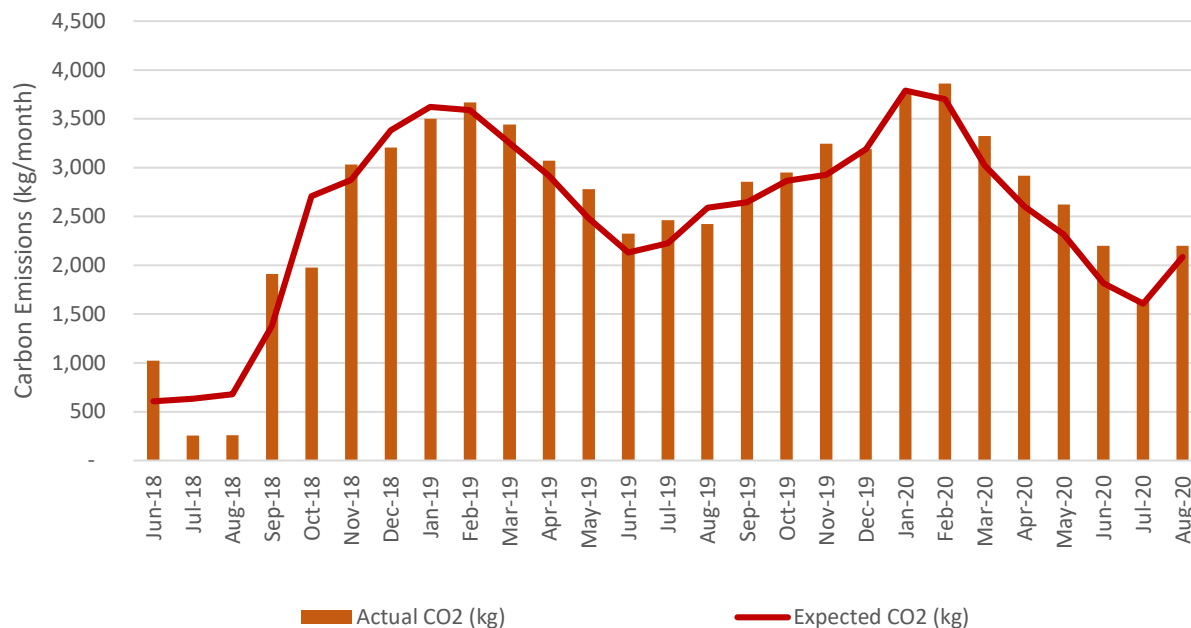
The replacement pump at Braemar Rd. was installed late August 2020. The latest usage period is only until 18 August 2020, any improvement in performance from the pump replacement at Braemar Rd. will not be realised until next month. However, August 2020 was an improvement compared to the recent months: electricity use was only above baseline by 900 kWh, 500 kWh less than average for the past 12 months.

Johnson Rd Pump Station Actual versus Expected Electricity





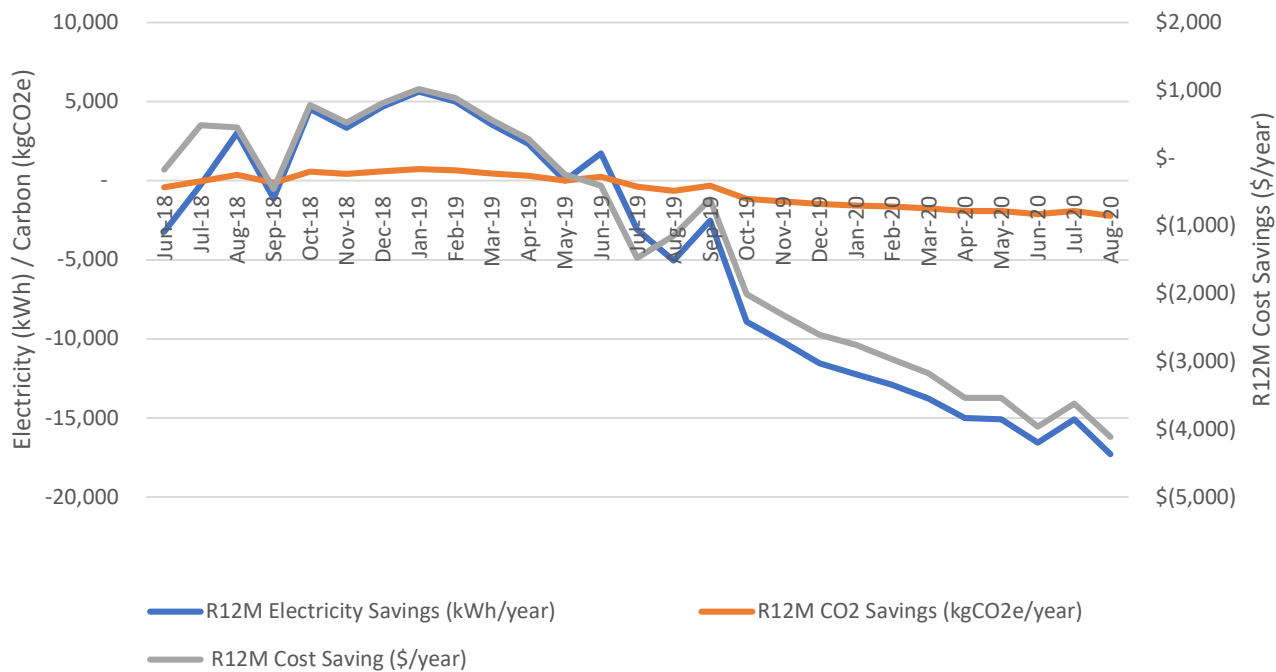
### Johnson Rd Pump Station Actual versus Expected CO2



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

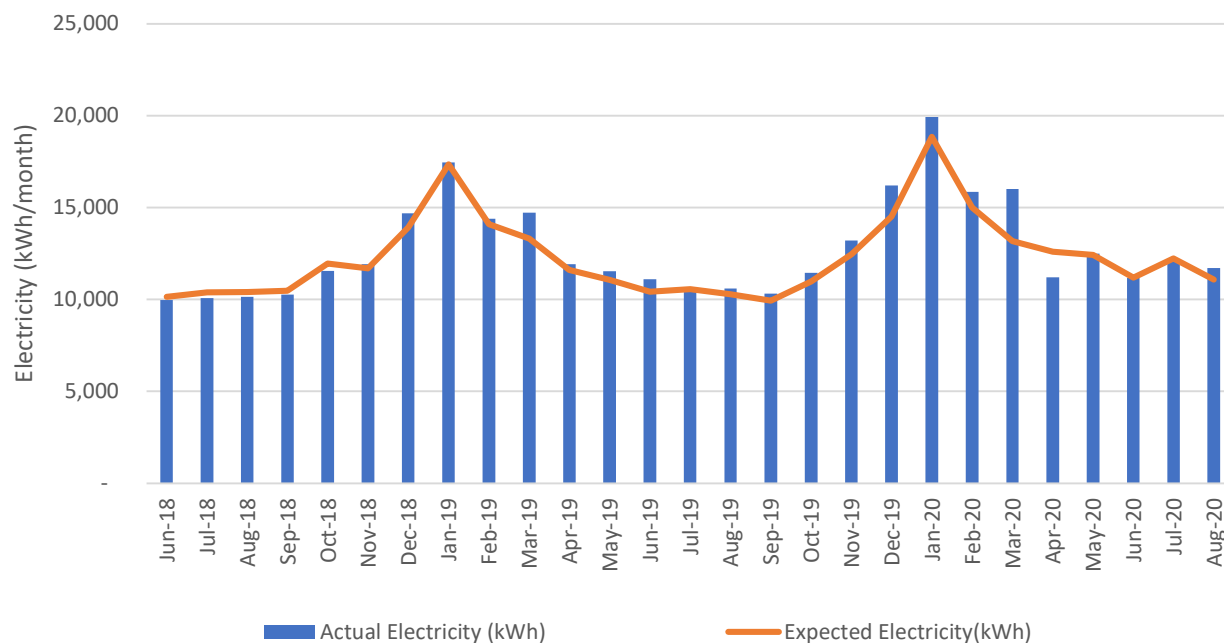
- Electricity savings for the month were -612kWh, an extra 5.5%.
- Energy cost savings for the month were -\$110, which is an increase.
- Carbon savings for the month were -79 kgCO<sub>2</sub>e, an extra 5.5%.
- Rolling 12-month electricity savings are -7,195 kWh, an extra 4.7%.
- Rolling 12-month energy cost savings are -\$1,388, which is an increase.
- Rolling 12-month carbon savings are -926 kgCO<sub>2</sub>e, an extra 4.7%.

### Comments

Electricity use for August 2020 is above baseline, breaking the trend for the past 4 months of at or below baseline electricity usage.

Compared to August 2019, Bridger Glade has pumped approx. 8% more water and used approx. 10% more electricity.

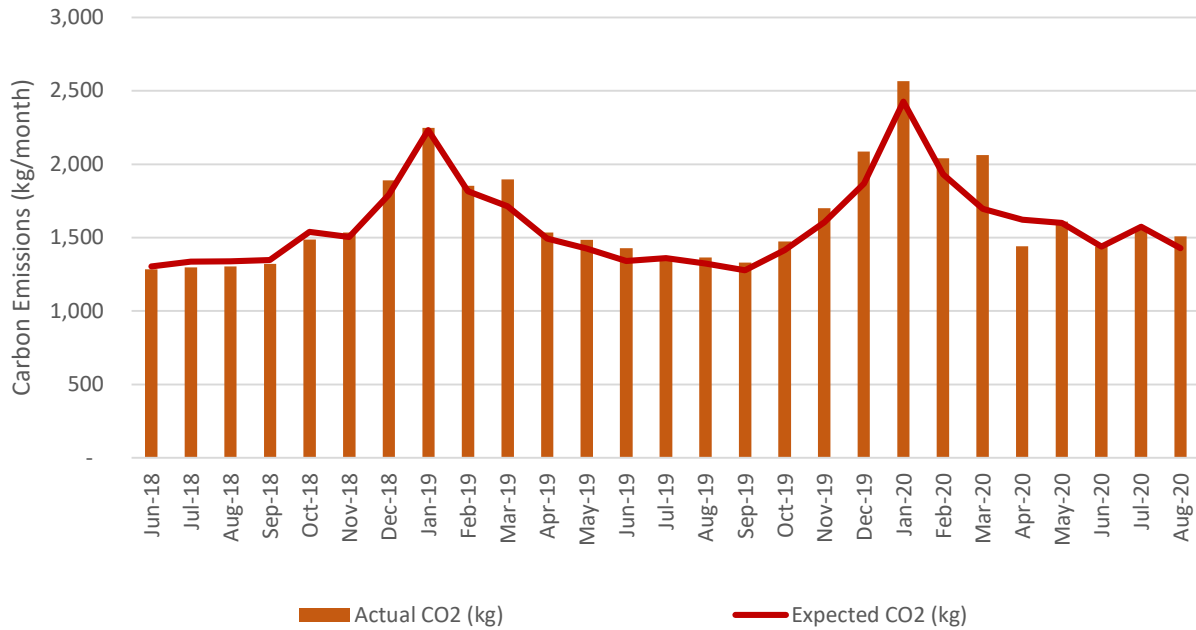
Bridger Glade Pump Station Actual versus Expected Electricity







### Bridger Glade Pump Station Actual versus Expected CO2



### Bridger Glade Pumps Cumulative Rolling 12 Month Savings

