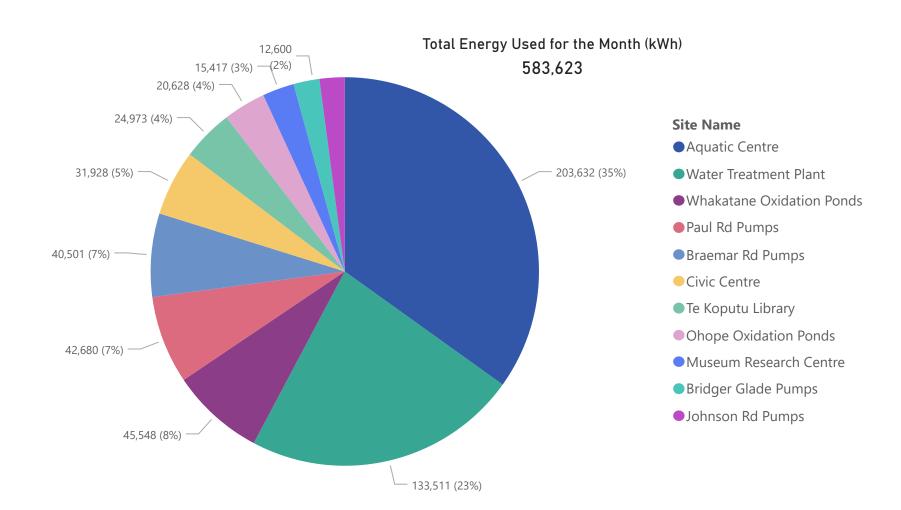


Summary

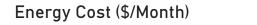
\$4,943 Monthly Energy Cost Savings	-56,956 Elec. Savings (kWh/mo)	-13% Elec. Savings (%)	-47,351 R12M Electricity Savings (kWh/yr)	28,025 CO2e Savings (kg/mo)
\$38,010 R12M Energy Cost Savings	162,823 Gas. Savings (kWh/mo)	65% Gas. Savings (%)	606,693 R12M Gas Savings (kWh/yr)	89,594 R12M CO2e Savings (kg/yr)

Total Energy (kWh/Month)

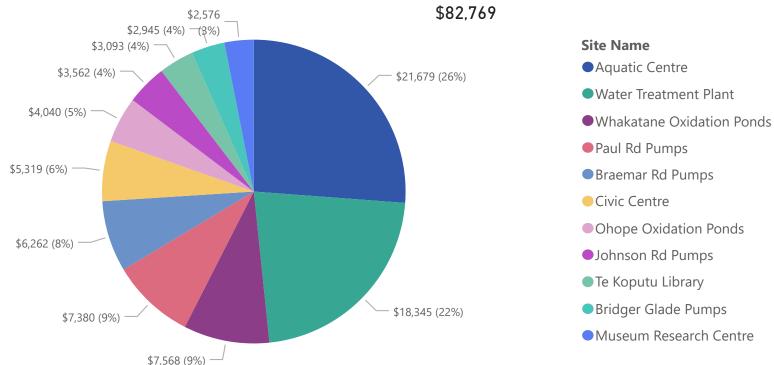




Summary

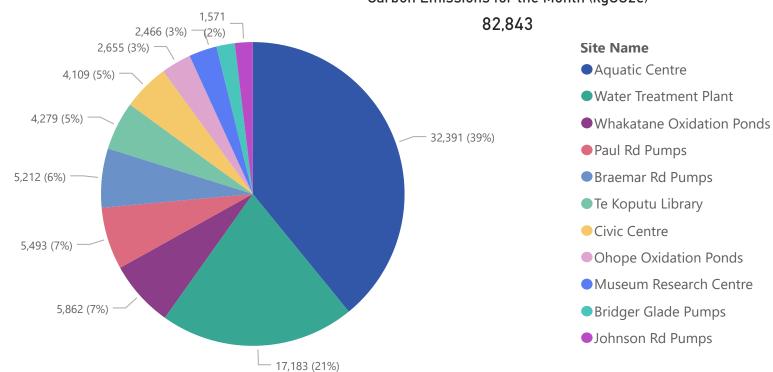


Energy Cost for the Month (\$)



Carbon Emissions (kgC02e/Month)

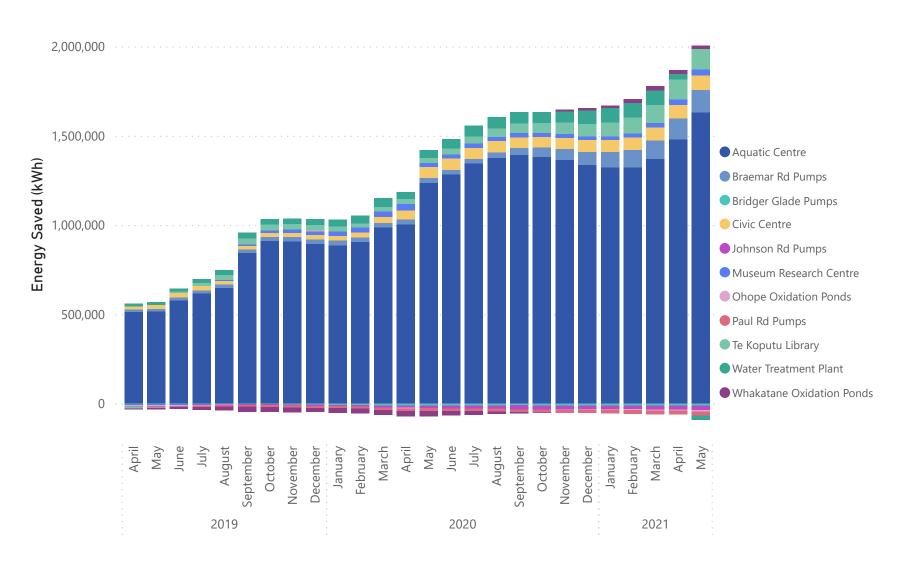
Carbon Emissions for the Month (kgCO2e)





Summary

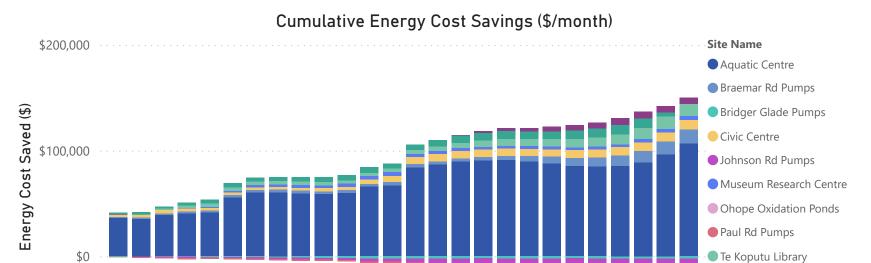
Cumulative Energy Savings (kWh)



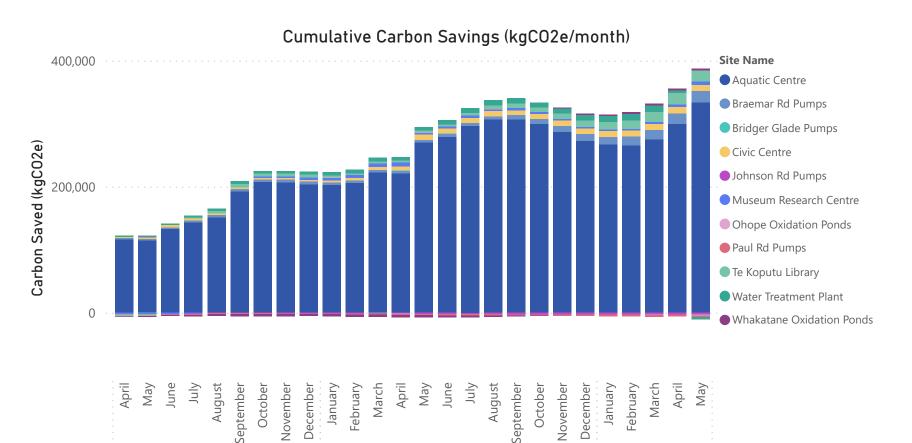


2019

Summary







2020

2021



Civic Centre

\$361	3,165	9%	17,872	342
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
\$1,948				2,156
R12M Energy Cost Savings				R12M CO2e Savings (kg/yr)

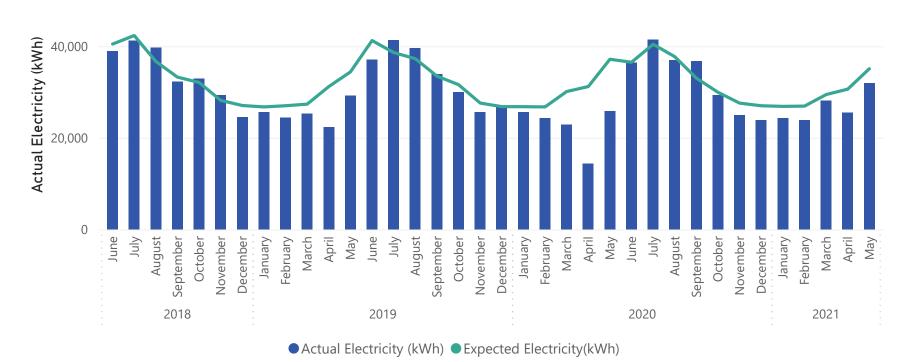
Comments:

Energy use in May was less than baseline and has similar use to the past seven months excluding March, which is an outlier in energy use. Electric vehicle charging stations have seen an uptake in recent months, non-routine adjustments have been made to account for the increased electricity use.

Compared to May 2020, May 2021 used more electricity, however, last year was affected by the Covid-19 lockdown.

Rolling 12 month electricity savings have decreased significantly, which is a reflection of 'savings' made during some of the lockdown period no longer being counted in the 12 month savings period.

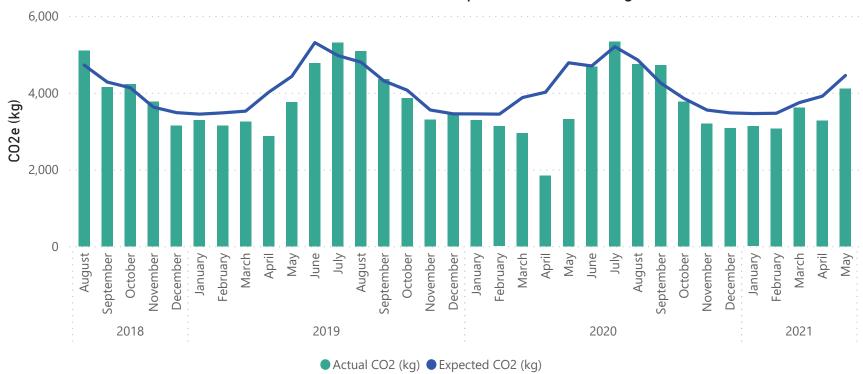
Civic Centre Electricity Use Compared to Baseline (kWh)



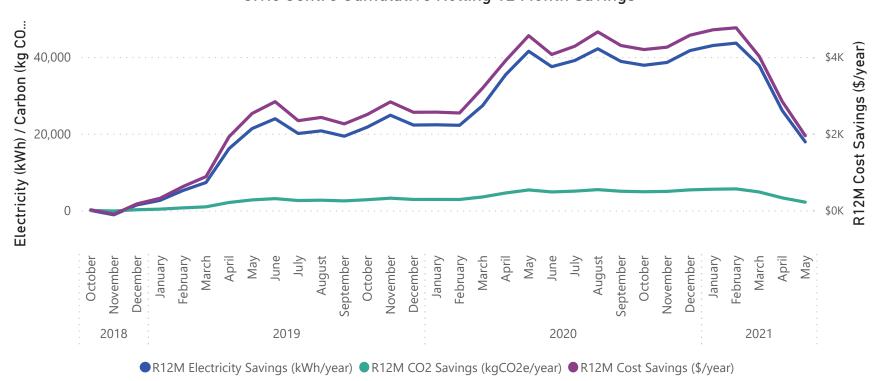


Civic Centre



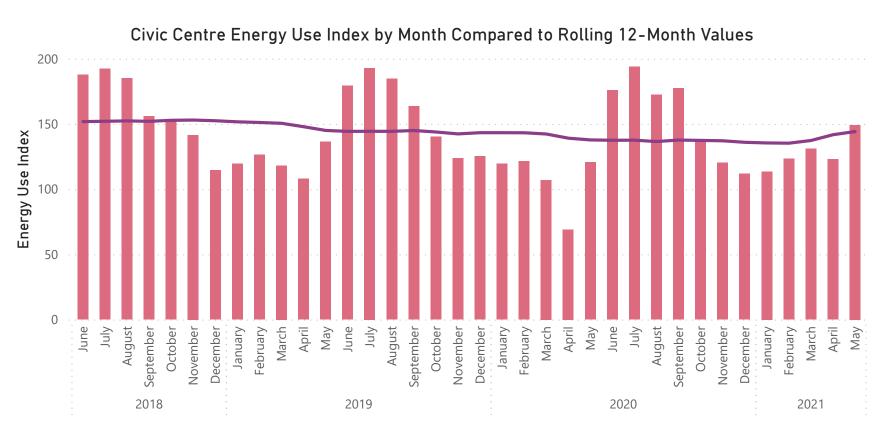


Civic Centre Cumulative Rolling 12 Month Savings





Civic Centre





Aquatic Centre

\$10,396 Monthly Energy Cost Savings	-11,082 Elec. Savings (kWh/mo)	-9% Elec. Savings (%)	-161,716 R12M Electricity Savings (kWh/yr)	33,788 CO2e Savings (kg/mo)
\$22,675 R12M Energy Cost Savings	162,265 Gas. Savings (kWh/mo)	70% Gas. Savings (%)	557,917 R12M Gas Savings (kWh/yr)	63,689 R12M CO2e Savings (kg/yr)

Comments:

The outdoor pool is now open year-round and uses a baseline that reflects this change. On 24 March, a heat pump was switched on which heats the outdoor pool instead of the gas boilers. The outdoor pool cover's underside is heated using natural gas, which prevents condensation on the underside of the cover. During installation of the heating system for the pool cover in early May, set points of the boilers were inadvertently changed and the gas boilers heated the pool until it was discovered in the middle of May.

Electricity use in May 2021 is 9% above baseline, however, extra electricity is used by the heat pump instead of natural gas to heat the outdoor pool. Compared to 2020, May 2021 used an extra 21% more electricity.

Natural gas use was 70% less than expected in May. However, extra gas was used due to an inadvertent change and savings are expected to increase in subsequent months.

Aquatic Centre Electricity Use Compared to Baseline (kWh)

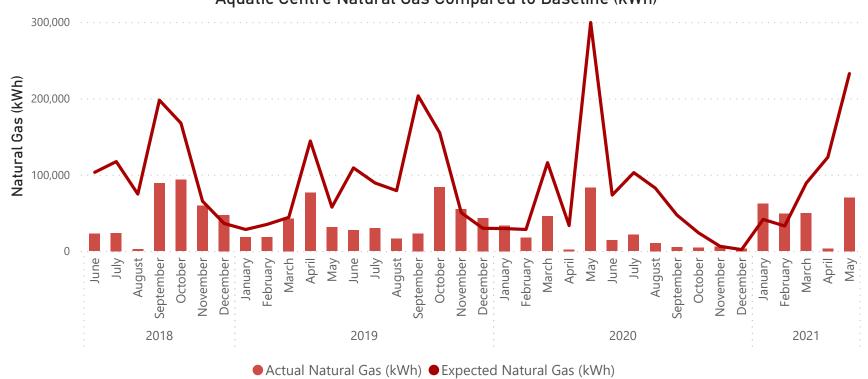


■ Actual Electricity (kWh)■ Expected Electricity(kWh)

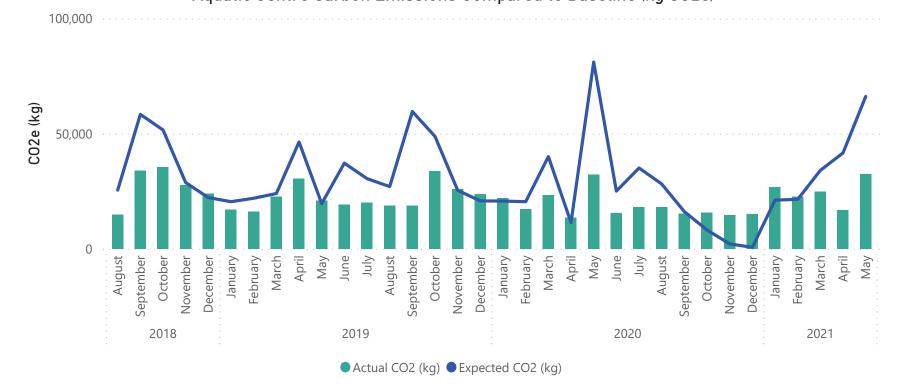


Aquatic Centre





Aquatic Centre Carbon Emissions Compared to Baseline (kg CO2e)



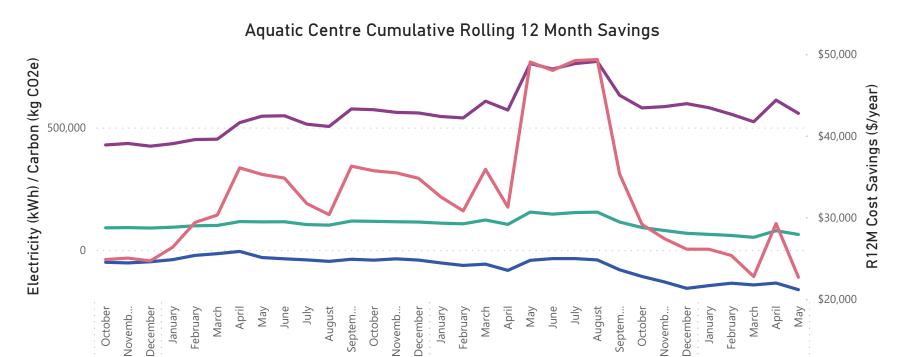
2021



Whakatane District Council

Aquatic Centre

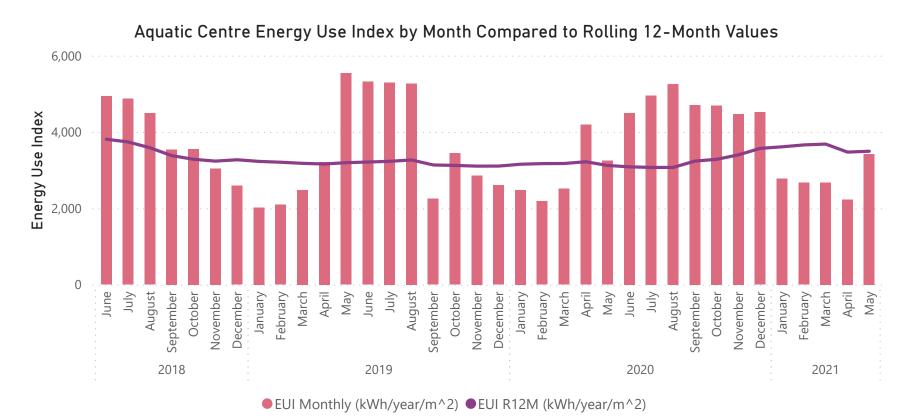
2018



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

2020

2019





Te Koputu Library

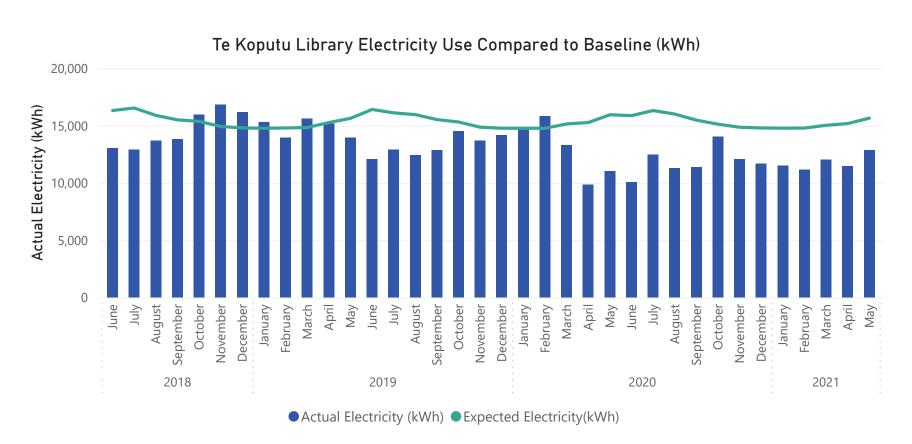
\$262 Monthly Energy Cost Savings	2,777 Elec. Savings (kWh/mo)	18% Elec. Savings (%)	41,879 R12M Electricity Savings (kWh/yr)	227 CO2e Savings (kg/mo)
\$7,911 R12M Energy Cost Savings	-620 Gas. Savings (kWh/mo)	- 5% Gas. Savings (%)	44,934 R12M Gas Savings (kWh/yr)	15,185 R12M CO2e Savings (kg/yr)

Comments:

Electricity use has been less than baseline since March 2020. Compared to May 2020, the library's electricity use in May 2021 is 17% higher, although May 2020 was affected by the Covid-19 lockdown.

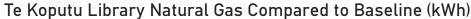
Natural gas was turned back on for the month of May and is 5% higher than expected.

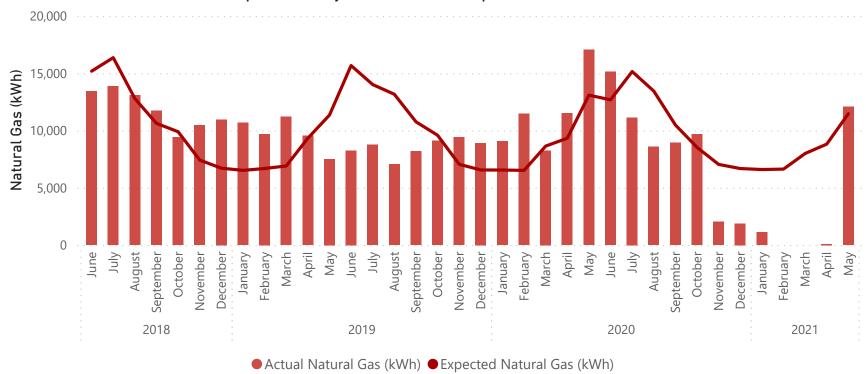
The monthly EUI for the library has increased from previous months due to natural gas consumption, however, less energy was used compared to May of last year.



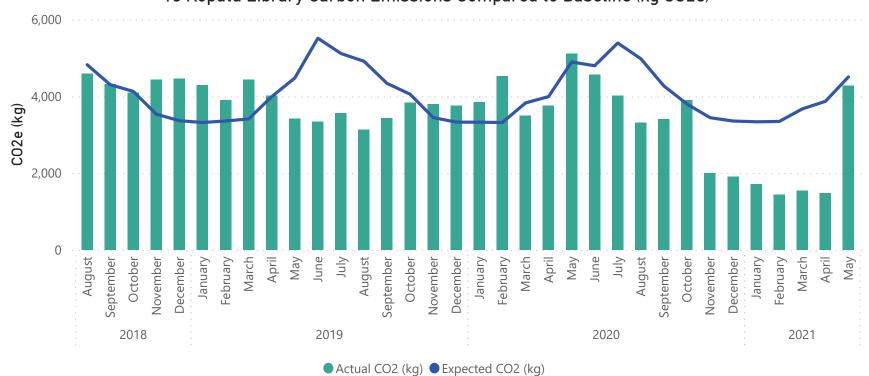


Te Koputu Library





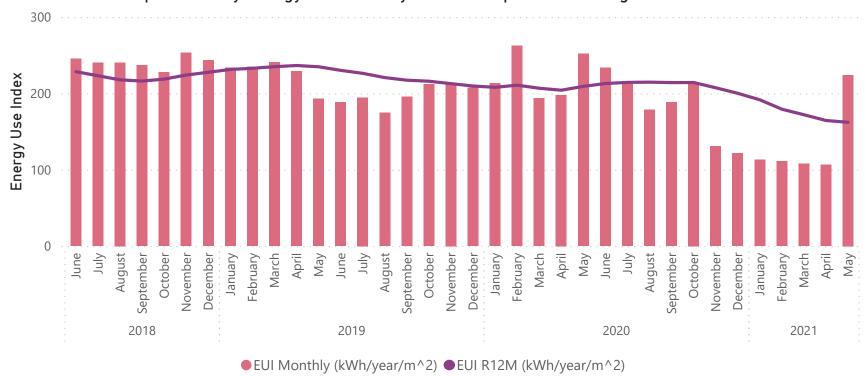
Te Koputu Library Carbon Emissions Compared to Baseline (kg CO2e)



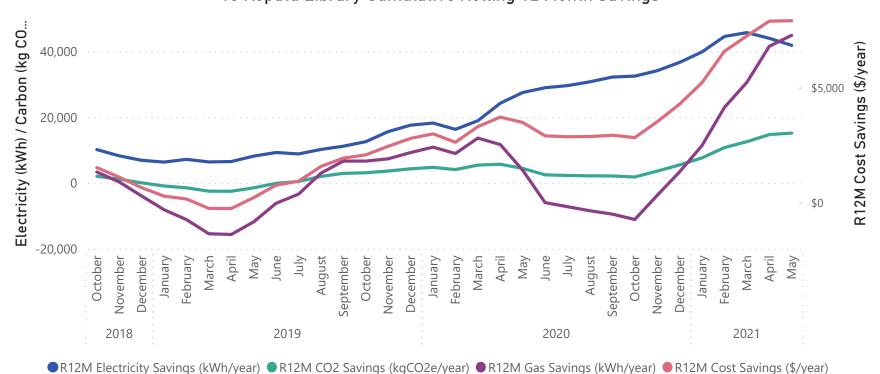


Te Koputu Library





Te Koputu Library Cumulative Rolling 12 Month Savings





Museum and Research Centre

\$243 Monthly Energy Cost Savings	1,419 Elec. Savings (kWh/mo)	12% Elec. Savings (%)	6,702 R12M Electricity Savings (kWh/yr)	438 CO2e Savings (kg/mo)
\$1,017 R12M Energy Cost Savings	1,179 Gas. Savings (kWh/mo)	18% Gas. Savings (%)	3,842 R12M Gas Savings (kWh/yr)	1,696 R12M CO2e Savings (kg/yr)

Comments:

Electricity use at the Museum and Research Centre is below baseline for May 2021. Compared to May 2020, electricity use has decreased by 5%.

The Museum and Research Centre achieved a savings of 18% below baseline for natural gas.

Rolling 12 month savings have increased this month.

Museum Research Centre Electricity Use Compared to Baseline (kWh)

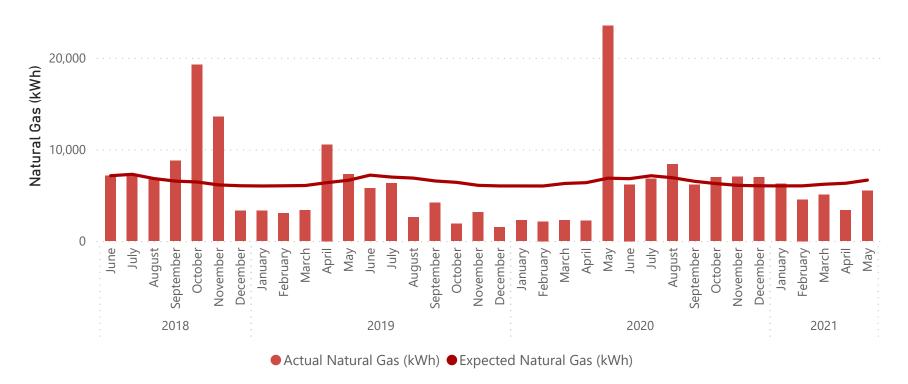


● Actual Electricity (kWh) ■ Expected Electricity(kWh)

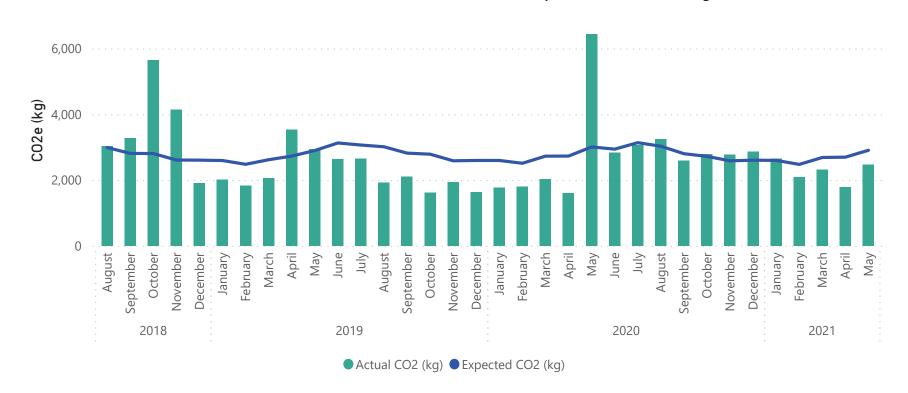


Museum and Research Centre

Museum Research Centre Natural Gas Compared to Baseline (kWh)

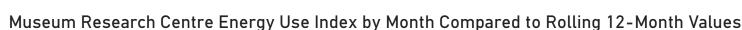


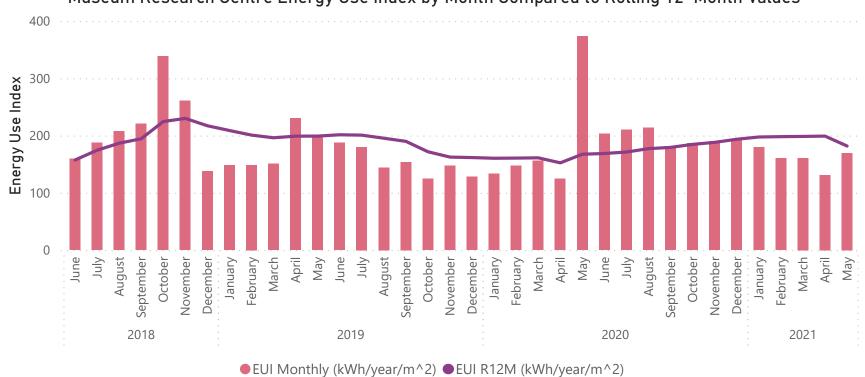
Museum Research Centre Carbon Emissions Compared to Baseline (kg CO2e)





Museum and Research Centre







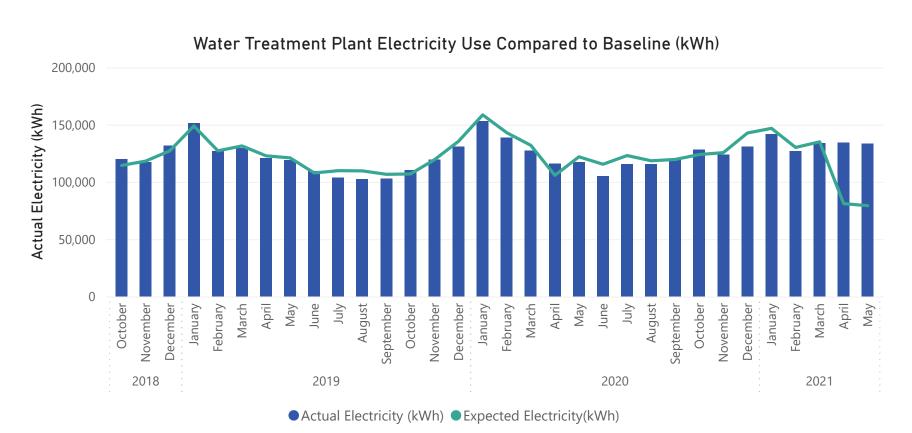


Water Treatment Plant

-\$5,822	-54,255	-68%	-66,877	-6,983
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
-\$6,996				-8,607
R12M Energy Cost Savings				R12M CO2e Savings (kg/yr)

Comments:

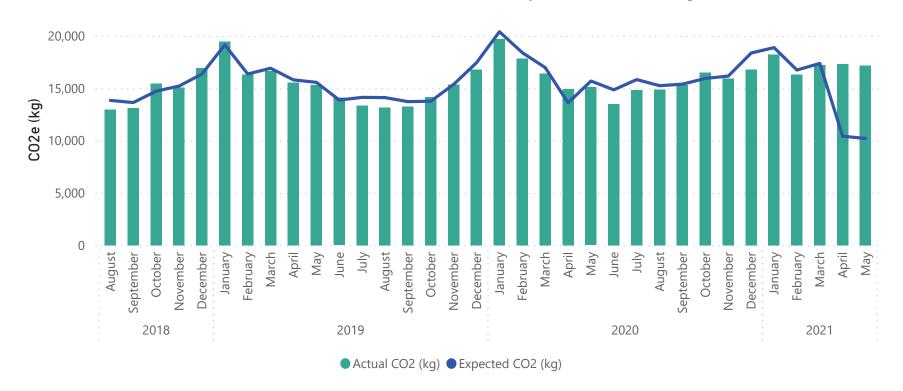
Demand for water in May 2021 was 39% lower and electricity use was 14% higher compared to May 2020. The decreased water demand may be related to water metering errors. Pumped water was approximately 7400 cubic meters per day in until 4/04/21 when it dropped to approximately 260 for three days over the Easter weekend. After the Easter weekend, pumped water was approximately 4000 cubic meters per day (46% less than previous). Electricity use was relatively steady, using approximately 4,500 kWh per day, irrespective of the water pumped each day. It would be useful to understand if there has been any maintenance, or operational changes that have occurred around Easter.

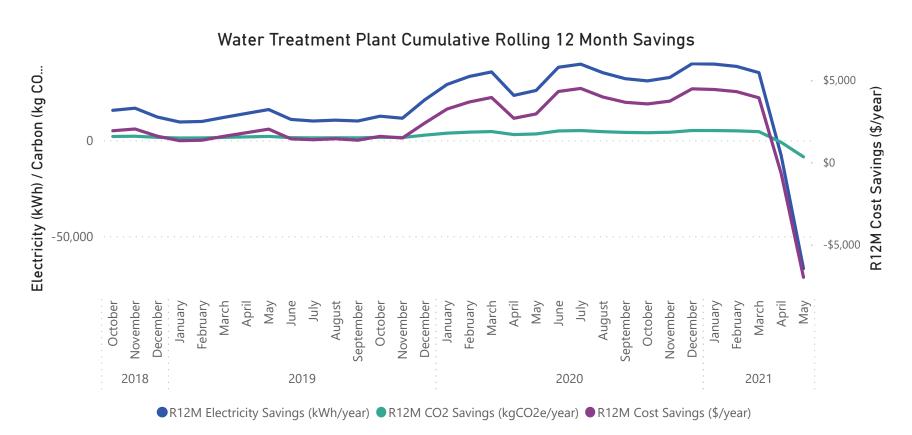




Water Treatment Plant

Water Treatment Plant Carbon Emissions Compared to Baseline (kg CO2e)

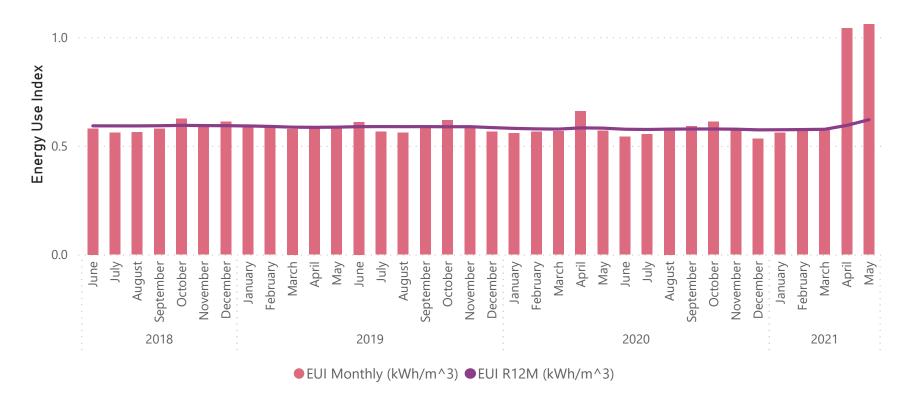






Water Treatment Plant

Water Treatment Plant Energy Use Index by Month Compared to Rolling 12-Month Values





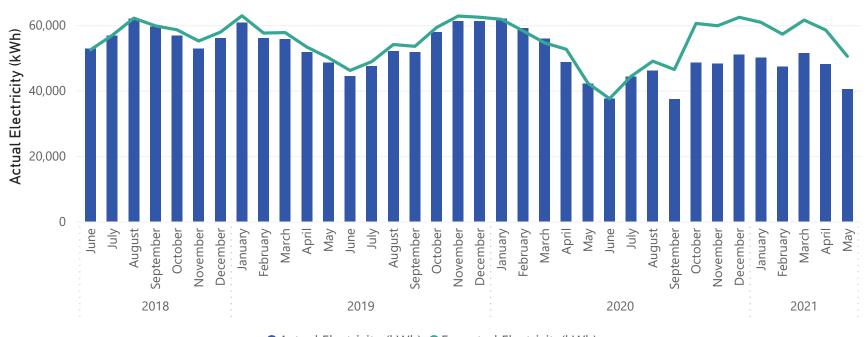
Braemar Road Pump Station

\$1,084	9,962	20%	98,312	1,362
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
\$10,318				13,339
R12M Energy Cost Savings				R12M CO2e Savings (kg/yr)

Comments:

Rolling 12 month savings have set a new record, with savings of \$10,300 per year, 98,300 kWh per year, and 13,300 kgCO2e per year, thanks to the new high efficiency pumps and motors.

Braemar Rd Pumps Electricity Use Compared to Baseline (kWh)

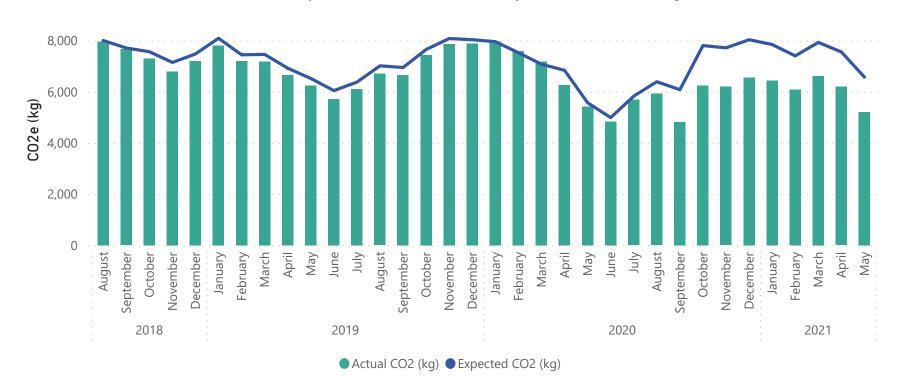


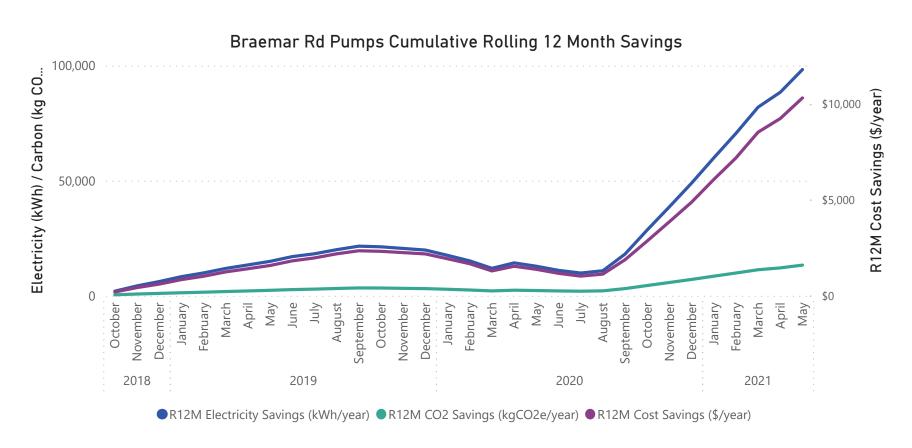
● Actual Electricity (kWh) ■ Expected Electricity(kWh)



Braemar Road Pump Station

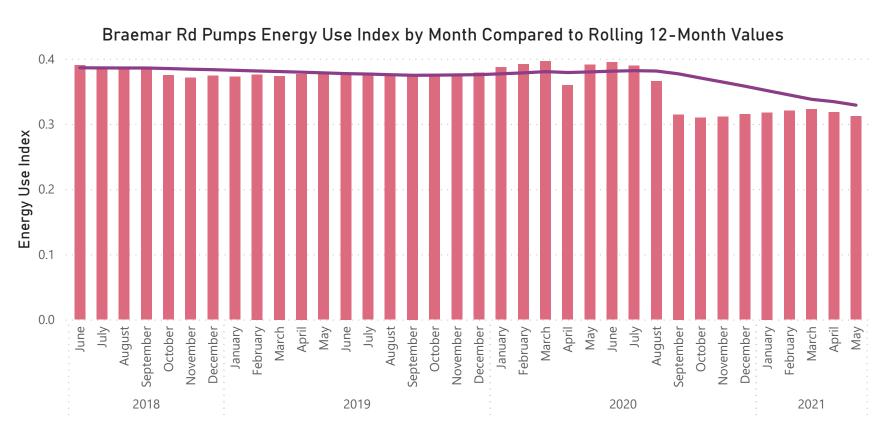
Braemar Rd Pumps Carbon Emissions Compared to Baseline (kg CO2e)







Braemar Road Pump Station





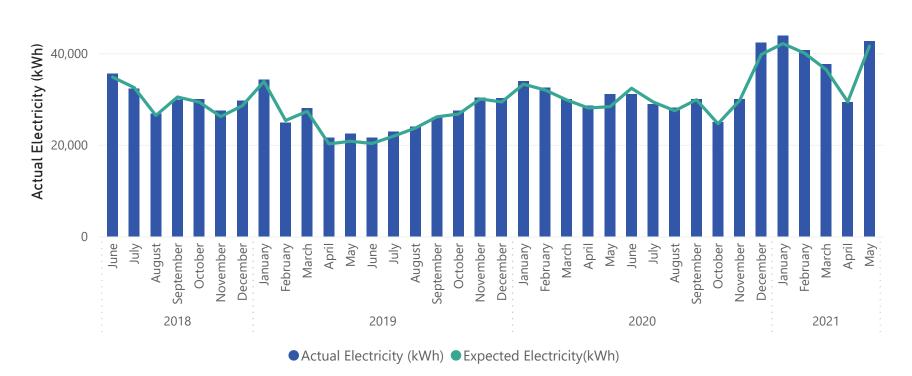
Paul Road Pump Station

-\$124	-1,143	-3%	-6,886	-146
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
-\$694				-877
R12M Energy Cost Savings				R12M CO2e Savings (kg/yr)

Comments:

Although demand was higher for Paul Road pump station this month, on an EUI basis, the pumps are still operating consistently at a rate of approx 0.66 kWh per cubic meter.

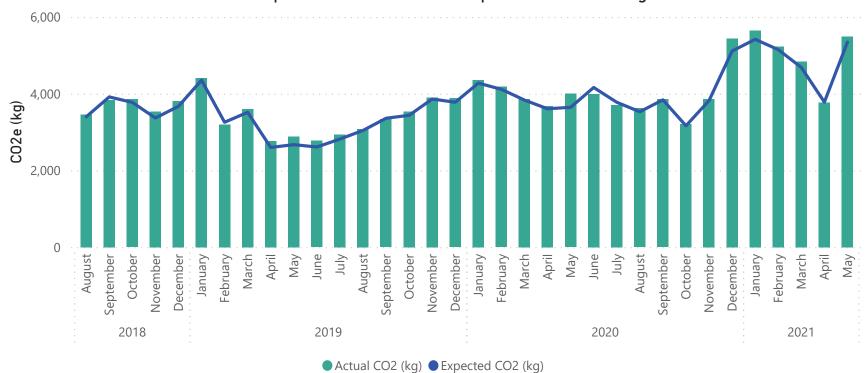
Paul Rd Pumps Electricity Use Compared to Baseline (kWh)

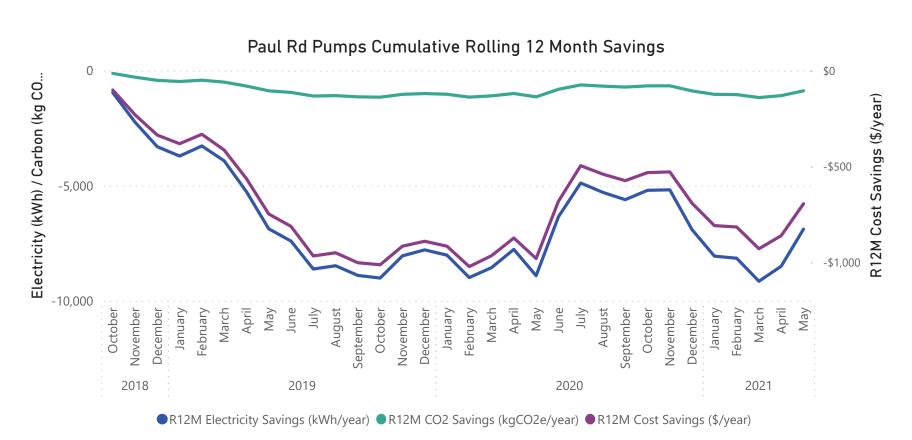




Paul Road Pump Station









Paul Road Pump Station





● EUI Monthly (kWh/m^3) ● EUI R12M (kWh/m^3)



Johnson Road Pump Station

-2,641	-28%	-9,003	-340
Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
			-1,151
			R12M CO2e Savings (kg/yr)
	·		

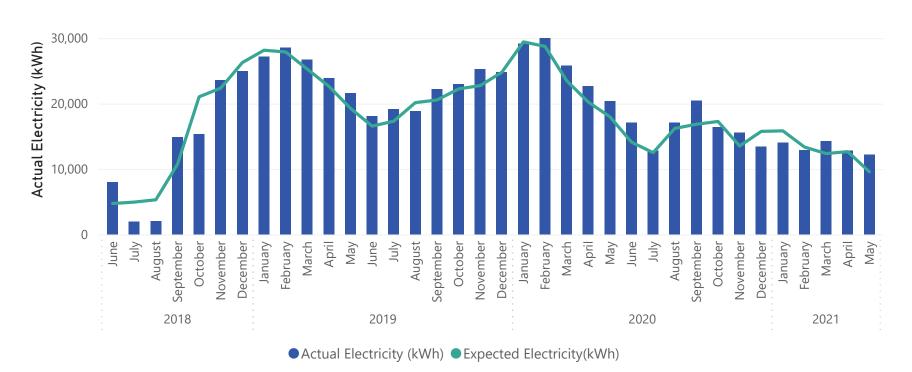
Comments:

Electricity use was 28% more than baseline at Johnson Rd in May 2021. 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.

Both Paul Road and Johnson Rd's EUIs are approximately twice as high compared to Bridger Glade and Braemar Road, on a kWh per cubic meter pumped basis. This may be due to operating at different pressures

Rolling 12 month savings have been rising steadily since October 2020, May 2021 is the first month to break this trend.

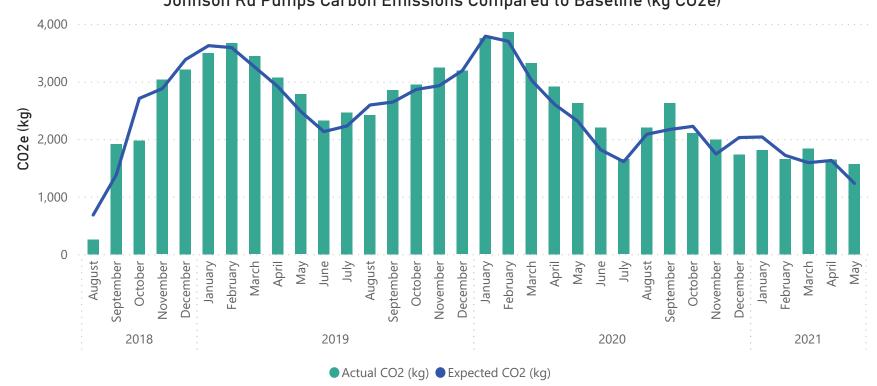
Johnson Rd Pumps Electricity Use Compared to Baseline (kWh)

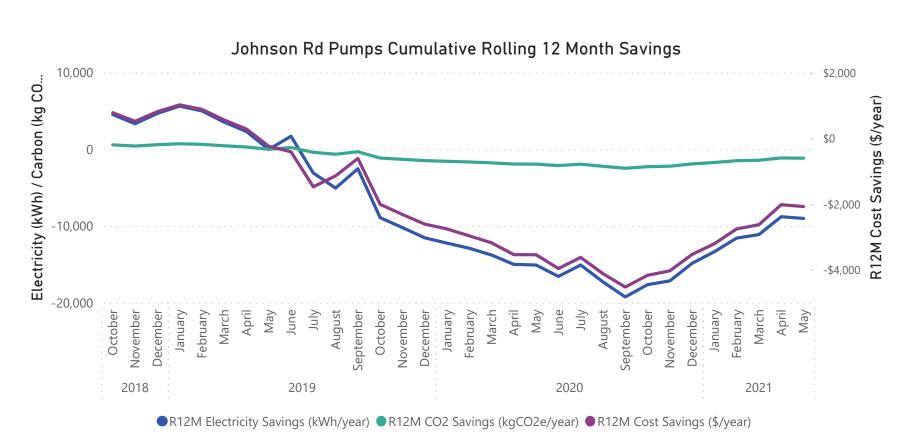




Johnson Road Pump Station



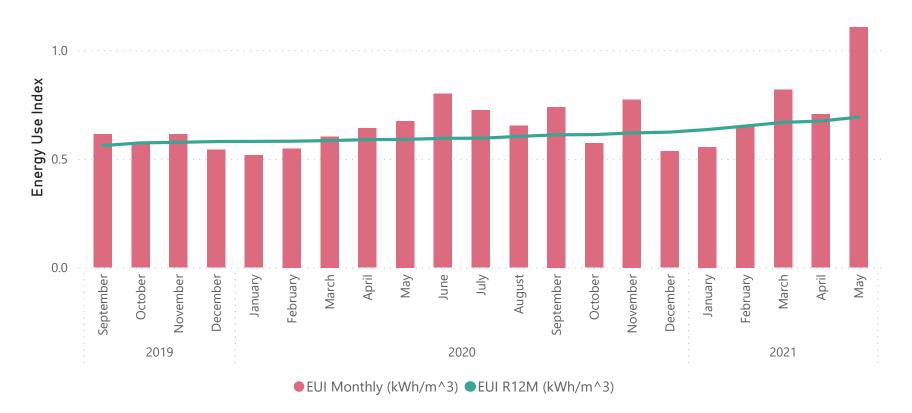






Johnson Road Pump Station

Johnson Rd Pumps Energy Use Index by Month Compared to Rolling 12-Month Values





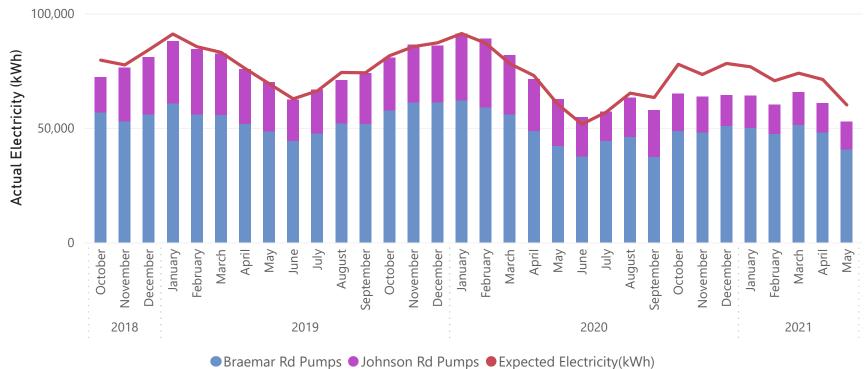
Johnson and Braemar Rd Pump Stations

\$502	7,321	12%	89,308	1,022
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
\$8,245				12,188
R12M Energy Cost Savings				R12M CO2e Savings (kg/yr)

Comments:

It is clear from the combined monitoring how the new, more efficient pumps (installed September 2020) at Braemar Rd. greatly contribute to the collective savings. On an EUI basis, even before the more efficient pumps were installed, Braemar Road was pumping water more efficiently. Recently, the Braemar pumps are using approximately half as much energy to pump the same amount of water, on a kWh per cubic meter basis when compared to Johnson Road.

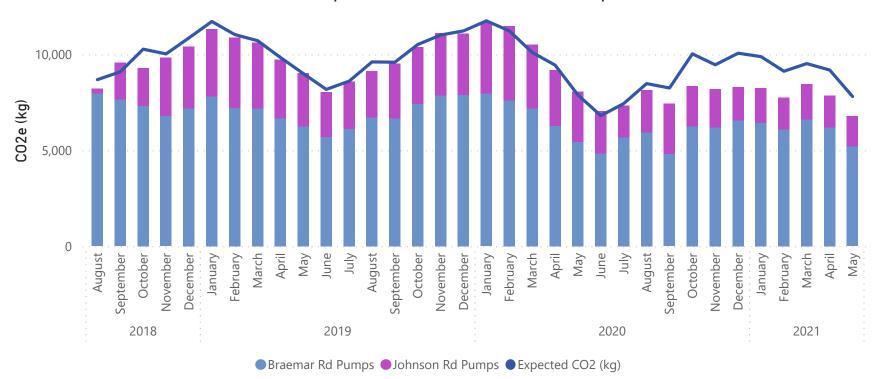
Johnson and Braemar Rd Pump Stations Electricity Use Compared to Baseline (kWh)

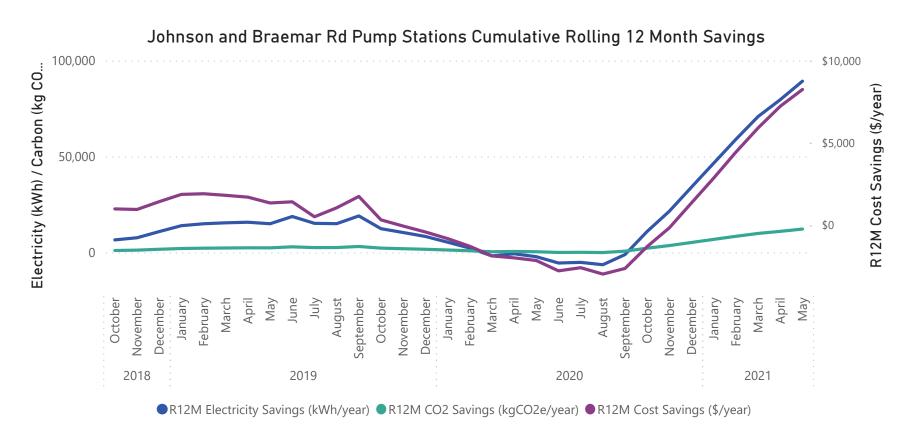




Johnson and Braemar Rd Pump Stations

Johnson and Braemar Rd Pump Stations Carbon Emissions Compared to Baseline (kWh)

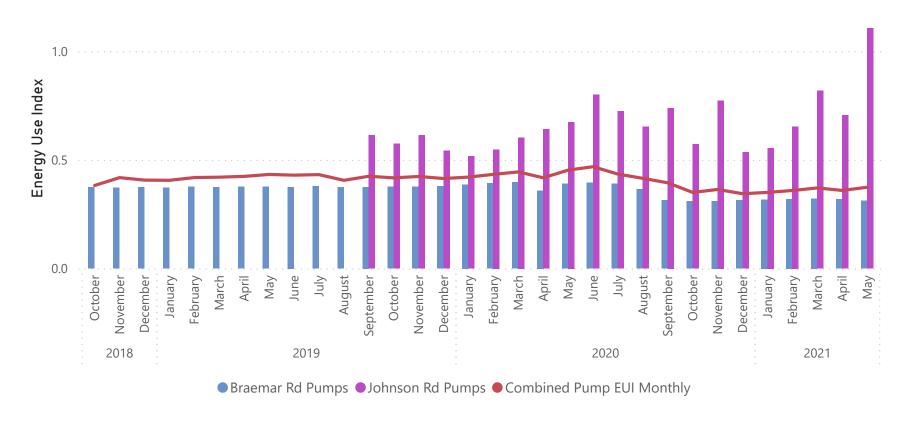






Johnson and Braemar Rd Pump Stations

Johnson and Braemar Rd Pump Stations Energy Use Index by Month





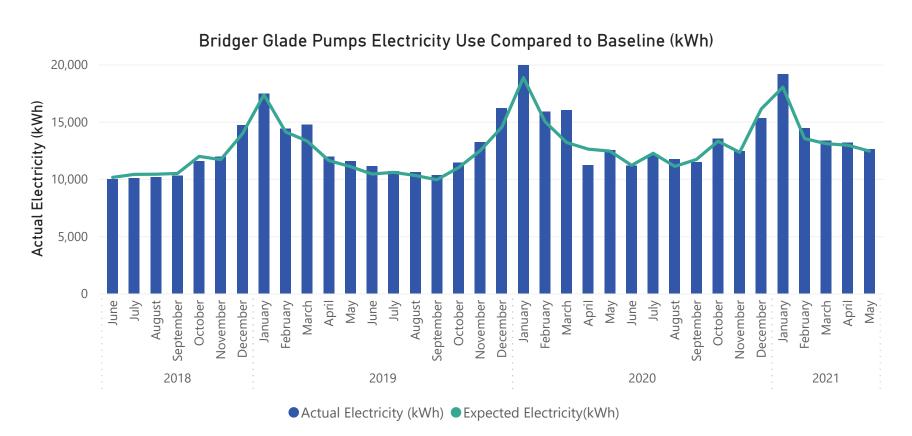
Bridger Glade Pump Station

-\$31	-169	-1%	-2,445	-22
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
<i>*</i> / 0.0				0.1.5
-\$439 R12M Energy Cost Savings				-315 R12M CO2e Savings (kg/yr)
Trizin Energy Cost savings				KILM COLC Savings (kg/yi)

Comments:

Electricity use was 1% more than baseline for the month of May 2021 at Bridger Glade pump station. The volume of water pumped and electricity use are similar to May 2020.

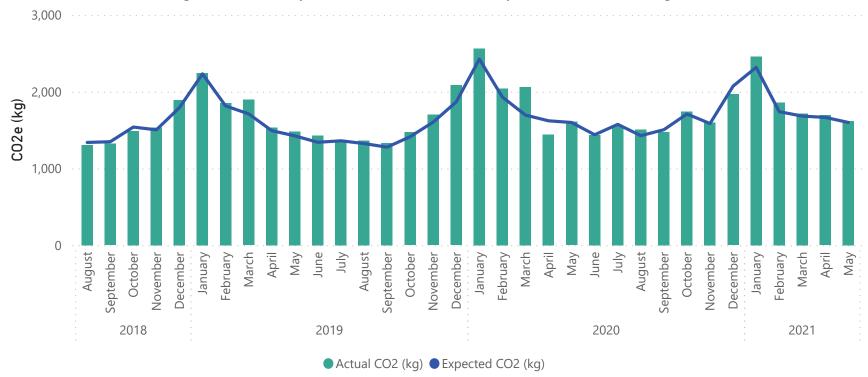
Rolling 12 month savings have decreased again this month, after coming close to becoming positive in March 2021.



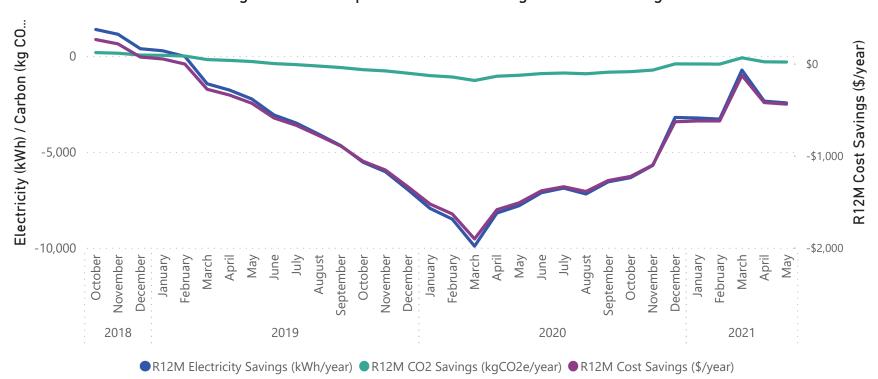


Bridger Glade Pump Station





Bridger Glade Pumps Cumulative Rolling 12 Month Savings





Bridger Glade Pump Station







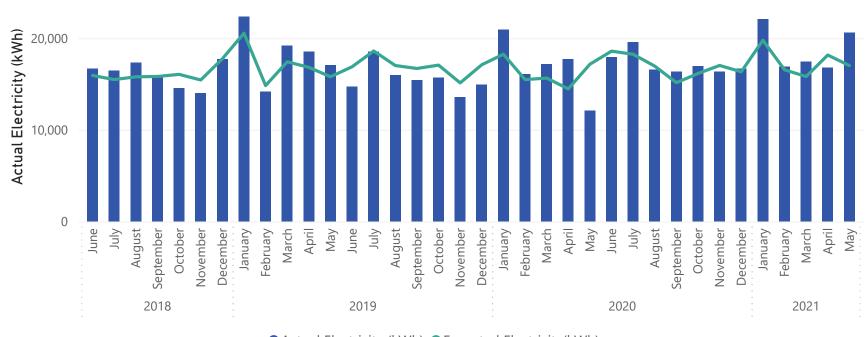
Ohope Oxidation Ponds

-\$650	-3,618	-21%	-9,097	-466
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
-\$1,603				-1,171
R12M Energy Cost Savings				R12M CO2e Savings (kg/yr)

Comments:

Electricity use was 21% more than expected in May 2021, compared to May 2020, demand has decreased by 2% and electricity use has increased by 71%. This may be partly due to when the electricity meter was read as Ohope Oxidation Ponds are a non-half hourly account. Additionally, May 2020 may have been affected by covid-19.

Ohope Oxidation Ponds Electricity Use Compared to Baseline (kWh)

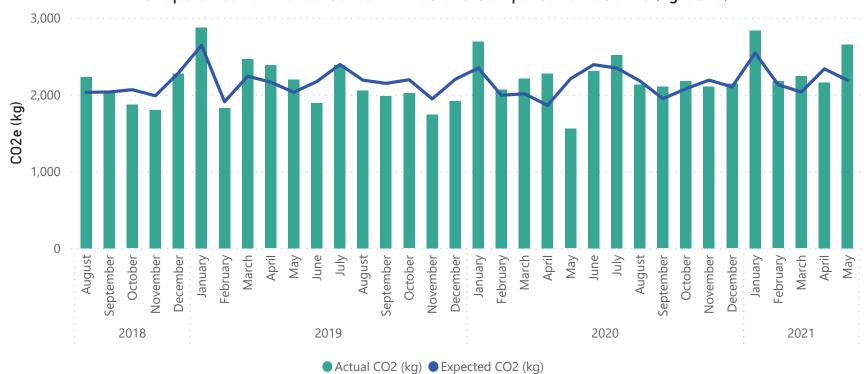


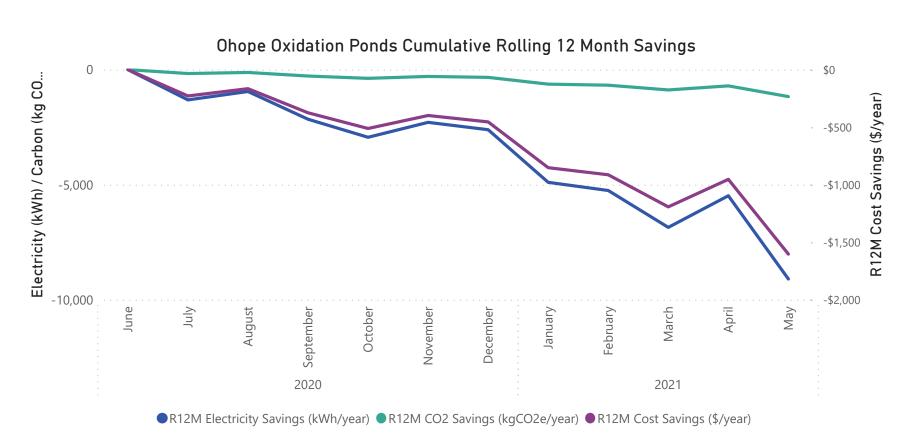
● Actual Electricity (kWh) ● Expected Electricity(kWh)



Ohope Oxidation Ponds









Ohope Oxidation Ponds

Ohope Oxidation Ponds Energy Use Index by Month Compared to Rolling 12-Month Values





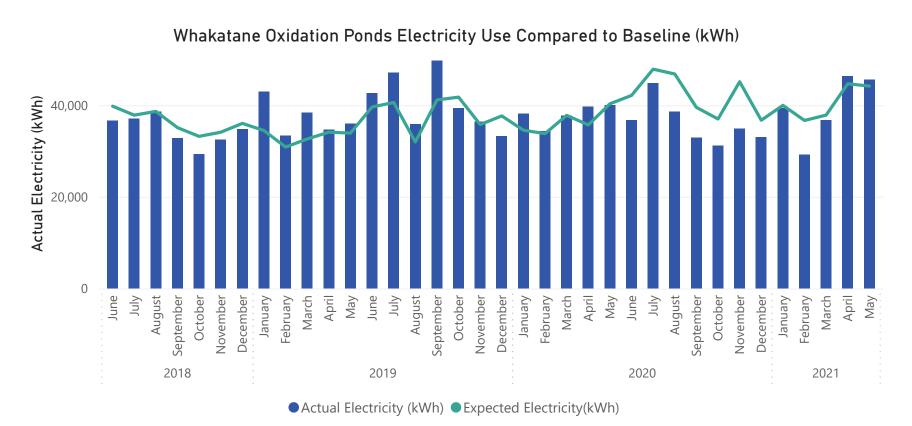
Whakatane Oxidation Ponds

-\$194	-1,370	-3%	43,910	-176
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
\$5,946				5,651
R12M Energy Cost Savings				R12M CO2e Savings (kg/yr)

Comments:

The Whakatane Oxidation Ponds have two ICPs, the aerators are set up as a time of use (TOU) account (supplied by Mercury), and the pumps are non-TOU (supplied by Genesis).

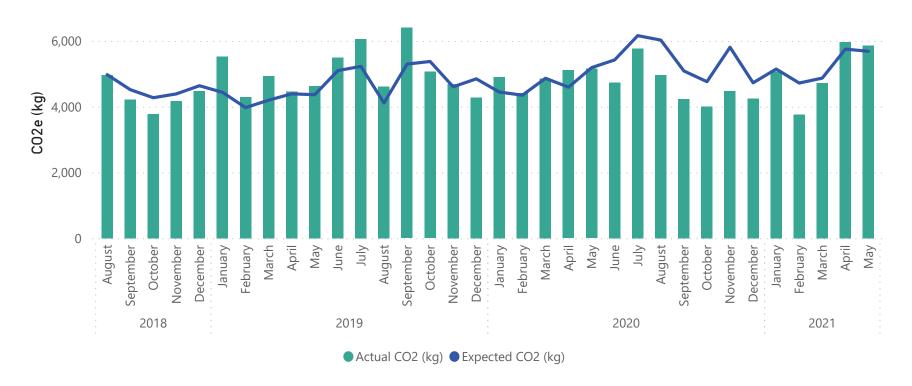
In May 2021, the oxidation ponds used 3% more electricity compared to baseline. Rolling 12 month EUI has been steadily decreasing, which is good.





Whakatane Oxidation Ponds

Whakatane Oxidation Ponds Carbon Emissions Compared to Baseline (kg CO2e)



Whakatane Oxidation Ponds Cumulative Rolling 12 Month Savings





Whakatane Oxidation Ponds

